Hornsea Project Four:

F2.4: Outline Marine Written Scheme of Investigation (tracked)

Deadline: 5, Date: 20 June 2022
Document Reference: F2.4
Revision: 02

Prepared Maritime Archaeology. June 2022
Checked GoBe Consultants Ltd. June 2022
Accepted David King, Orsted. June 2022
Approved Julian Carolan, Orsted. June 2022

F2.4
Version B

Revision Summary				
Rev	*Date*	*Prepared by*	*Checked by*	*Approved by*
01	29/09/2021	Maritime Archaeology	David King, Orsted	Julian Carolan, Orsted
02	20/06/2022	Maritime Archaeology	David King, Orsted	Julian Carolan, Orsted

Revision Change Log			
Rev	*Page*	*Section*	*Description*
01	N/A	N/A	Document submitted at DCO Application.
02	12	3	Confirmation added that ahead of any intrusive works, archaeological method statements will provide details of the estimated depth of seabed excavation that may be required for any structures.
	36	7.10	Reference to human osteologist guidance added.

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Glossary

Term	Definition
Archaeological Exclusion Zone	Areas where archaeological receptors are present and should be avoided during project works.
Area of Archaeological Potential	A high amplitude magnetic anomaly identified during geophysical data review without sufficient data for precise positioning; areas to subject to further review during the site investigation programme in order to develop appropriate mitigation.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
Export cable corridor (ECC)	The specific corridor of seabed (seaward of Mean High Water Springs (MHWS)) and land (landward of MHWS) from the Hornsea Four array area to the Creyke Beck National Grid substation, within which the export cables will be located.
Heritage Receptors	Physical resources such as shipwrecks, aviation remains, archaeological sites, archaeological finds and material including pre-historic deposits as well as archival documents and oral accounts recognised as of historical/archaeological or cultural significance.
Hornsea Project Four Offshore Wind Farm	The term covers all elements of the project (i.e. both the offshore and onshore). Hornsea Four infrastructure will include offshore generating stations (wind turbines), electrical export cables to landfall, and connection to the electricity transmission network. Hereafter referred to as Hornsea Four.
Marine Environmental Data and Information Network (MEDIN)	The Marine Environmental Data and Information Network promotes sharing of, and improved access to, data collected and analysed by government departments, research institutions and private companies.
Model Clauses	Guidance issued by The Crown Estate; Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010)
Order Limits	The limits within which Hornsea Project Four (the 'authorised project) may be carried out.
Orsted Hornsea Project Four Ltd	The Applicant for the proposed Hornsea Project Four Offshore Wind Farm Development Consent Order (DCO).
Outline Marine Written Scheme of Investigation (WSI)	Project specific document forming the agreement between the Applicant, the appointed archaeologists, contractors and the relevant stakeholders seaward of Mean High Water Springs (MHWS). The document sets out the methods to mitigate the effects on all the known and potential archaeological receptors within the Hornsea Four offshore Order Limits.
Outline Onshore Written Scheme of Investigation. (WSI)	Project specific document forming the agreement between the Applicant, the appointed archaeologists, contractors and the relevant stakeholders landward of MHWS. The document sets out the methods to mitigate the effects on all the known and potential archaeological receptors within the Hornsea Four onshore Order Limits.

Acronyms

Acronym	Definition
AEZ	Archaeological Exclusion Zone
CIfA	Charted Institute for Archaeologists
COWRIE	Collaborative Offshore Wind Research into the Environment
CPT	Cone Penetration Test
DAC	Digital Archive Centre
DCO	Development Consent Order
dML	deemed Marine Licence
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
ES	Environmental Statement
GBS	Gravity Base Structure
HE	Historic England
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
JNAPC	Joint Nautical Archaeology Policy Committee
LSE	Likely Significant Effect
MAG	Magnetometer
MBES	Multibeam Echosounder
MEDIN	Marine Environmental Data and Information Network
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
NRHE	National Record of the Historic Environment
NSIP	Nationally Significant Infrastructure Project
NSPP	North Sea Palaeolandscapes Project
OASIS	Online AccesS to the Index of archaeological investigationS
ORPAD	Protocol for Archaeological Discoveries: Offshore Renewables
OSS	Offshore Substation
PAD	Protocol for Archaeological Discoveries
REC	Regional Environmental Characterisation
ROV	Remotely Operated Vehicle
SBP	Sub-Bottom Profiler
SoS	Secretary of State
SSS	Side Scan Sonar
TEZ	Temporary Exclusion Zone
UHRS	Ultra-High Resolution Seismic
UKHO	United Kingdom Hydrographic Office
UXO	Unexploded Ordnance
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator

Units

Unit	Definition
m	Metres
km	Kilometres
nT	Nanotesla (magnetic induction)

1. Introduction

1.1 Introduction

1.1.1.1 This Outline Marine Archaeological Written Scheme of Investigation (WSI) summarises the proposed mitigation approach in relation to the Hornsea Project Four Offshore Wind Farm (hereafter 'Hornsea Four') that will be located approximately 69 km offshore from East Riding of Yorkshire in the Southern North Sea.

1.1.1.2 This Outline Marine WSI sets out the basis for the archaeological mitigation for Hornsea Four which will ultimately be confirmed through the development of the final Marine WSI. The final Marine WSI will form the basis of agreement between Orsted Hornsea Project Four Limited (hereafter 'the Applicant'), its contractors, and relevant regulators.

1.1.1.3 The requirement for a Marine WSI, to be approved by the Marine Management Organisation (MMO) in consultation with Historic England, is included as Condition 13(2) and Condition 13(3) of the Generation Assets deemed Marine Licence (Schedule 11, Part 2) and Condition 13(2) and Condition 13(3) of the Transmission Assets deemed Marine Licence (Schedule 12 Part 2) of the draft Development Consent Order (DCO) (**C1.1: Draft DCO including Draft DML**).

1.1.1.4 This Outline Marine WSI summarises the known and potential marine archaeological resources within the Hornsea Four Order Limits and the wider marine archaeology study area (**Figure 1**), expected impacts, and recommended archaeological mitigation methodologies and actions for a range of work phases within the marine environment. Each phase of work may require a more detailed Method Statement which will be prepared by appropriately qualified professionals and submitted to Archaeological Curators.

1.1.1.5 This Outline Marine WSI is primarily concerned with works required prior to and during construction as these activities have the greatest potential to impact historic environment assets. There is also consideration of potential mitigation during the operational phase of Hornsea Four and during future decommissioning works. This document does not consider any area of the development landward of Mean High Water Springs (MHWS). Onshore historic environmental assets are considered in detail in **F2.10: Outline Onshore Written Scheme of Investigation**.

1.1.1.6 The document has been structured to consider required mitigation and offsetting works through archaeological actions in relation to the following offshore phases:

- Pre-construction
  - Survey and site investigations; and
  - Seabed preparation.
- Construction
  - Wind Turbine Generator (WTG) installation;
  - Array, interconnector and export cable installation;
  - Offshore substations (OSS) and an offshore accommodation platform installation; and
  - Associated vessel works – jack-up vessels, anchorage, etc.
- Operation (including maintenance)
  - Presence of foundations;
  - Exposure of cables;
  - Use of cable protection measures; and
  - Associated vessel works – jack-up vessels, anchorage, etc.

- Decommissioning
  - Removal of structures;
  - Removal of cables (if required); and
  - Associated vessel works – jack-up vessels, anchorage, etc.

1.1.1.7 This Outline Marine WSI document has been compiled by Maritime Archaeology to accompany the Hornsea Four Environmental Statement (ES), **Volume A2, Chapter 9: Marine Archaeology and Volume A5, Annex 9.1: Marine Archaeology Technical Report**, and with due regard to advice from curators and regulators.

1.1.1.8 **Volume A5, Annex 9.1: Marine Archaeology Technical Report** incorporating a geophysical data review (Appendix C of **Volume A5, Annex 9.1**) and a paleogeographic review of geophysical survey data (Appendix D of **Volume A5, Annex 9.1**), together with a corresponding ES chapter (**Volume A2, Chapter 9: Marine Archaeology**), have been produced to identify the known and potential marine archaeological resources within the Hornsea Four Order Limits and the wider marine archaeology study area, review potential impacts, and present mitigation proposals. This Outline Marine WSI should be read in conjunction with these ES documents which provide detail on the archaeological baseline and the Hornsea Four project details of relevance to archaeological resources.

Hornsea Four

Figure 1

Marine Archaeology Study Area

320000 360000 400000

6040000 6000000 5960000

N

GRID NORTH

- Marine Archaeology Study
- Order Limits
- Array Area
- HVAC Booster Station Works Area
- Offshore Temporary Works Areas
- Offshore Export Cable Corridor

Coordinate system: ETRS 1989 UTM Zone 31N

Scale@A3: 1:400,000

0 7.5 15 Kilometres

0 3.5 7 Nautical Miles

REV	REMARK	DATE
	First Issue for PEIR	15/07/2019
A	Updated following PEIR consultations for DCO	13/09/2021

Archaeology Study Area
Document no: HOW04MA0001
Created by: CH
Checked by: BM
Approved by: GM

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Date: 14/09/2021 Author: jns Name: HOW04MA0001

2. Implementation of the Outline Marine WSI

2.1 Introduction

2.1.1.1 Primary responsibility for delivery of the measures in this Outline Marine WSI lies with the Applicant. Through project documentation and procedures, the implementation of this Outline Marine WSI will involve archaeological contractors and curators.

2.2 Hornsea Four: Implementation

2.2.1.1 The Applicant will be responsible for implementing the Outline Marine WSI. The Applicant will ensure that all project personnel understand relevant archaeological requirements, particularly those where reporting may be required by contractors through the Protocol for Archaeological Discoveries (PAD) (The Crown Estate 2014). Personnel responsible for communication of actions to the Applicant will be clearly appointed. This may include specific representatives on-board work vessels.

2.2.1.2 The Applicant will be responsible for maintaining a record of contacts related to the delivery of mitigation. This will include archaeological consultants, contractors and curators, in addition to Nominated Contacts within survey, sampling and construction contractors.

2.2.1.3 Any future archaeological works undertaken will require detailed Method Statements outlining methods and mitigation as outlined in Section 7.4.

2.3 Retained Archaeologist: Implementation

2.3.1.1 Communication with the Archaeological Curators is the responsibility of the Applicant. The Applicant has engaged a Retained Archaeologist to implement this Outline Marine WSI.

2.3.1.2 The Applicant has advised the Retained Archaeologist of all requirements or responsibilities related to communication with curators and contractors, or in relation to scheme-wide documentation such as Environmental Management Plans.

2.3.1.3 The Retained Archaeologist reports to the Applicant and will provide advice to the Applicant to inform communication with the curators and contractors in relation to the implementation of the Outline Marine WSI.

2.4 Archaeological Curators: Implementation

2.4.1.1 The main Archaeological Curators involved in the agreement of this Outline Marine WSI and subsequent mitigation works are the Historic England Marine Planning Unit; and Historic England North East and Yorkshire.

2.4.1.2 Archaeological Curators will be provided with copies of all relevant project documentation. Historic England will take the lead for the offshore historic environment and the Work Packages outlined within this Outline Marine WSI.

2.5 Construction Contractors: Implementation

2.5.1.1 Construction contractors working within the marine zone, where Archaeological Exclusion Zones (AEZs) are in place and where the PAD is being used, must ensure all relevant personnel are aware of the associated requirements. This will include understanding the Outline Marine WSI and all procedures and lines of communication for reporting unexpected archaeological discoveries.

3. Development Scheme Details and Site-Specific Surveys

3.1.1.1 Hornsea Four will be located approximately 69 km offshore the East Riding of Yorkshire in the Southern North Sea and will be the fourth project to be developed in the former Hornsea Zone (please see **Volume A1, Chapter 1: Introduction** for further details on the Hornsea Zone). Hornsea Four will include both offshore and onshore infrastructure including an offshore generating station (wind farm), export cables to landfall, and connection to the electricity transmission network (please see **Volume A1, Chapter 4: Project Description** for full details on the Project Design).

3.1.1.2 Hornsea Four will have a maximum of 180 WTGs. These will be connected to OSSs via array cables, and then to offshore export cables. Up to six offshore export cables will transfer power from the Hornsea Four array area to the landfall. At landfall, the offshore export cables will be joined to onshore export cables at transition joint bays.

3.1.1.3 With the Hornsea Four array area, up to six offshore transformer substations, up to three offshore High Voltage Direct Current (HVDC) converter substations and one offshore accommodation platform may be constructed. Additionally, up to three offshore High Voltage Alternating Current (HVAC) booster stations would be located in the Hornsea Four offshore Export Cable Corridor (ECC), rather than in the Hornsea Four array area. Offshore HVDC converter substations are mutually exclusive with HVAC booster stations in a single transmission system and as such, the total numbers of each of these structure types should not be combined in the total number of structures.

3.1.1.4 The following foundation types for WTGs, OSSs, booster stations and the accommodation platform are being considered:

- Monopile;
- Mono-suction bucket;
- Piled jacket (WTG-type);
- Gravity Base Structure (GBS) (WTG-type);
- GBS (Box-type);
- Suction caisson jacket (WTG-type);
- Suction caisson jacket (Small OSS);
- Piled jacket (Small OSS);
- Piled jacket (Large OSS);
- Suction caisson jacket (Large OSS);
- GBS (Large OSS); and
- Pontoon GBS.

3.1.1.5 Some form of seabed preparation may be required for each foundation type. Seabed preparations may include seabed levelling and removing surface and subsurface debris, as

detailed in **Volume A1, Chapter 4: Project Description**. If debris are present below the seabed surface, then excavation may be required for access and removal. Ahead of any intrusive works, archaeological method statements (**Section 7.4**) will provide details of the estimated depth of seabed excavation that may be required for any of the structures included above.

3.1.1.6 **Figure 2** shows the extent of initial Side Scan Sonar (SSS) (blue) and Multibeam Echosounder (MBES) (pink) survey coverage within the 250 m buffer around each indicative turbine location (red). The survey coverage, as illustrated in **Figure 2**, is therefore crucial to identify potential debris and other features around the turbines to understand the requirements seabed preparation work.

3.1.1.7 **Table 1** summarises the status of all completed geophysical and geotechnical investigations as well as the associated archaeological works undertaken. Further details on survey resolution, coverage and quality control can be found in the archaeological reports listed in the table.

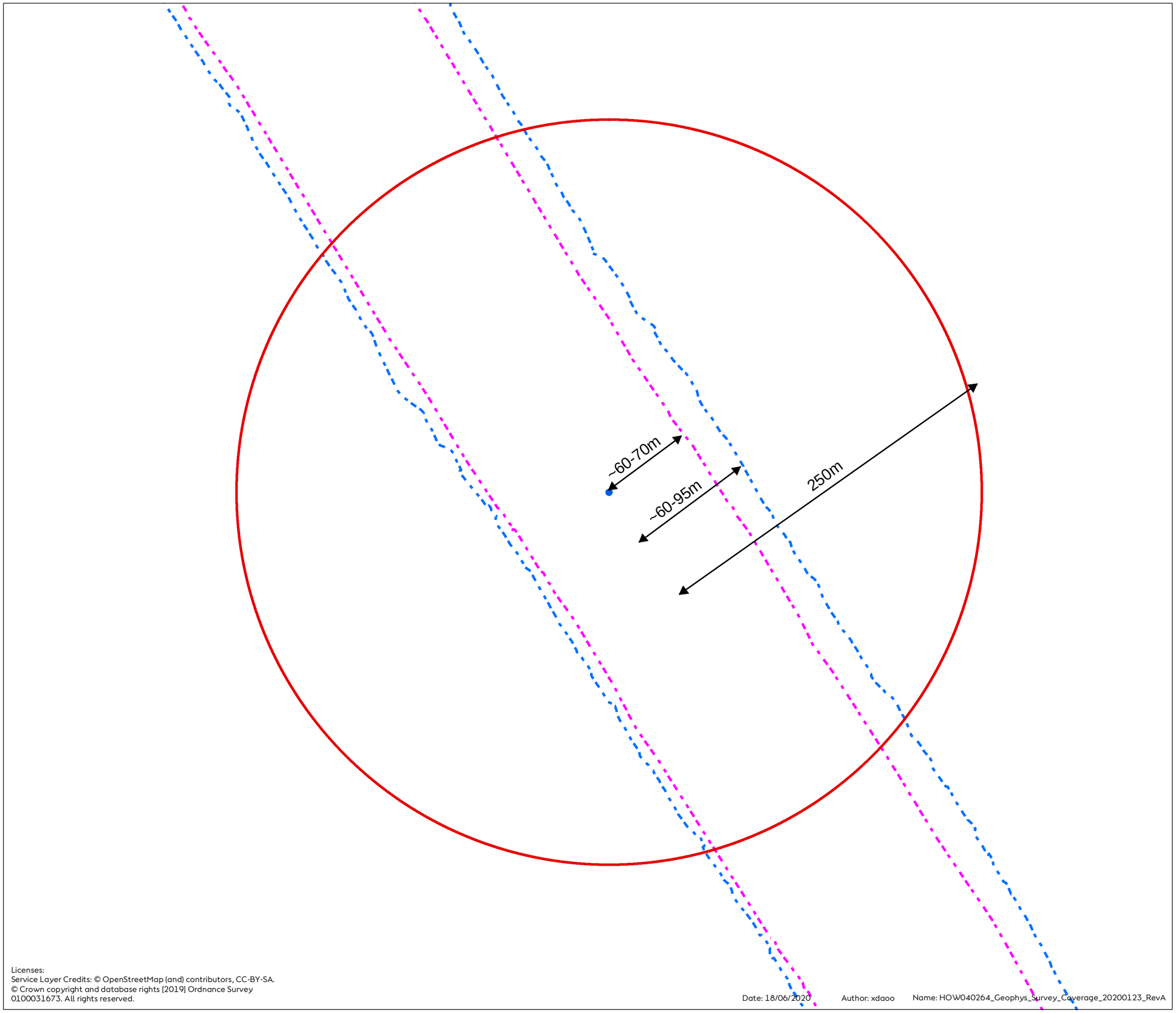
3.1.1.8 **Table 8** contains a list of all proposed surveys which will be assessed for archaeological purposes where deemed relevant.

Table 1: Completed offshore investigations.

Title, year and reference	Survey summary	Archaeological Reports
Geophysics 1A Pre-application survey. Data acquired during summer 2018 and 2019.	MBES, SSS, Magnetometer (MAG), Sub-Bottom Profiler (SBP) and Ultra-High Resolution Seismic (UHRS) survey in the array area to inform the application process and characterise the Order Limits.	**Volume A5, Annex 9.1: Marine Archaeology Technical Report**. **Appendices C** and **D**.
Geophysics 1C Pre-geotechnical (1A) survey. Data acquired during spring 2020.	Eighteen locations where geotechnical samples were planned to be collected were surveyed and assessed for archaeological potential.	**Volume A5, Annex 9.1: Marine Archaeology Technical Report**. **Appendices C** and **D**.
Geotechnical 1A Pre-application survey. Data acquired during summer 2020.	Intrusive ground investigations comprising seabed and down-hole testing (Cone Penetration Tests (CPTs), Vibrocores and Boreholes) to ground truth the geophysical ground model to inform the site design and characterise the Order Limits.	A staged geoarchaeological assessment following the processes detailed in **Section 7** will be submitted to Historic England.
Main Array & ECC, Geophysical seismic survey (2021)	Full coverage bathymetry survey of array site: Datasets: MBES/Backscatter	Archaeological assessments following the processes detailed in **Section 7** will be submitted to Historic England.
Main Array & ECC, Geophys-MBES (sand wave) (2021)	Targeted landfall investigation: Datasets: CPT & Boreholes and Geophysical (Seismic refraction / Resistivity profiles).	Archaeological assessments following the processes detailed in **Section 7** will be

Title, year and reference	Survey summary	Archaeological Reports
		submitted to Historic England.
Landfall, Geophysical/Geotechnical (2021)	Offshore, deep and shallow sampling and testing: Datasets: Boreholes/vibrocores and CPTs	A staged geoarchaeological assessment following the processes detailed in Section 7 will be submitted to Historic England.

3.1.1.9 Full development scheme details are provided in **Volume A1, Chapter 4: Project Description** with a comprehensive impact assessment provided in **Volume A2, Chapter 9: Marine Archaeology**.



Hornsea Four

Figure 2

Geophysical Survey Coverage Diagram

- Indicative Turbine
- 250m Turbine Buffer (500m diamater)

Equipment

- Multi Beam Echosounder
- Side Scan Sonar

Coordinate system: ETRS 1989 UTM Zone 31N

Scale@A3: 1:2,500

0 25 50 100 Meters

0 100 200 400 Feet

REV	REMARK	DATE
	First Issue for PEIR	24/07/2019
A	Updated layout for DCO	23/01/2020

Geophysical Survey Coverage Diagram
Document no: HOW040264
Created by: XDAOO
Checked by: KIEBE
Approved by: ELEAN

Ørsted

Date: 18/06/2020 Author: xdaoo Name: HOW040264_Geophys_Survey_Coverage_20200123_RevA

4. Summary of Archaeology and Cultural Heritage Baseline

4.1 Introduction

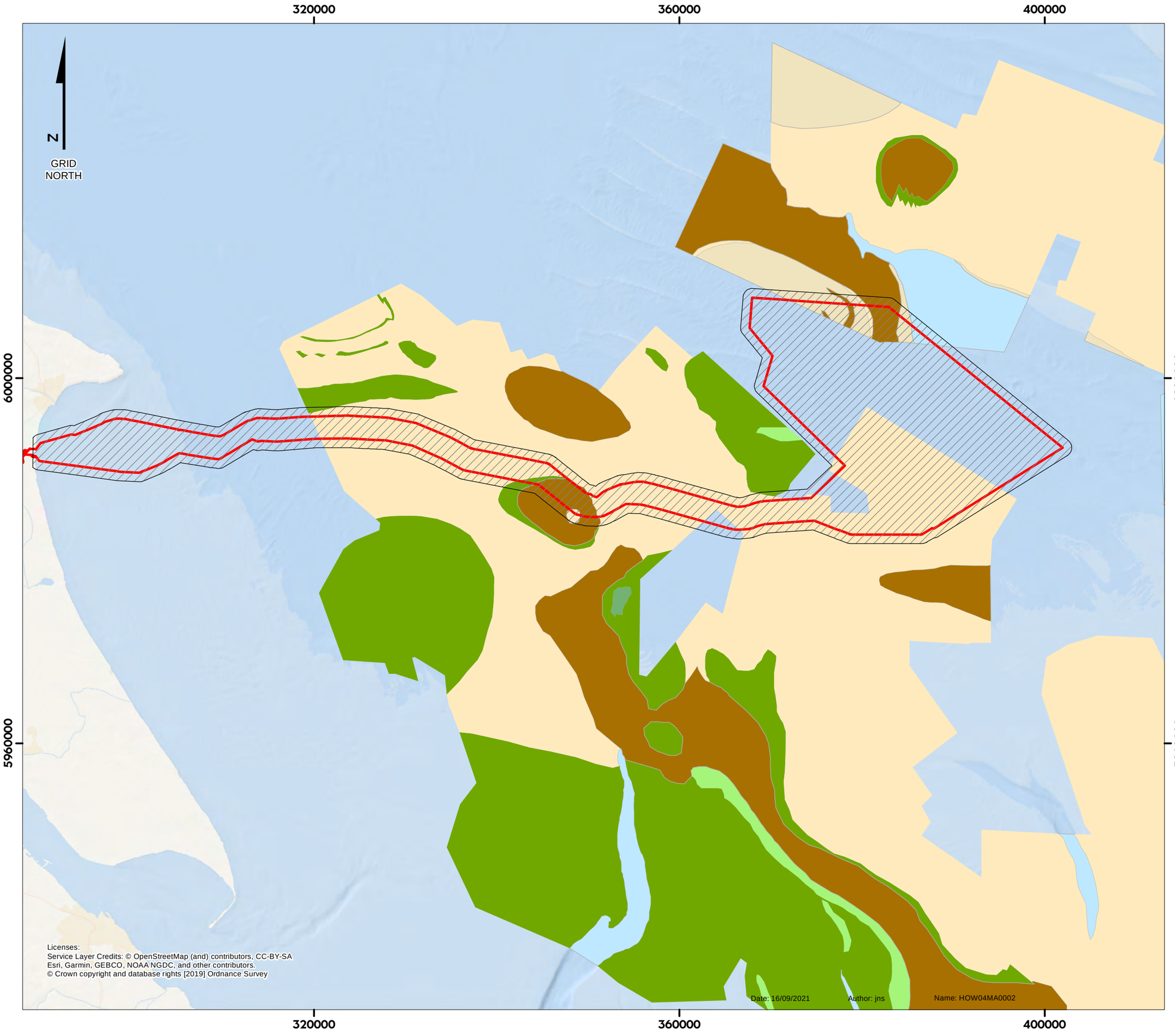
4.1.1.1 A detailed description of the known or potential archaeological resources within the Hornsea Four Order Limits and the wider marine archaeology study area is available within **Volume A5, Annex 9.1: Marine Archaeology Technical Report**, with a summary presented here, focussing on heritage assets which may be impacted by Hornsea Four.

4.2 Palaeolandscapes

4.2.1.1 The presence of Holocene landscape features and deposits within the marine archaeology study area and its immediate vicinity has been demonstrated by the North Sea Palaeolandscapes Project (NSPP) (Gaffney et al. 2007 (**Figure 3**)) and the Humber Regional Environmental Characterisation (REC) (Tappin et al. 2011).

4.2.1.2 The NSPP data reveals a Mesolithic shoreline associated with the Outer Silver Pit, a vast sea inlet which existed to the south of Dogger Bank from 8,000-7,500 years ago, which extends into the north-eastern array area, along with fluvial systems with associated deposits across the rest of the offshore ECC (**Volume A5, Annex 9.1: Marine Archaeology Technical Report**).

4.2.1.3 The likelihood of survival of the remains of Mesolithic activity and settlement on the Mesolithic shoreline, or within fluvial deposits is high. Sampling undertaken during the Humber REC study has shown that these deposits generally lie close to the surface of the seabed (**Volume A5, Annex 9.1: Marine Archaeology Technical Report**). It is therefore likely that the general area contains important prehistoric archaeological deposits and palaeoenvironmental evidence.



Hornsea Four

Figure 3

North Sea Palaeolandscape Project topography

- Order Limits
- Marine Archaeology Study Area

North Sea Palaeolandscape Project Topography

High to Low

- High
- Mod/High
- Moderate
- Inter. Low
- Moderate Low
- Low
- V.Low

Coordinate system: ETRS 1989 UTM Zone 31N

Scale@A3: 1:400,000

0 5 10 Kilometres

0 3.5 7 Nautical Miles

REV	REMARK	DATE
	First Issue for PEIR	15/07/2019
A	Updated following PEIR consultations for DCO	16/09/2021

NSPLP
Document no: HOW04MA0003
Created by: JNS
Checked by: BM
Approved by: GM

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4.3 Sedimentary Horizons

4.3.1.1 A palaeogeographic review of site-specific geophysical survey data (Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**) was undertaken which identified a sedimentary sequence and deposits of archaeological interest as summarised in **Table 2**.

Table 2: Deposits of archaeological potential (Appendix C of Volume A5, Annex 9.1: Marine Archaeology Technical Report).

Deposit	Description
Holocene	During the Holocene period the site was characterised by terrestrial, intertidal and then fully marine conditions. A Holocene shoreline is likely to have run along the north-eastern edge of the array area and studies show palaeochannels dating to this period may be present within the array area. Marine sands are underlain by early Holocene channels cut into the earlier glacial channels (Botney Cut). Depressions in possible morraines and other glacial features along the export cable route may hold organic deposits of Holocene date.
Botney Cut	Related to the Late Devensian and Early Holocene period. Predominantly glacio-fluvial features and till. Some of the botney cut features may be re-interpreted as Bolders bank.
Bolders Bank	Related to the Devensian period. Diamicton probably formed by an ice lobe, with probable internal sub-glacial channels. Different phases of Bolders Bank glacial activity within the area. Present as a blanket deposit in the southern part of the array area, with more erosive properties to the north.
Eem Formation	Related to the Ipswichian interglacial. Fine to medium grained shelly marine sands, or intertidal/sub-tidal deposits.
Egmond Ground	Fine grained marine sands interbedded with clays.
Swarte Bank	Related to the Anglian glaciation. Primarily characterised by sub glacial valleys incised into the Yarmouth Roads formation and underlying deposits (where present).
Yarmouth Roads	Related to the Cromerian Period. Fluvial or deltaic deposits with sands, silts, clays and reworked peat. Partially equated with the onshore Cromer Forest Beds which are associated with *in situ* archaeological material at Happisburgh and Pakefield. Multiple phases of Yarmouth Roads Formation have been identified within the site. Internal Yarmouth Road reflectors are clearly visible within seismic data.
Chalk	Bedrock
Pre Chalk	Bedrock

4.4 Offshore – Maritime

4.4.1.1 Following Holocene sea level rise which caused the severing of (modern) Britain from the European landmass, the nature of the potential marine heritage encountered in the offshore zone becomes dominated by 'maritime' – ships, boats and shipborne debris.

4.4.1.2 Baseline information on the potential of the maritime historic environment has been summarised from **Volume A5, Annex 9.1: Marine Archaeology Technical Report**.

4.4.1.3 Data for known shipwrecks and recorded shipping losses within the marine archaeology study area were obtained from the United Kingdom Hydrographic Office (UKHO) and the National Record of the Historic Environment (NRHE).

4.4.1.4 There are 18 known wrecks within the Order Limits as recorded in both the UKHO and NRHE datasets. Thirteen of these known wrecks classed as LIVE. Nine of these records refer to possible identified wrecks, while nine are unknown wrecks. The majority of the known wrecks are dated to the twentieth century. There are also five foul and seabed obstructions within the Order Limits and six fishermen's fasteners. Fishermen's fasteners are defined as places where fishermen have snagged their fishing gear.

4.4.1.5 The archaeological significance of seven of the nine known wrecks within the Order Limits is detailed within **Volume A5, Annex 9.1: Marine Archaeology Technical Report** and these wrecks are shown in **Figure 4**. The archaeological significance of the other two possible identified wrecks (the fishing vessels *Linda Louise* (1983) and *Zephr* (1960)) have not been considered in **Volume A5, Annex 9.1: Marine Archaeology Technical Report** due to their modern sinking dates and the absence of detailed information on these wrecks.

4.5 Geophysical Assessments

4.5.1.1 The assessment of geophysical data as detailed in Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report** identified 146 anomalies (low, medium and high) of potential anthropogenic origin within the Order Limits. One hundred and thirty-nine of these are of low archaeological potential. Five medium and two high potential anomalies were identified and have been assigned AEZs as described in detail in Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**.

4.5.1.2 A further 41 magnetic anomalies over 100 nT but with no corresponding seabed contacts have been identified within the Order Limits as further described in Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**.

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Figure 4

Wrecks of archaeological significance within the Marine Archaeology Study Area

320000 360000 400000

6040000 6000000 5960000

N
GRID NORTH

SYRIAN
CORONATION
BRABANT
BIESBOSCH
SOTE
FELTRE
VILLE DE VALENCIENNES
NITEDAL
LEKA
LAPWING

Order Limits
Marine Archaeology Study Area
Wrecks of Archaeological Significance

Coordinate system: ETRS 1989 UTM Zone 31N
Scale@A3: 1:400,000

0 8 16 Kilometres

0 3 6 Nautical Miles

REV	REMARK	DATE
	First Issue for PEIR	15/07/2019
A	Updated following PEIR consultations for DCO	14/09/2021

Wrecks of archaeological significance
Document no: HOW04MA0004
Created by: JNS
Checked by: CH
Approved by: GM

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Date: 14/09/2021 Author: jns Name: HOW04MA0004

4.6 Potential Impacts

4.6.1.1 The marine archaeology impact assessment presented in **Volume A2, Chapter 9: Marine Archaeology** has been carried out in accordance with the methodology set out in **Volume A1, Chapter 5: Environmental Impact Assessment Methodology**.

4.6.1.2 Heritage considerations of relevance to all phases of Hornsea Four's lifecycle are:

- Under the Protection of Wrecks Act 1973, if a wreck of historical, archaeological or artistic importance were to be discovered then it would be possible for it to be designated at very short notice. This has the potential to disrupt construction activities and associated timetables;
- Under the Protection of Military Remains Act 1986, if a crashed military aircraft was discovered in the course of construction then it is automatically protected. It is then an offence to undertake unauthorised disturbance of the site unless under licence
- Under the Burial Act 1857, if human remains are discovered in the course of site investigations or construction they cannot be exhumed without authority from the Secretary of State (SoS); and
- Under the Ancient Monuments and Archaeological Areas Act 1979, sites that warrant protection due to them being of national importance as 'ancient monuments' must have a consent from the SoS before any works can be undertaken.
- Finders of gold and silver objects (over 300 years old) and some base metal assemblages (prehistoric) as defined in the Treasure Act 1996 Act are required to report such finds by contacting the Coroner and delivering the items for handover as per the Coroners' instructions.

4.6.1.3 The potential impacts of Hornsea Four upon archaeology and cultural heritage are summarised in **Table 3**. Several of these potential impacts were agreed with the Planning Inspectorate to be scoped out during the Scoping process. These impacts were also later discussed with Historic England through the Evidence Plan process (13 November 2019, Marine Archaeology Evidence Plan Technical Panel Meeting). Further details can be found in **Volume A4, Annex 5.1: Impacts Register**.

Table 3: Potential impacts on archaeology and cultural heritage receptors.

Phase	Potential impact
Construction	**Direct** or **indirect** impacts to potential archaeological receptors and / or their physical setting from: • (Scoped out) Disturbance, removal, intrusion, compression, draw down and/or penetration of sediments containing archaeological receptors (material or contexts) leading to total or partial loss in Hornsea Four array area and offshore ECC from construction activities (MA-C-1); • (Scoped out) Intrusion of piling foundations disturbing or destroying archaeological receptors in Hornsea Four array area and offshore ECC from construction activities (MA-C-2); • (Scoped out) Compression of stratigraphic contexts containing archaeological material from combined weight of foundation, transition piece, tower, and wind turbines in Hornsea Four array area and offshore ECC from construction activities (MA-C-3); and • (Scoped out) Disturbance, removal, intrusion, compression, draw down and/or penetration of sediment containing potential archaeological receptors (material and contexts) during inter-array cable laying operations and export cable laying operations (MA-C-6).

Phase	Potential impact
Operation	**Direct** or **indirect** impacts to potential archaeological receptors and / or their physical setting from: • Scour, penetration, draw down and compression effects caused by (a) the presence of WTG and substation foundations, and (b) the exposure and replacement of inter-array and export cables or the use of cable protection measures (such as remedial cable burial), impacting archaeological receptors and exposing such material to natural, chemical or biological processes and causing or accelerating loss of the same (MA-O-7); and • Disturbance, removal, intrusion, compression, draw down and/or penetration effects on seabed caused by corrective and preventative operation and maintenance activities (via jack-up vessels or divers) leading to total or partial loss of archaeological receptors (material or contexts) (MA-O-8).
Decommissioning	**Direct** or **indirect** impacts to potential archaeological receptors and / or their physical setting from: • Draw-down of sediment into voids left by removed turbine foundations or cables leading to loss of sediment, destabilising archaeological sites and contexts, and exposing such material to natural, chemical or biological processes, and causing or accelerating loss of the same (MA-D-9); and • (Scoped out) Draw-down of sediment into voids left by removed turbine foundations leading to loss of sediment and disturbance, removal, intrusion, compression, draw down and/or penetration effects of jack-up barges and anchoring of decommissioning vessels leading to total or partial loss of archaeological receptors (material or contexts) (MA-D-10).

5. Embedded Mitigation

5.1 Introduction

5.1.1.1 Embedded mitigation measures are referred to as commitments by the Applicant, and the terms are used interchangeably. Hornsea Four has adopted commitments (primary design principles inherent as part of Hornsea Four, installation techniques and engineering designs/modifications) as part of their pre-application phase, to eliminate and/or reduce the Likely Significant Effects (LSE)[1] arising from a number of impacts. These are outlined in **Volume A4, Annex 5.2: Commitments Register**. Further commitments (adoption of best practice guidance), referred to as tertiary commitments are embedded as an inherent aspect of the Environmental Impact Assessment (EIA) process. Secondary commitments are incorporated to reduce LSE to environmentally acceptable levels following initial assessment i.e. so that residual effects are reduced to environmentally acceptable levels.

5.1.1.2 Embedded mitigation measures relating to onshore historic environmental assets located within the area of the development landward of Mean High Water Springs (MHWS) have been considered. Further details can be found in **F2.10: Outline Onshore Written Scheme of Investigation**.

5.1.1.3 Impact on the archaeological resource is mitigated by the precautionary principle, based on the prevention of damage to receptors by proactively putting in place protective measures rather than attempting to repair damage after it has occurred.

5.1.1.4 The Applicant has made several commitments as a part of the pre-application process to ensure that significant impact on archaeological receptors will not occur during the construction, operation or decommissioning of Hornsea Four as detailed in **Table 4**. All

[1] It is noted that in heritage terms, Historic England prefer the term 'impact on the significance of heritage assets' rather than LSE. However, the term LSE is used throughout the EIA and DCO and is required to secure the commitments, so it remains for this purpose.

commitments and information on how each commitment is secured is detailed in **Volume A4, Annex 5.2: Commitments Register**.

Table 4: Marine archaeology commitments.

Commitment ID	Measure	How Commitment is Secured
Co46	Primary: All intrusive construction activities will be routed and microsited to avoid any identified archaeological receptors pre-construction, with buffers as detailed in the Marine Written Scheme of Investigation (WSI).	DCO Schedule 11, Part 2 - Conditions 13(2) and 13(3) and; DCO Schedule 12, Part 2 - Conditions 13(2) and 13(3) *Marine Written Scheme of Archaeological Investigation*
Co140	Tertiary: A Marine Written Scheme of Archaeological Investigation (WSI) will be developed in accordance with the Outline Marine WSI. The Marine WSI will include the requirement for Archaeological Exclusion Zones (AEZs) to be established to protect any known / identified / unexpected marine archaeological receptors and the implementation of a Protocol for Archaeological Discoveries (PAD) in accordance with 'Protocol for Archaeological Discoveries: Offshore Renewables Projects' (The Crown Estate 2014).	DCO Schedule 11, Part 2 - Conditions 13(2) and 13(3) and; DCO Schedule 12, Part 2 - Conditions 13(2) and 13(3) *Marine Written Scheme of Archaeological Investigation*
Co166	Secondary: An offshore geophysical survey (including a Unexploded Ordnance (UXO) survey) will be undertaken prior to construction and will be subject to a full archaeological review in consultation with Historic England.	DCO Schedule 11, Part 2 - Conditions 13(2) and 13(3) and; DCO Schedule 12, Part 2 - Conditions 13(2) and 13(3) *Marine Written Scheme of Archaeological Investigation*
Co167	Secondary: An offshore geotechnical survey will be undertaken prior to construction, including a staged geoarchaeological assessment and analysis of geotechnical data inclusive of publication, in consultation with Historic England.	DCO Schedule 11, Part 2 - Conditions 13(2) and 13(3) and; DCO Schedule 12, Part 2 - Conditions 13(2) and 13(3) *Marine Written Scheme of Archaeological Investigation*
Co181	Tertiary: An Offshore Decommissioning Plan will be developed prior to decommissioning.	DCO Schedule 11, Part 1(6) and; DCO Schedule 12, Part 1(6) General Provisions

5.1.1.5 **Figure 5** illustrates how the marine archaeology commitments detailed in **Table 4** have been developed to ensure that impact on archaeological receptors is avoided through all stages of the development. The interwoven commitments ensure that impact on all known receptors will be avoided, however, should unknown archaeological receptors be discovered, or impacted during the project phases, secure processes are in place to facilitate consultation with Historic England and undertake necessary further works as outlined in this WSI (Co140).

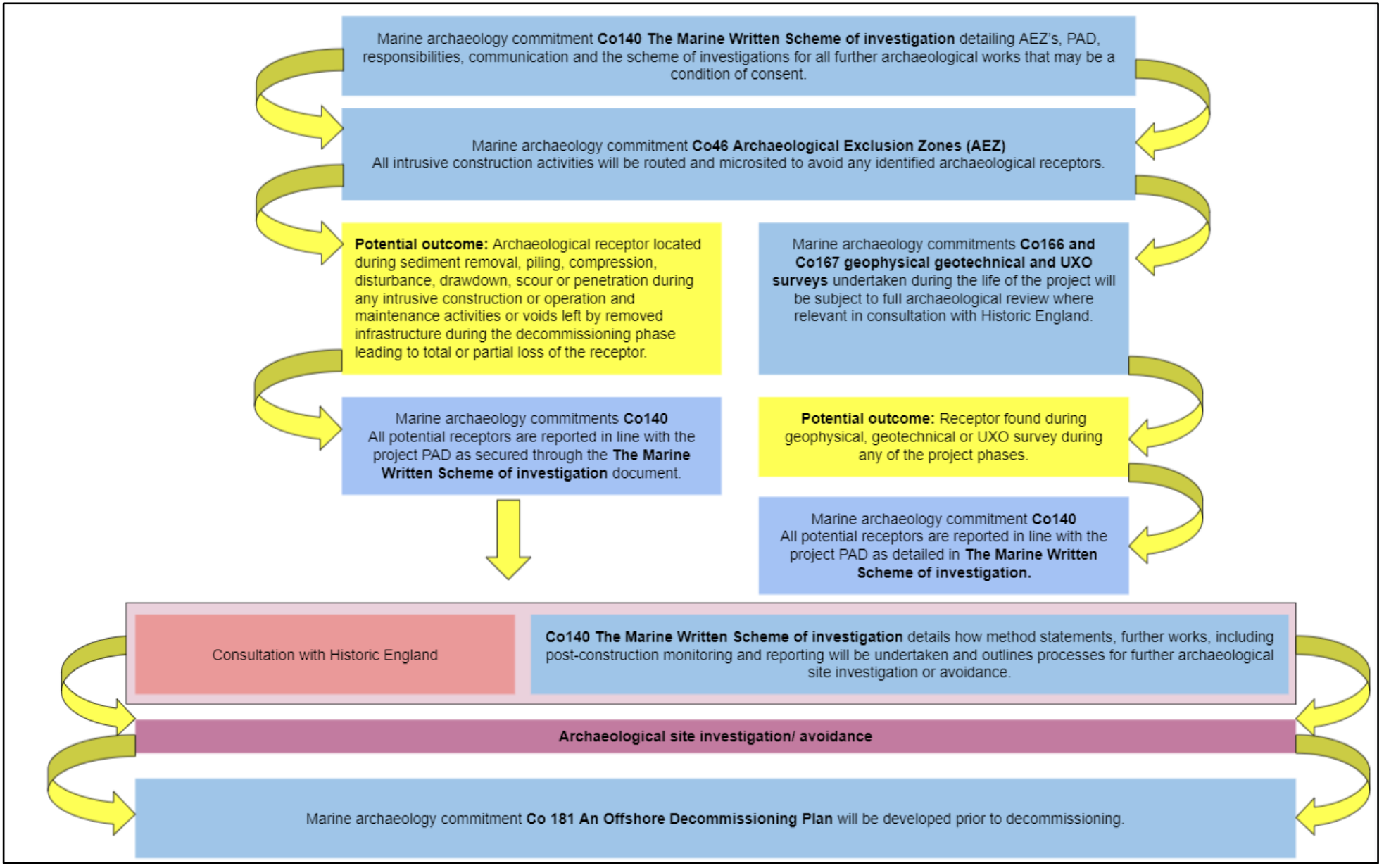

Figure 5: Linkages between marine archaeological commitments and how these commitments will be implemented.

5.2 Mitigation: Known Wrecks and Obstructions

5.2.1.1 Eighteen known wrecks identified in the data provided by UKHO are located within the Order Limits. Of the 18 wrecks, 13 are classed as LIVE. In addition, there are five foul and seabed obstructions, and six fishermen's fasteners within the Order Limits. The six fishermen's fasteners included in the NRHE data have not been assigned exclusion zones. The majority of the wrecks date to the twentieth century.

5.2.1.2 Of the 23 known heritage receptors (18 wrecks plus five foul and seabed obstructions) identified in the UKHO data, one wreck (the fishing vessel LV *Lapwing, sunk 1940)* is located within the Order Limits and correlates with the geophysical data assessed (MSDS_HOW04_2019_ARCH_0224) for archaeological potential as detailed below.

5.2.1.3 Wrecks and obstructions are further classified in a number of ways by the UKHO:

- LIVE: Wreck considered to exist as a result of detection through survey;
- DEAD: Not detected over repeated surveys, therefore not considered to exist in that location;
- LIFT: Wreck has been salvaged; and
- ABEY: Existence of wreck in doubt and therefore not shown on charts.

5.2.1.4 Data contained within the NRHE database and reported as fishermen's fasteners meaning "places where fishermen have snagged their fishing gear" are considered in **Annex 9.1: Marine Archaeology Technical Report**.

5.2.1.5 As per commitment Co140 in **Table 4,** precautionary AEZs of 50 m are recommended for all 23 known heritage receptors (18 wrecks plus five foul and seabed obstructions) outlined in **Table 5** and **Volume A5, Annex 9.1: Marine Archaeology Technical Report** (Section 3.3 and Appendix A).

Table 5: Known heritage receptors within the Order Limits.

Name	MSDS ID	UKHO ID	NRHE ID (UID)	Latitude	Longitude	Status	Location accuracy	Year Lost	AEZ Radius (m)
Brabant		5807	907941	+54.058917	-0.09695	LIVE	~3 m	1917	50
Biesbosch		5808	907942	+54.062183	-0.046733	LIVE	~25 m	1923	50
Feltre		6470	907939	+54.039967	+0.029083	LIVE	~25 m	1917	50
Lapwing	0224	9400		+53.987217	+1.205633	LIVE	~13 m	1940	100
Linda Louise		6845		+54.038883	+1.360883	LIVE	~13 m	1983	50
Nitedal/ Leka		6493	1454594	+54.02025	-0.037283	LIVE	~13 m	1917	50
Resercho (possibly)		6586	907940	+54.056633	+0.067417	DEAD	Unreliable	1939	50
Syrian		6741		+54.154967	+1.010633	LIVE	~4 m	1915	50
Unknown		6163	908402	+54.06385	-0.047283	DEAD	Unreliable	Unknown	50
Unknown		6165	908401	+54.0583	-0.0209	LIVE	Unreliable	Unknown	50
Unknown		6721		+54.000267	+1.164767	DEAD	Unreliable	Unknown	50
Unknown		6728		+54.047217	+1.37755	LIVE	~13 m	Unknown	50
Unknown	0233	6830		+54.176917	+1.124233	LIVE	~13 m	Unknown	50
Unknown		6846		+54.16025	+1.154783	DEAD	Approximate	Unknown	50
Unknown		6833		+54.16275	+1.223383	LIVE	~13 m	Unknown	50
Unknown		6735		+54.148583	+1.225333	LIVE	~13 m	Unknown	50
Unknown		6736		+54.158867	+1.2981	LIVE	~13 m	Unknown	50
Zephr		6725		+54.0336	+1.364767	DEAD	Unreliable	1960	50
Obstruction/Foul ground		6859		+54.024167	+1.228683	LIVE	~13 m	Unknown	50
Obstruction/Foul ground		66240		+54.036933	+1.244767	DEAD	Unreliable	Unknown	50
Obstruction/Foul ground		6858		+54.093867	+1.213117	LIVE	~13 m	Unknown	50
Obstruction/Foul ground		6862		+54.1136	+1.185333	LIVE	~13 m	Unknown	50
Obstruction/Foul ground		6860		+54.149983	+1.231717	LIVE	~13 m	Unknown	50

5.3 Mitigation: Geophysical Anomalies

5.3.1.1 The combined geophysical archaeological data assessment undertaken by MSDS Marine (Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**) identified 187 contacts of archaeological potential within the Order Limits as outlined in **Table 6**.

Table 6: Anomalies of archaeological potential.

Potential	Anomalies (no)
Low	139
Medium	5
High	2
High magnetic	41
Total	187

5.3.1.2 Contacts of low archaeological potential and isolated magnetic anomalies are deemed unlikely to be of archaeological significance have not been assigned AEZs. All contacts have been further detailed in Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**.

5.3.1.3 As per commitment Co140 in **Table 4**, all works associated with Hornsea Four where and archaeologist is not present will utilise the Hornsea Four PAD (**Appendix A** of this document). Any finds, objects, sites or deposits of archaeological potential will be reported and appropriately assessed for archaeological potential .

5.3.1.4 As per commitment Co46 and Co140 in **Table 4**, mitigation of impact on the seven features of medium and high archaeological potential, identified in the assessment of the baseline and geophysical data, is recommended by the establishment of AEZs as summarised in **Table 7**, **Figure 2**, and detailed in Appendix C of **Volume A5, Annex 9.1: Marine Archaeology Technical Report**. The AEZ radii have been given on a case-by case basis and determined from the centre point of the contact or associated group of contacts. It is important to note that these AEZs in **Table 7** are in addition to those identified in **Table 5** in relation to known heritage receptors.

Table 7: Proposed AEZs.

MSDS ID	Potential	Basic Description	Easting	Northing	AEZ Radius (m)
MSDS_HOW04_2019_ARCH_0086	High	Potential wreck	379559.3	5994689.6	75
MSDS_HOW04_2019_ARCH_0224	High	Wreck	382353.2	5983573.2	100
MSDS_HOW04_2019_ARCH_0079	Medium	Potential anthropogenic debris	374099.1	6002824.4	15
MSDS_HOW04_2019_ARCH_0088	Medium	Potential ballast mound	387801.1	5984995.7	30
MSDS_HOW04_2019_ARCH_0234	Medium	Potential anthropogenic debris with large magnetic anomaly	385666.0	5993861.0	25

MSDS ID	Potential	Basic Description	Easting	Northing	AEZ Radius (m)
MSDS_HOW04_2019IF_ARCH_0244	Medium	Potential anthropogenic debris with large magnetic anomaly	306336.1	5992925.3	15
MSDS_HOW04_2019IF_ARCH_0257	Medium	Potential anthropogenic debris	336477.5	5991865.6	15

5.4 Mitigation for Unexpected Archaeological Discoveries

5.4.1.1 As per commitment Co140 in **Table 4**, where there is potential to encounter unexpected sites, objects or deposits of archaeological interest not located during previous archaeological assessments, a project-specific PAD will be implemented. The Hornsea Four PAD is presented in **Appendix A** of this document.

5.4.1.2 Note that the PAD is expected to be used where an archaeologist is not onboard. Following a report of an unexpected discovery as per the reporting chain outlined, this Outline Marine WSI will be called upon to ensure that all finds, sites, objects or deposits are subject to further archaeological assessments as per methodologies outlined in **Section 7.**

5.4.1.3 The Hornsea Four PAD has been produced based on the Offshore Renewables Protocol for Archaeological Discoveries (The Crown Estate 2014).

5.4.1.4 The Hornsea Four PAD aims to mitigate impact on the historic environment by enabling people working offshore to report their finds, sites, objects, or deposits in an effective and convenient manner.

5.4.1.5 The PAD anticipates discoveries being made by project staff who report to a Site Champion (potentially the Client representative of the vessel or other manager appointed by the contractor), who then reports to the Applicant's nominated person to coordinate implementation of the PAD (the Nominated Contact) (see **Appendix A** of this document, **Figure A 1**).

5.4.1.6 All discoveries of archaeological material must be reported by the Applicant, in accordance with the communication plan, to the Nominated Contact, who will inform the Retained Archaeologist. If the find constitutes 'wreck' within the terms of the Merchant Shipping Act 1995 then the Retained Archaeologist will produce a report to the Receiver of Wreck. Full contact details for all relevant parties are included in the Hornsea Four PAD (**Appendix A** of this document).

5.4.1.7 Any finds or objects recovered will be safeguarded i.e. kept in water in a clean, covered container. It is not recommended to remove concretions, clean the finds, or in any other way interfere with them.

5.4.1.8 Following the mitigation works outlined above, there may be other discoveries during offshore works or geophysical data assessments that have not been previously characterised through the archaeological assessments. Any discoveries that are of archaeological potential may require Temporary Exclusion Zones (TEZs) to be established.

5.4.1.9 As outlined in **Section 6.4**, TEZs must be respected during all activities associated with the wind farm construction, operation and maintenance, and decommissioning phases. Measures must be put in place to communicate the position of TEZs to all contractors and

to monitor compliance with the TEZs during construction, operation and maintenance and decommissioning.

5.4.1.10 Following an assessment of the available data for the discovery, the Retained Archaeologist will (in agreement with the curator, Historic England), provide advice on whether the TEZ may be lifted or will form the basis of a permanent AEZ. Where justified, further archaeological assessments as outlined in **Section 7.** may also be undertaken at the TEZ location.

5.5 Further Archaeological Works

5.5.1.1 There are a range of mitigation requirements related to the various stages of the Hornsea Four lifecycle. A number of the mitigation measures, such as surveys (Co166 and Co167 in **Table 4**), will be undertaken prior to construction, with other mitigations relevant to construction, operation and decommissioning stages of Hornsea Four (e.g. Co140 and Co181 in **Table 4**).

5.5.1.2 Future planned works potentially impacting on potential archaeological receptors will require detailed Method Statements to be agreed by the relevant curator/s. Archaeological works may be undertaken as separate investigations depending on the timing of work or as part of other project campaigns. Reports generated from each archaeological commitment will be made available between relevant contractors as soon as they become available.

5.5.1.3 A post-construction monitoring plan (as required under DCO Schedule 11 and 12, Part 2 - Condition 19(2)(b)) will be developed and submitted to Archaeological Curators prior to construction which will present the approach to the monitoring required for the established AEZs or other areas deemed of archaeological potential or at risk of impact (as set out in **F2.7 Outline Marine Monitoring Plan**). Further details on post-construction monitoring is set out in **Section 7.3**.

5.5.1.4 The post-construction monitoring plan will outline how geophysical survey data (and ROV imagery if available) will be reviewed and compared with results from pre-construction data in relation to each feature identified in the pre-construction monitoring.

5.5.1.5 **Table 8** outlines the planned site-specific surveys and data, although it is noted that the dates for each survey are subject to change in which case Historic England will be updated accordingly.

5.5.1.6 Each phase will generate data (both geophysical and geotechnical) that will be reviewed, as per commitment Co166, Co167 and Co181 (**Table 4**). Generally, each phase will provide incrementally greater resolution and more complete coverage as the final scheme footprint becomes ever more defined.

Table 8: Planned site-specific surveys.

Scope	Indicative timescale	Archaeological assessment
Geophysical seismic survey within array area and ECC (infill surveys).	April/June 2021	Archaeological assessment of infill data.
Geophysical MBES survey (full coverage) within array area and ECC ahead of sandwave clearance	April/June 2021	Archaeological assessments of survey data where relevant.
Geophysical surveys and geotechnical campaigns at landfall	April/June 2021	Archaeological assessments of survey data and a staged geoarchaeological assessment.
Geotechnical campaign within array area	May/June 2022	Staged geoarchaeological assessments of data where relevant.
Geotechnical campaign within the ECC	May/June 2022	Staged geoarchaeological assessments of data where relevant
Geotechnical campaign at OSS locations (including HVAC Booster Station Search Area)	May/June 2024	Staged geoarchaeological assessments of data where relevant
Geotechnical campaign within array area	April/June 2024	Staged geoarchaeological assessments of data where relevant
Geophysical UXO detection survey within ECC and array area	April/July2025	Archaeological assessments of survey data where relevant.
UXO surveys within the array area and ECC	April/July 2026	Archaeological assessments of survey data where relevant.

6. Responsibilities and Communication

6.1 Hornsea Four

6.1.1.1 The implementation of the final Marine WSI document will be the responsibility of the Applicant.

6.1.1.2 Consultation with Historic England will be maintained throughout the mitigation works. Curatorial responsibility for the aspects of Hornsea Four seaward of MHWS resides with Historic England.

6.1.1.3 Curatorial responsibilities for the aspects of Hornsea Four landward of MHWS resides with Historic England North East and Yorkshire, Humber Archaeology Partnership and Archaeological Advisors to the East Riding of Yorkshire Council as outlined in **F2.10: Outline Onshore Written Scheme of Investigation**.

6.1.1.4 Communication with the Archaeological Curators is the responsibility of the Applicant. The Applicant will engage a Retained Archaeologist to implement the final WSI. The Applicant may engage one or more archaeological contractors to deliver the mitigation measures set out within this Outline WSI.

6.1.1.5 The Applicant will advise the Retained Archaeologist of all requirements or responsibilities related to communication with curators and contractors, or in relation to scheme-wide documentation such as Environmental Management Plans.

6.1.1.6 The Applicant is responsible for all communication with contractors engaged for construction activities.

6.2 Retained Archaeologist / Archaeological Contractors

6.2.1.1 The Retained Archaeologist will report to the Applicant.

6.2.1.2 The Retained Archaeologist will provide advice to the Applicant to inform communication with the curators and contractors in relation to implementation of the final Marine WSI. The responsibilities of the Retained Archaeologist are as follows:

- Maintaining, reviewing and updating the Marine WSI, as required;
- Advising the Applicant's Contractor(s) as to which activities warrant archaeological involvement;
- Advising the Applicant's Contractor(s) in the course of evaluating scope of work specifications on their capacity to meet archaeological requirements;
- Advising the Applicant on the necessary interaction with third parties with archaeological interests, including the Archaeological Curators;
- Advising the Applicant on the implementation of generic archaeological requirements applicable to all construction activities;
- Advising the Applicant on Method Statements for archaeological investigations (which will be submitted to the curators);
- Implementing and monitoring the PAD;
- Monitoring the work of and liaising with the archaeological contractor(s) where this is not the Retained Archaeologist;
- Reviewing available geophysical and geotechnical data and/or reports that can inform the location of AEZs;
- Monitoring the preparation and submission of archaeological reports as appropriate and making them available to the Archaeological Curators;
- Monitoring the preparation and submission of a post construction monitoring plan as appropriate and making it available to the Archaeological Curators;
- Ensuring provision for the management of the Applicant's material archive in consultation with an appropriate museum or suitable repository; and
- Advising the Applicant on final arrangements for analysis, archive deposition, publication and popular dissemination.

6.3 Archaeological Curators

6.3.1.1 As required, Method Statements, reports and deliverables outlining AEZs will be submitted to the Archaeological Curators by the Applicant. Method Statements or other documents related to scheme-specific programming will be highlighted to the curators as requiring their agreement/ acceptance within a particular timescale (typically 12 weeks). If no response is received from the curator within a reasonable period to be agreed with the curator(s), then it will be assumed that the curator(s) agree with the proposals/ documentation.

6.4 Construction Contractors

6.4.1.1 The construction contractors will report to the Applicant and will further;

- Familiarise themselves with the applicable requirements of the final Marine WSI and make it available to their staff;

- Obey legal obligations in respect of 'wreck' and 'treasure' under the Merchant Shipping Act 1995 and the Treasure Act 1996 respectively;
- Respect constraint maps, AEZs and TEZs;
- Assist and afford access to archaeologists employed by the Applicant;
- Inform the Retained Archaeologist of any environmental constraint or matter relating to health, safety and welfare of which they are aware that is relevant to the archaeologists' activities; and
- Implement the project-specific PAD.

7. Scheme of Investigations

7.1 Introduction

7.1.1.1 This scheme of investigation represents a general foundation for all further archaeological works that may eventually be a condition of consent and will be updated, post-consent, to detail the specific packages of archaeological works that have been agreed. Individual Method Statements for each package of works will be produced to detail the nature of archaeological works to be carried out.

7.1.1.2 The Method Statements and specifications in this document are based on archaeological best practice and guidance for offshore development. The principal sources are:

- Standard and guidance for the collection, documentation, conservation and research of archaeological materials (CIfA 2014a);
- Standard and guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment (CIfA 2014b);
- Standard and guidance for archaeological field evaluation (CIfA 2014c);
- Standard and guidance for nautical archaeological recording and reconstruction (CIfA 2014d);
- Standard and guidance for an archaeological watching brief (CIfA 2014e);
- A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (Second Edition) (Historic England 2011);
- Marine Geophysics Data Acquisition, Processing and Interpretation. (Historic England 2013);
- Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record. (Historic England 2015);
- Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010);
- Joint Nautical Archaeology Policy Committee (JNAPC) Code for Practice for Seabed Development (The Crown Estate 2006);
- Collaborative Offshore Wind Research into the Environment (COWRIE) Guidance for Assessment of Cumulative Impacts on the Historic Environment from Offshore Renewable Energy 2008;
- Historic Environment Guidance for the Offshore Renewables Energy Sector (COWRIE 2007); and
- Protocol for Archaeological Discoveries: Offshore Renewables Projects (ORPAD) (The Crown Estate 2014).

7.1.1.3 The scheme of investigation outlined below includes guidance outlining the requirements and expected standards in relation to:

- Recording, reporting, data management and archiving;

- Samples and artefacts;
- AEZs;
- Marine geophysical investigations;
- Marine geoarchaeological investigations;
- Investigations using divers and/or Remotely Operated Vehicles (ROVs); and
- Watching briefs.

7.2 Archaeological Recording, Reporting, Data Management and Archiving

7.2.1.1 Any future archaeological works will be accompanied by written reports pursuant to the requirements of those works and demonstrating appropriate planning, recording and data management and commitment to archiving and public dissemination of results according to the guidance summarised in the below sections and set out in Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) and Historic Environment Guidance for the Offshore Renewables Energy Sector (COWRIE 2007).

7.3 Post-Construction Monitoring

7.3.1.1 To confirm the effectiveness of the embedded commitments including the established AEZs, and the stability of archaeological receptors, it is expected that some archaeological receptors identified during the pre-construction surveys will require future monitoring.

7.3.1.2 Priority will be given to features of high archaeological potential located in proximity to installed infrastructure, particularly where archaeological potential and / or significance has been established through direct observation. In addition to wrecks or wreck assemblages, attention will be given to a range of feature types including discrete objects (historic anchors; aircraft components), magnetic anomalies with some degree of surface expression, possible debris, and areas of seabed disturbance.

7.3.1.3 A post-construction monitoring plan (as required under DCO Schedule 11 and 12, Part 2 - Condition 19(2)(b)) will be developed and submitted to the relevant Archaeological Curators which will outline the monitoring methodology and reporting structure.

7.4 Method Statements

7.4.1.1 Any future archaeological works, including those required as a condition of consent, will be subject to a Method Statement being prepared.

7.4.1.2 Each Method Statement will be submitted to the Archaeological Curators 20 working days before the commencement of planned works and archaeological works will not commence unless the Archaeological Curators have confirmed their agreement.

7.4.1.3 Method Statements will include provision for Archaeological Curators to monitor the conduct of the archaeological work as appropriate.

7.4.1.4 Unless otherwise agreed, the Method Statements will address the following matters:

- Form of commission and contractual relationship with the Applicant;
- Relations between licence condition(s), Marine WSI and the Method Statement;
- Context in terms of relevant construction works;
- Summary results of previous archaeological investigations in the vicinity;

- Archaeological potential;
- Specific objectives of archaeological works;
- Extent of investigation;
- Investigation methodology, to cover:
  - intrusive methods;
  - recording system;
  - finds, including the policy for selection, retention and disposal and provision for immediate conservation and storage;
  - environmental sampling strategy; and
  - anticipated post-investigation actions, including processing, assessment and analysis of finds and samples.
- Reporting, including Intellectual Property Rights in the report and associated data, confidentiality and timescale for deposition of the report in a publicly accessible archive;
- Timetable, to include investigation and post investigation actions;
- Monitoring arrangements, including monitoring by Archaeological Curators; and,
- Health, safety and welfare.

7.4.1.5 Examples of campaigns where archaeological input is recommended are included in Section 7.4. A Method Statement will be produced and approved before any works can commence.

7.5 Archaeological Campaigns

7.5.1.1 For all aspects of marine geophysical investigations, the Applicant will adhere to standards and guidance as set out in the Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) document. The archaeological assessment of new marine geophysical data will aim to avoid significant impacts through aiding further identification and clarification of known and potential receptors as stated in Co166 (Table 4). The acquisition and review of new data for archaeological purposes will also contribute to any requirements to offset unavoidable impacts to potential archaeology.

7.5.1.2 The specification of any proposed marine geophysical surveys whose primary aim is non-archaeological will be subject to advice from an archaeological contractor to ensure that archaeological input is provided at the planning stage and to enable archaeological considerations to be considered without compromising the primary objective of the survey. Where a survey is carried out primarily to meet archaeological objectives, the specification shall be prepared by the Retained Archaeologist and carried out by a survey contractor.

7.5.1.3 Where archaeological objectives have been added to a survey whose primary objectives are non-archaeological (e.g. engineering or environmental), consideration will be given to the option of having an archaeologist or geophysicist with appropriate archaeological expertise onboard during the acquisition of data. If archaeologists are onboard, they will advise on the suitability for archaeological purposes of the data being acquired and be able to propose minor changes to the survey method, settings, etc. in order to optimise archaeological results, and thereby minimise the need for repeat surveys.

7.5.1.4 New geophysical survey data will be interpreted by an archaeologist with an appropriate level of expertise. Raw survey data, together with factual reports and trackplots, will be made available in digital formats to an archaeological contractor. The results of further geophysical interpretation will be compiled as an archaeological report consistent with

Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) on reporting.

7.5.1.5 Archaeological involvement in the planning, acquisition and review of any geotechnical surveys including pre-construction and future monitoring surveys will be provided. Any necessary archaeological analysis, of any material obtained, will follow a staged approach as outlined in Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (COWRIE 2011), to satisfy the requirements of the Archaeological Curators and ensure that the required mitigation measures are delivered as outlined in Co167 (**Table 4**).

7.5.1.6 It is possible that certainty of the nature and extent of individual receptors or anomalies may only be achieved through the use of diver and/or ROV survey. For all aspects of archaeological investigations using divers or ROVs, the Applicant will adhere to standards and guidance as set out in the Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) document. In order to maximise the potential benefits of any proposed diver/ROV surveys undertaken primarily for engineering, ecological or other non-archaeological purposes, the Applicant will seek archaeological input at the planning stage of any such works. Where the primary objectives of dive survey are non-archaeological, consideration will be given to having an archaeological contractor present during any diver or ROV surveys, either as observers or participating divers to optimise archaeological results and thereby reduce the need for repeat survey. Following the completion of a non-archaeological diver/ROV survey, all data, including video footage, will be reviewed by an archaeological contractor with appropriate expertise.

7.5.1.7 Archaeological diver or ROV-based investigations will take place where the primary objectives are archaeological, and the diving is led by archaeologists. An archaeological diver or ROV-based assessment may be required where it is not possible to protect an archaeological site through avoidance. The results of which will be compiled as an archaeological report consistent with the Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) on reporting.

7.5.1.8 Archaeological Watching Briefs by a suitably qualified archaeologist may be applicable where material will be moved or removed from the seabed and can be visibly assessed. Further, a Watching Brief is a formal programme of archaeological monitoring and will involve attendance by an archaeological contractor during offshore works as described below;

- Excavated surfaces and material will be, where possible, inspected by the archaeological contractor;
- Any finds or objects will be collected and allocated a record number and their position will be logged;
- Archaeological features or structures will be examined;
- Where possible, a sufficient sample of each layer/feature type will be investigated in order to elucidate the date, character, relationships and function of the feature/structure;
- Recording will include written, drawn, and photographic elements as conditions allow; and

- The results of will be compiled as an archaeological report consistent with the Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (The Crown Estate 2010) on reporting.

7.6 Reporting and Publication

7.6.1.1 Any reports will be prepared in accordance with the guidance provided in the relevant Chartered Institute for Archaeologists (CIfA) Standard and Guidance and with reference to any other activity or analysis specific guidance.

7.6.1.2 Reports will detail the work undertaken and the archaeological evidence encountered. They will discuss the importance of the results including their potential contribution to archaeological knowledge and understanding.

7.6.1.3 The reports will typically include:

- A non-technical summary;
- The aims and methods of the work;
- The results of the work including finds and environmental remains;
- A statement of the potential of the results;
- Proposals for further analysis and publication; and
- Illustrations and appendices to support the report.

7.6.1.4 Where appropriate, the report will provide recommendations for further assessment and/ or analysis requirements. Each report will be submitted by the Applicant to the curator, as well as to appropriate National and Regional repositories.

7.7 Artefacts

7.7.1.1 Artefacts that are exposed in the course of scheme works will be recovered by the archaeological contractor or, where recovery is impracticable, recorded. From the point of discovery, all finds will be held by the archaeological contractor in appropriate conditions pending further recording, investigation, study or conservation.

7.7.1.2 Recovered objects will be selected, retained or disposed of in accordance with the policy agreed with the institution receiving the archive, and in consultation with the Archaeological Curators.

7.7.1.3 Contingency will be made for specialist advice and conservation needs on-site should unexpected, unusual or extremely fragile and delicate objects be recovered.

7.8 Post-Fieldwork Assessment

7.8.1.1 Post-fieldwork assessment of archaeological materials is currently not expected or required. Should the recovery of archaeological material be deemed necessary then decisions regarding the scope of post-fieldwork assessment will be made by agreement between the Applicant and Archaeological Curators following submission of investigation reports. These decisions will be based on the possible importance of the results in terms of their contribution to archaeological knowledge, understanding or methodological development.

7.9 Ordnance

7.9.1.1 In the event that any item(s) of ordnance is discovered, it will be treated with extreme care as it may not be inert. Industry guidelines provided by the Applicant must be followed prior to any recording of items for archaeological purposes.

7.10 Human Remains

7.10.1.1 In the case of the discovery of human remains, at all times they will be treated with due decency and respect. For each situation, the following actions are to be undertaken, and in any event, the Retained Archaeologist will inform the Applicant and Archaeological Curators:

- For human remains on land and in intertidal areas, an application should be made to the Ministry of Justice for an exhumation licence under the Burial Act 1857;
- For human remains within territorial waters where the remains have been intentionally buried, an application should be made to the Ministry of Justice for an exhumation licence; and
- In all other cases, the Retained Archaeologist will immediately inform the Coroner and the Police.

7.10.1.2 Where practical, the human remains will be left *in situ*, covered and protected. Where human remains have been found and development will unavoidably disturb them, the remains will be fully recorded, excavated, and removed from the site in accordance with the granted exhumation license and in affiliation with an osteologist following guidance in 'The Role of the Human Osteologist in an Archaeological Fieldwork' (Historic England 2018).

7.11 Aircraft

7.11.1.1 The majority of aircraft wrecks are military and so fall under the legal protection of the Protection of Military Remains Act 1986.

7.11.1.2 Any finds that are suspected of being military aircraft will be reported immediately to the Retained Archaeologist (where appointed). In the case of a military aircraft being investigated under license, any human remains will be reported immediately.

7.12 Wreck

7.12.1.1 Archaeological artefacts that have come from a ship are 'wreck' for the purposes of the Merchant Shipping Act 1995. The Applicant, via their archaeological contractors, will ensure that the Receiver of Wreck is notified within 28 days, either on behalf of or directly by the Applicant for all items of wreck that have been recovered.

7.13 Conservation and Storage

7.13.1.1 All recovered materials, on land and underwater, will be subject to a Conservation Assessment to gauge whether special measures are required while the material is being held.

7.13.1.2 This Conservation Assessment will be carried out by the Retained Archaeologist or an archaeological contractor with an appropriate level of expertise, with advice from appropriate specialists.

7.13.1.3 The Retained Archaeologist (where appointed) or an archaeological contractor with appropriate expertise will implement recommendations arising from the Conservation Assessment.

7.13.1.4 Where no special measures are recommended, finds will be conserved, bagged, boxed and stored in accordance with industry guidelines. The cost of long-term care and conservation of recovered artefacts will be the responsibility of the Applicant.

7.14 Archiving

7.14.1.1 Archiving will follow best practice as laid out within:

- Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation. Archaeological Archives Forum (Brown 2011);
- Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (CIfA 2014f); and
- Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects (Section 2.8: Archiving) (The Crown Estate 2010).

7.14.1.2 Archive planning will be included within the relevant detailed Method Statement. Agreement with the Archaeological Curators will be sought on the most appropriate archiving repository for either individual reports or the scheme as a whole.

7.14.1.3 As a minimum, copies of all reports will be submitted to the NRHE of England. An Online AccesS to the Index of archaeological investigationS (OASIS) form will be produced for the whole project and copies of associated reports will be attached to this report. The NRHE of England will also be provided with notice of submission of the OASIS form.

7.14.1.4 An accession number will be obtained from the receiving repository and the Project archive will then be deposited with any potential finds. The receiving repository will be notified of archaeological investigations in advance of fieldwork. For offshore digital data, it may be appropriate to archive this with a Marine Environmental Data and Information Network (MEDIN) Digital Archive Centre (DAC).

7.14.1.5 All costs of archiving (whether digital, paper or object) will be met by the Applicant. Tenders for such works will include provision for the preparation and deposition of expected archive.

8. Arrangements for Review of the Marine WSI

8.1.1.1 This Outline Marine WSI has presented mitigation measures based on the archaeological assessments undertaken in preparation of the Hornsea Four ES.

8.1.1.2 The requirement for a Marine WSI to be in place and approved is set out in Condition 13(2) and 13(3), Schedule 11, Part 2 and Condition 13(2) and 13(3), Schedule 12, Part 2 to the deemed Marine Licences (dMLs) which form the draft DCO (**C1.1: Hornsea Four Draft Development Consent Order**). It is noted that the final Marine WSI to be approved for pre-construction works is separate from the final Marine WSI to be approved for the

construction, operation and decommissioning works. This is reflected through separate conditions in place within the DCO.

8.1.1.3 The Outline Marine WSI will need to be refined and updated, for approval by the MMO in consultation with Historic England, once the final distribution footprint of turbines (including quantity and spacing), OSS locations, and offshore export cable routes are determined, if they are likely to impact the AEZs or other archaeological material, as well as the identification of new receptors, or changed understanding of existing receptors.

8.1.1.4 The revision will constitute a final project specific Marine WSI to be prepared prior to commencement of relevant licensed activities, to which detailed Method Statements will be appended.

8.1.1.5 Method Statements will be produced and submitted to the Archaeological Curators for all planned archaeological works and include provision for the monitoring of progress of the investigations.

9. References

Brown, D. (2011) Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation. Archaeological Archives Forum.

CIfA (2014a) Standard and guidance for the collection, documentation, conservation and research of archaeological materials. Reading, Charted Institute for Archaeologists.

CIfA (2014b) Standard and guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment. Reading, Charted Institute for Archaeologists.

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Historic England (2013) Marine Geophysics Data Acquisition, Processing and Interpretation. May 2013.

Historic England (2015) Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record. December 2015.

Historic England (2018) The Role of the Human Osteologist in an Archaeological Fieldwork Project. Swindon. Historic England.

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The Crown Estate (2010) Model Clauses for Archaeological Written Schemes of Investigation, Offshore Renewables Projects. Salisbury, Wessex Archaeology.

The Crown Estate (2014) Protocol for Archaeological Discoveries: Offshore Renewables Projects. Salisbury, Wessex Archaeology.

Appendix A: Outline Project-Specific Protocol for Archaeological Discoveries (PAD)

1 Introduction

The Protocol for Archaeological Discoveries: Offshore Renewables projects (ORPAD) is a system developed for monitoring and reporting unexpected and incidental archaeological and historical finds, objects, sites, or deposits where an archaeologist is not present on site or immediately available. The ORPAD document should be used at all stages of the development process and should be considered as a safety net and not as a replacement for other archaeological mitigation strategies.

This Outline Protocol for Archaeological Discoveries (PAD) for Hornsea Four summarises the Protocol for Archaeological Discoveries, the roles and responsibilities of the Applicant and relevant contractors and contains contact details for the Applicant's reporting chain.

The requirement for a final PAD, for approval by the Marine Management Organisation (MMO) in consultation with Historic England, is provided for by a condition attached to the deemed Marine Licences included as schedules to the draft Development Consent Order (DCO) (**C1.1: Draft DCO including Draft DML**).

This Outline PAD has been developed based the Protocol for Archaeological Discoveries: Offshore Renewables Project (The Crown Estate 2014).

2 Aims and objectives

The aim of this Outline PAD is to set out the proposed approach to mitigating the impact of Hornsea Four on the historic environment by implementing a project specific protocol for unexpected archaeological discoveries encountered during the course of site investigation or construction activities.

The key objectives for this protocol are to:

- Set out the proposed procedures to be followed in order to avoid impacts on unexpected archaeological finds, objects, sites, or deposits encountered during the course of the development programme; and
- Ensure that all contractors are familiar with the requirements of the protocol through the provision of awareness training and guidance on how to implement the protocol for on-site and office-based staff. Such training will focus on identifying, recording and reporting archaeologically significant features and material that may be encountered during development, operation and decommissioning of the wind farm.

3 Roles

To ensure that the PAD is being implemented, personnel assigned a role will be required to confirm that they are willing and competent to undertake the tasks requested. All relevant personnel will be provided with an introductory presentation outlining the tasks and procedures involved for successful implementation.

4 Curators

The Historic England Marine Planning Unit will be the Archaeological Curator responsible for heritage matters seaward of MHWS. Historic England will be kept informed of any archaeological finds in relation to Hornsea Four. For landward of MHWS, the Historic England Regional Science Advisor and the relevant Local Authority archaeologist will be contacted. For Hornsea Four the relevant personal are;

- Pip Naylor, Historic England Marine Planning Unit; and
- Dr Keith Emerick, Historic England North East and Yorkshire.

5 Retained Archaeologist

The Retained Archaeologist, when appointed by the Applicant, will act on behalf of the Applicant and will act as liaison between the Nominated Contact and the Curators (see **Figure A 1**). If a Retained Archaeologist is not appointed, advice can be sought from the PAD Implementation Service provided by Wessex Archaeology.

The Retained Archaeologist will:

- Advise on TEZs and mitigation strategies;
- Advise on the need for a Watching Brief or other mitigation strategies as per Outline Marine WSI;
- Advise on material conservation, identification and character of finds;
- Advice on immediate actions to be taken in respect of the find;
- Advise on resolving ownership issues; and
- Liaise with the relevant local authorities, museums and curators with regard to reported finds.

6 Nominated Contact

The Nominated Contact will be the Environment Manager and/or Principal Contractor within Hornsea Four's project team. The Nominated Contact will be responsible for all communications regarding archaeology recovered during the development of the project. The Nominated Contact will take part in the introductory training session and, if the role is passed on to another member of staff, then the new Nominated Contact will ensure that they receive suitable training to undertake the responsibilities in the Protocol.

The Nominated Contact will:

- Take part in PAD training;
- Keep updated records of the Retained Archaeologist and Curator contact details;
- Designate Site Champion(s) and liaise with the Site Champion(s);
- Notify the Retained Archaeologist of any finds, objects, sites, or deposits as soon as possible;
- Ensure that the records produced by the Site Champion are correct and pass all information on to the Retained Archaeologist;
- If necessary, ensure that a TEZ is established and maintained until further advice is received from the Retained Archaeologist and / or the Curator; and

- Make finds available for inspection by the Retained Archaeologist and /or the Curator.

7 Site Champion

One Site Champion on each vessel will be appointed by the Nominated Contact.

The Site Champion will:

- Take part in PAD training;
- Act as the first point of contact for technical staff and crew working on the vessel;
- Liaise with the Nominated Contact;
- Ensure that no operations take place where the feature, anomaly or artefact has been located until the Nominated Contact and Retained Archaeologist have been informed and further advise has been received;
- Examine any deployed equipment to ensure that archaeological material has not been trapped, if relevant;
- Note the occurrence, time and exact position of any finds in the vessel's log;
- Fill in a Preliminary Record Form;
- Notify the Nominated Contact as soon as possible and pass on all logs, drawings and photos; and.
- Ensure that all finds recovered are stored appropriately in accordance with the training provided.

8 All staff

Staff on-board vessels that have "eyes on the seabed" or operate in a supervisory role as well as staff from the onshore facilities at a management level with responsibilities regarding the offshore zone (particularly environmental planning) will be provided with training where relevant to ensure that they are aware of the reporting procedures and report all finds, objects, sites, or deposits to their Site Champion. The staff will follow the flowchart presented below when reporting finds of archaeological potential.

9 Finds Identification

Finds, objects, sites, or deposits can encompass one object or a collection of objects. Table A 1 outlines a summary of materials that should be reported to the Retained Archaeologist.

Table A 1: Material of archaeological potential to be reported.

Material	Report to the Retained Archaeologist	Archaeological potential
Rubber plastic and modern materials found with aluminium objects	Yes	Potential aircraft. Military aircraft are also subject to legal requirements under **the Protection of Military Remains Act 1986**
Rubber, plastic, Bakelite and other modern materials	No	n/a
Iron and steel	Yes	Wreck/ aircraft

Material	Report to the Retained Archaeologist	Archaeological potential
Concretions – iron/steel covered by a thick concrete like coating	Yes	Wreck
Aluminium, copper, copper alloy (bronze, brass) and precious metals	Yes	Archaeologically important objects
Ordnance (cannonballs, bullets, shells)	Yes	**UXO guidance** should always take precedence over archaeological requirements
Animal bone, teeth and tusks	Yes	Prehistoric animals, evidence of transport, butchering and consumption
Human bones	Yes	Human bones are also subject to legal requirements under the **Burial Act 1857**
Objects made out of bone (combs, harpoon points, decorative items)	Yes	Archaeologically important objects
Light coloured wood, or wood that floats easily	No	Unlikely to be of archaeological interest
Roundwood with bark – such as branches	No	Unlikely to be of archaeological interest
Roundwood that has clearly been shaped or made into a point	Yes	Part of a structure
Pieces of wood that have been shaped, jointed or fixed with wooden pegs, bolts or nails	Yes	Structure or wreck
Objects made out of dark, waterlogged wood (bowls, handles, shafts etc.)	Yes	Archaeologically important objects
Small to medium size stones that are shaped, polished and/or pierced	Yes	Prehistoric objects (axe heads, knife blades) of archaeological importance
Large blocks of stone that have been pierced or shaped	Yes	Anchors or weights of archaeological importance
Large collection of stones in the same area	Yes	Ballast mound or navigational cairn
Pottery	Yes	All fragments possess archaeological potential
Bricks with modern proportions and v-shaped hollows ('frogs')	No	n/a
Bricks that are unfrogged, 'small', 'thin' or otherwise unusual	Yes	Archaeologically important objects
Peat (black or brown fibrous soil)	Yes	Likely of geoarchaeological interest

10 Finds handling and conservation procedures

Table A 2 summarises how any recovered finds should be handled and stored until passed on to the Retained Archaeologist ('wet finds' refers to finds still wet when found; 'dry finds' are finds that have dried out or found dry).

Table A 2: Summary of handling recommendations.

Wet finds	Dry finds
Photograph the find • Use a scale • Focus on the object • One item at a time Additional close-ups of important details	Photograph the find • Use a scale • Focus on the object • One item at a time Additional close-ups of important details
Fill in the Preliminary Record Form.	Fill in the Preliminary Record Form.
Place the finds in separate watertight plastic containers of appropriate size.	Do not put in water.
Check the container regularly and top up with water when needed.	Label the container and ensure that associated finds are kept together.
Label the container and ensure that associated finds are kept together.	Do not clean or empty the find
Do not clean or empty the find	If the item breaks, do not glue it back together.
If the item breaks, do not glue it back together.	Place the container in a dark, cold place.
Place the container in a dark, cold place.	

11 Preliminary Record Form

The reporting form as shown in Table A 3 is to be used as guidance when reporting a find of archaeological potential. The information can be provided via email and presented in any format used by the contractors.

Table A 3: Reporting form.

Company Name:
Vessel/Team Name:
Site Name:
Date:
Time of compiling information:
Name of compiler (Site Champion):
Name of finder (if different to above):
Time at which discovery was encountered:

Vessel position at time when anomaly was encountered:
a) Latitude
b) Longitude
c) Datum (if different from WGS84)
(If on land) Name of vessel from which find originated:
(If on land) Name of area from which find originated:
(If on land) Date on which find was located:
Original position of the anomaly on the seabed, if known:
Notes on likely accuracy of original position stated above (how accurate is the position and is the position the original position or has the material been moved by operations?)
Description of the find:
Apparent size of the find:
Details of any other finds recovered from the same area:
Details of photographs, drawings or other records made of the find.
Details of treatment or storage of find.
Date and time Nominated Contact informed:
General notes:
Signed: Date:

12 Project specific roles

For Hornsea Four, appointed personnel as detailed in the final PAD will be responsible for the implementation of the PAD.

The appointments will be made by the Applicant in agreement with the Retained Archaeologist. The PAD document will be circulated among relevant staff and if any changes to named personnel should occur, the document will be immediately updated and re-circulated.

13 Relevant Legislation

Burial Act 1857 The Act requires a licence to be granted prior to the removal of human remains from deliberately deposited contexts.

Protection of Military Remains Act 1986. The Act protects the resting places of military personnel from unauthorised disturbance. It allows the Ministry of Defence (MoD) to protect vessels and aircraft that were in military service when they were lost or wrecked.

The Treasure Act 1996. The Act is supplemented by the Treasure (Designation) Order 2002. Finders of gold and silver objects (over 300 years old) and some base metal assemblages (prehistoric) as defined in the Act are required to report such finds by contacting the Coroner and delivering the items for hand over as per the Coroners' instructions.

Protection of Wrecks Act 1973. Under the 1973 Act, shipwrecks and wreckage of historical, archaeological or artistic importance within UK territorial waters can be protected by way of designation. Once a wreck has been designated it is an offence to carry out certain activities on or around the site without a licence.

Merchant Shipping Act 1995. If any material is recovered which falls within the definition of 'wreck' the Receiver of Wreck has to be notified and will seek to identify the original owner so that it can be claimed.

Ancient Monuments and Archaeological Areas Act 1979. Monuments that are of national importance within UK territorial waters can be protected by being added to the schedule of monuments protected under this act. It is an offence to damage or carry out a range of specified activities on such a 'scheduled monument' unless authorised to do so.

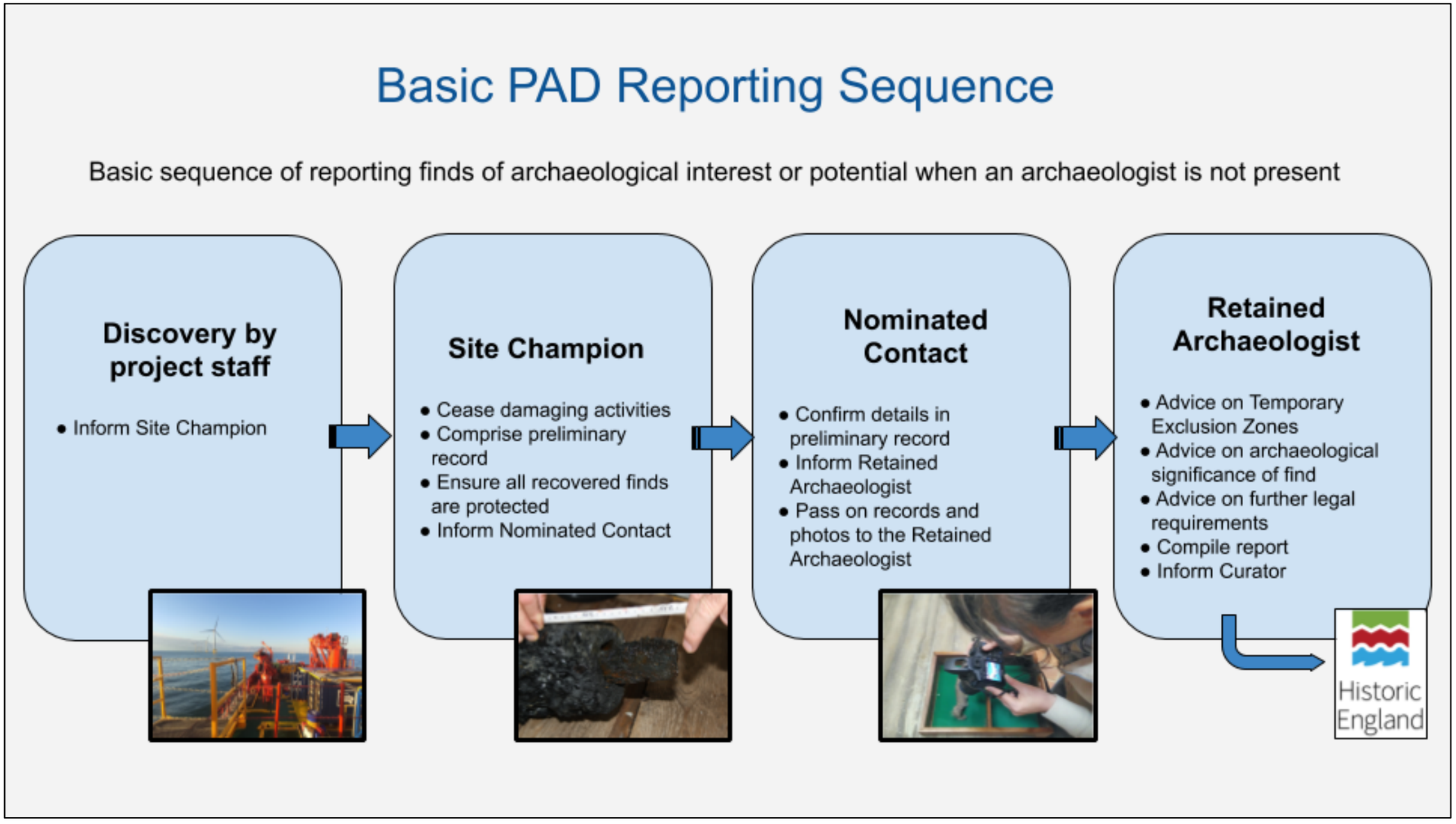

Figure A 1: Basic sequence of reporting finds, objects and sites of archaeological interest or potential when an archaeologist is not present.

14 References

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