




**F I V E**   
**ESTUARIES**  
OFFSHORE WIND FARM

**FIVE ESTUARIES**  
**OFFSHORE WIND FARM**  
PRELIMINARY ENVIRONMENTAL  
INFORMATION REPORT

VOLUME 7, CHAPTER 2: SCHEDULE OF  
MITIGATION

Document Reference 004685581-01  
Revision A  
Date March 2023





Project	Five Estuaries Offshore Wind Farm
Sub-Project or Package	Preliminary Environmental Information Report
Document Title	Volume 7, Chapter 2: Schedule of Mitigation
Document Reference	004685581-01
Revision	A

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Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
A	Mar-23	Draft for review	GoBe	GoBe	VE OWFL



## CONTENTS

1	Schedule of Mitigation.....	6
1.1	Introduction.....	6

## TABLES

Table 1.1:	VE Schedule of Mitigation.....	7
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## DEFINITION OF ACRONYMS

Term	Definition
AEZ	Archaeological Exclusion Zone
AIL	Abnormal Indivisible Load
ALAR	Abnormal Load Assessment Report
CAA	Civil Aviation Authority
CBRA	Cable Burial Risk Assessment
CLO	Community Liaison Officer
CMS	Construction Method Statement
CoCP	Code of Construction Practice
CSIP	Cable Specification and Installation Plan
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DfT	Department for Transport
DGC	Defence Geographic Centre
EA	Environment Agency
ECC	Export Cable Corridor
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EPSL	European Protected Species Licence
ERCoP	Emergency response Co-operation Plan
ES	Environmental Statement
FLCP	Fisheries Liaison and Co-existence Plan
FLO	Fisheries Liaison Officer
FLOWW	Fishing Liaison with Offshore Wind and Wet Renewables Group
GCN	Great Crested Newt
GPS	Global Positioning System
H&SP	Health and Safety Plans
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
LEDPP	Landscape and Ecology Design Principles Plan
LEMP	Landscape and Ecology Management Plan



<b>Term</b>	<b>Definition</b>
LGV	Light Goods Vehicle
MCA	Maritime Coastguard Agency
MHWS	Mean High Water Springs
MMMP	Marine Mammal Mitigation Plan
MRCC	Maritime Rescue Coordination Centre
NGET	National Grid Electricity Transmission
NRMM	Non-Road Mobile Machinery
NtMs	Notice to Mariners
OnSS	Onshore Sub-Station
OPAMP	Outline Public Access Management Plan
PAD	Protocol for Archaeological Discoveries
PAMP	Public Access Management Plan
PEIR	Preliminary Environmental Impact Assessment
PEMP	Project Environmental Management Plan
PPE	Personal protective equipment
PRoW	Public Right of Way
SAR	Search and Rescue
SMP	Soil Management Plan
SPA	Special Protected Area
SSSI	Site of Special Scientific Interest
TCC	Temporary Construction Compound
TJB	Transition Joint Bay
UKHO	United Kingdom Hydrographic Office
UXO	Unexploded Ordnance
VE	Five Estuaries Offshore Windfarm
VE OWFL	Five Estuaries Offshore Windfarm Limited
WSI	Written Schemes of Investigation
WTP	Workforce Travel Plan



## 1 SCHEDULE OF MITIGATION

### 1.1 INTRODUCTION

- 1.1.1 This document summarises, all mitigation proposed in the Preliminary Environmental Impact Report (PEIR) for Five Estuaries Offshore Wind Farm (hereafter, VE). The following schedule lists all measures proposed and signposts to relevant parts of the PEIR where the commitments are made.



**Table 1.1: VE Schedule of Mitigation**

Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 2: LVIA	Landscape and Ecology Design Principles Plan (LEDPP) and Landscape and Ecology Management Plan (LEMP)	A LEDPP has been prepared as part of PEIR and an Outline LEMP will be prepared as part of the ES. These documents will detail the replacement of failed specimens within the first five years. It will also detail all the specifications listed to ensure successful plant establishment and in particular taking into account the hotter and drier climate that is evolving in the south-east of England owing to climate change.
Onshore	Volume 3, Chapter 2: LVIA	Operational Mitigation - Substation Mitigation - Planting	<p>The proposed woodland mostly comprises indigenous woodland species and would be located around the Onshore Substation (OnSS). The mitigation woodland planting would be designed to comprise a mix of faster growing 'nurse' species and slower growing 'core' species. Nurse species, such as alder, birch, and black poplar would grow quicker so that after 15 years they would be approximately 6.8 to 7.3 m in height. They would provide shelter to bring on core species, such as oak, elm and sycamore. Whilst the nurse species would be sufficiently fast growing to provide substantial screening of the OnSS after 15 years, the core species would outlive the nurse species and provide a preferred native woodland with a more robust structure closer in character to other nearby woodlands associated with the local landscape.</p> <p>In locations where it is possible to undertake planting that would not interfere with construction works and where practical to do so, mitigation woodland could be planted during the early phases of the OnSS construction to ensure robust screening as quickly as possible. This woodland planting, if implemented at the start of the construction phase would give the woodland in these areas additional growth prior to completion of construction and commencement of operation of the OnSS.</p> <p>Depending on the final design and size of the OnSS, earthworks used to create the OnSS platform may result in surplus soil and excavation material. If available, this could potentially be used in the creation of landscape bunding or sensitive reprofiling within the site area in areas of proposed woodland. This would further limit views of the OnSS and provide further landscape and visual mitigation.</p>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 2: LVIA	Cable Route and Landfall Mitigation	<p>The onshore Export Cable Corridor (ECC) assessed and presented in the PEIR, considers a relatively broad cable corridor that will be refined for the DCO Application. The routing of the onshore ECC has been based on the following criteria and will be refined to ensure these criteria are taken into account:</p> <ul style="list-style-type: none"> <li>&gt; Achievement of the best environmental fit of the preferred 60 m cable route where practicable, particularly in relation to reducing hedgerow and tree loss along the cable route;</li> <li>&gt; Reinstatement of removed sections of hedgerows, or suitable replacement hedgerows provided for displaced or severed sections of hedgerows where practical;</li> <li>&gt; Sensitive siting construction compound and Horizontal Directional Drilling (HDD) compounds such that these are carefully selected taking into account landscape and visual receptors to reduce impacts during the construction period where practicable;</li> <li>&gt; Restoration of all temporary works and construction areas in relation to re-establishment of ground cover;</li> <li>&gt; Protection of all retained trees during the construction phase where practicable; and</li> <li>&gt; Footpaths, bridleways or cycleways that are temporarily disrupted by the proposed onshore ECC will be temporarily diverted and then reinstated.</li> </ul> <p>Following the installation of the onshore cables disturbed landcover and habitats would be reinstated. The overall aim of the reinstatement would be the re-establishment of existing ground cover or returning the disturbed ground to its original agricultural use.</p>
Onshore	Volume 3, Chapter 3: Socio-Economic, Tourism and Recreation  Volume 7, Report 3: Draft Code of Construction Practice	Construction - Construction hours	<p>The construction of the VE project is anticipated to be daytime only 07:00 to 19:00 from Monday to Saturday, with no work where noise is audible beyond the site boundary on Sundays, Bank Holidays or in the night-time without prior agreement.</p> <p>Certain “time critical activities” would occur outside these hours. Any requirement to work outside of these normal hours would only occur with prior agreement with the Local Authorities – as detailed in Volume 7, Report 3: Draft Code of Construction Practice.</p>





Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 3: Socio-Economic, Tourism and Recreation	Public Rights of Way (PRoW) consents and temporary diversions	<p>Volume 5, Annex 8.4: Outline Public Access Management Plan (PAMP) has been prepared with the aim of determining the option with the lowest possible impact to users if diversions are needed or, in the unlikely case of, temporary closures.</p> <p>Any closures or diversions of PRoWs would be communicated to the relevant authorities in advanced of the works commencing, indicating the extent, duration and mitigation opportunities present.</p>
Onshore	Volume 3, Chapter 3: Socio-Economic, Tourism and Recreation	Onshore cable	When passing through areas of major roads (A120), the landfall (and NCR 150) and certain environmental areas and PRoWs, the use of Horizontal Directional Drilling (HDD) will be employed to avoid any severance or physical disruption.
Onshore	Volume 3, Chapter 3: Socio-Economic, Tourism and Recreation	Traffic management	The Volume 5, Annex 8.3: Outline Construction Traffic Management Plan (CTMP) once fully developed, would offer commitments to the usage of traffic management measures, such as controlled crossings, and would be implemented to minimise the impacts of areas where a PRoW is crossed by construction access routes.
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation	Biosecurity and Invasive Non-Native Species (INNS) Management	All construction work will be undertaken in accordance with the INNS control measures set out in the draft CoCP (Volume 7, Report 3: Draft Code of Construction Practice).
Onshore	<p>Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation</p> <p>Volume 3, Chapter 5: Ground Conditions and Land Use</p> <p>Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk</p>	Pollution Prevention and Emergency Incident Response	<p>Construction practices will incorporate measures to prevent pollution.</p> <p>The draft CoCP (Volume 7, Report 3 Draft Code of Construction Practice) sets out pollution control principles, which would be implemented by the project during construction.</p>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation Volume 3, Chapter 5: Ground Conditions and Land Use Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Best Practice	<p>All construction work will be undertaken in accordance with draft CoCP (Volume 7, Report 3: Draft Code of Construction Practice) and relevant good practice guidance, where applicable, including, but not limited to:</p> <ul style="list-style-type: none"> <li>&gt; Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors CIRIA (C532) (CIRIA 2001);</li> <li>&gt; CIRIA – SuDS Manual (C753) (CIRIA, 2015b), including:</li> <li>&gt; No discharge to main river watercourses will occur without permission from EA (SuDS Manual);</li> <li>&gt; Wheel washers and dust suppression measures to be used as appropriate to prevent the migration of pollutants (SuDS Manual); and</li> <li>&gt; Regular cleaning of roads of any construction waste and dirt to be carried out (SuDS Manual).</li> </ul>
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation Volume 3, Chapter 5: Ground Conditions and Land Use Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Operation - General	<p>Operational practices will incorporate measures to prevent pollution and increased flood risk, including emergency spill response procedures, clean up and control of any potentially contaminated surface water runoff. These measures will be included within the LEMP.</p> <p>The LEMP would also include specific measures to avoid potential impacts to protected or notable species or sensitive habitats.</p> <p>Where unplanned operational or maintenance works are required, appropriate mitigation measures would be developed and agreed with relevant consultees prior to works taking place.</p> <p>An outline LEMP will be provided with the ES, once relevant surveys have been completed and proposed measures have been developed further, with a detailed LEMP prepared at the Detailed Design stage post consent.</p>
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation	Project design	<p>Careful routing of the onshore ECC and design of key crossing points (sea defence structures, main rivers, non-main and ordinary watercourses, roads) to avoid key areas of sensitivity, including Holland Haven Marshes Site of Special Scientific Interest (SSSI), Tendring Brook, important hedgerows and woodlands, wherever possible (see Volume 1, Chapter 4: Site Selection for further details on alternatives and site selection).</p>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation	GCN, Bats and Dormouse European Protected Species Licence (EPSL)	<p>Based on existing data it is possible that an EPSL or EPSLs from Natural England will be required for temporary works affecting terrestrial habitat used by GCN, bats and/ or dormouse and other relevant species along the route. The conditions of the EPSL(s) would be specified to ensure that construction of the project does not result in significant adverse impacts to the local populations. Further details will be provided in the ES once further design details are known, survey data have been analysed and reported and mitigation/ compensation proposals have been further developed. Draft EPSL applications will also be provided with the ES, if required.</p>
Onshore	Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation	Vegetation Clearance and Other Construction Works	<p>All construction work will be undertaken in accordance with a CoCP a draft version of which is provided in Volume 7, Document 7.3: Draft CoCP that sets out the principles to be followed when the final CoCP is prepared. The draft CoCP includes measures for ecological protection including:</p> <ul style="list-style-type: none"> <li>&gt; Pre-construction surveys for hog's fennel, S41 and/or red data book plant species associated with coastal habitats and arable margins, and other protected species whose distribution could have changed since the baseline surveys will be undertaken to update the baseline and determine potential impacts at the time of construction. Micrositing of project elements will be used to avoid important ecological features, where possible.</li> <li>&gt; Protective fencing will be installed around retained habitats of importance.</li> <li>&gt; An Ecological Clerk of Works (ECOW) will be employed to oversee construction work and minimise risks to important ecological features.</li> <li>&gt; Removal of potential nesting bird habitat will take place outside of the breeding season (March – August inclusive), where possible, to avoid damage to, or destruction of active nests. Where this is not possible, a check for the presence of nesting birds by the ECOW will take place in advance of work. Where active nests are located the relevant areas of vegetation would be retained until such time as young fledge or the relevant nesting attempt has ended.</li> <li>&gt; Surveys for Schedule 1 bird species and other breeding species of conservation concern which are likely to be particularly sensitive to disturbance, e.g., breeding waders, will take place prior to and during construction (as required). Avoidance of disturbance to these species whilst nesting will be achieved through the implementation of disturbance-free buffer zones around active nests. The extent of any buffer zones will be species and location-specific and will be determined by the ECOW, taking into consideration relevant guidance and experience from other sites, as</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
			<p>appropriate. The ECOW will also monitor nesting attempts to check that the agreed buffer zones are successful.</p> <p>Checks for the presence of GCN, dormice, badger setts, reptiles, hedgehogs, harvest mice, hares or other protected or notable species will be carried out by the ECOW prior to vegetation clearance. Additional reasonable avoidance measures will be implemented/ mitigation licences applied for as necessary (details to be provided in the ES, on completion of the relevant surveys).</p>
Onshore	Volume 3, Chapter 5: Ground Conditions and Land Use	Soil Management	<p>The Draft CoCP incorporates the outline principles of soil management and mitigation measures to ensure protection of soils. A Soil Management Plan (SMP) will be developed and will be produced in advance of construction. The SMP will provide further details of mitigation measures and best practice handling techniques during stripping, handling and reinstatement to safeguard soil resources by ensuring their protection, conservation and appropriate reinstatement following the construction of the onshore works.</p>
Onshore	Volume 3, Chapter 5: Ground Conditions and Land Use	Agricultural Operations (construction)	<p>Where required, crossing points will be used so that livestock and vehicles can cross the working width. General disruption impacts will be mitigated by keeping landowners updated with project progress.</p> <p>The Project will seek to liaise with landowners to agree terms with affected parties including any loss of ongoing payments or penalties relating to agri-environmental stewardship schemes.</p>
Onshore	Volume 3, Chapter 5: Ground Conditions and Land Use	Agricultural Operations (operation)	<p>Any permanent restriction of non standard agricultural activities will be discussed with affected landowners to minimise impacts.</p>
Onshore	Volume 3, Chapter 5: Ground Conditions and Land Use	Contaminative Material	<p>In order to mitigate the potential impacts associated with excavation of potentially contaminative material:</p> <p>Should identified areas of potential concern occur in close proximity to VE, the cable route will be microsited where possible to maintain a 25 m buffer;</p> <ul style="list-style-type: none"> <li>&gt; The CoCP will identify the procedures to be followed should an area of contamination be encountered. Areas where these materials are found will be photographed and annotated on a site drawing. Where necessary works on site at that location will cease until any identified contamination has been assessed by a suitably qualified Environmental Consultant in accordance with The Contaminated Land (England) Regulations 2006;</li> <li>&gt; Construction workers will follow good site practice and hygiene rules;</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
			<ul style="list-style-type: none"> <li>&gt; Personal protective equipment (PPE), including nitrile gloves, protective overalls, safety goggles and face mask will be worn where appropriate, especially by those workers who are likely to be coming into contact with contaminated soil or water, such as those carrying out hand digging activities; All works will be carried out in accordance with BS5930: 1999 (The Code of Practice for Site Investigations) and BS10175:2001 (Investigation of Potentially Contaminated Sites);</li> <li>&gt; Use of the waste hierarchy to determine the most sustainable option for all surplus soils that are generated on site;</li> <li>&gt; Re-instatement of topsoil;</li> <li>&gt; Inclusion of excavated subsoil that is suitable for use within the design as landscaping material at the OnSS to minimise offsite movements;</li> <li>&gt; Segregation of waste subsoil for offsite management from subsoil suitable for reinstatement on site;</li> <li>&gt; Identification of suitable local schemes that are suitable for offsite reuse or recycling of surplus subsoil;</li> <li>&gt; Any wastes found to be hazardous, will be stockpiled or stored separately from any non- hazardous stockpiles. Appropriate action will be taken in accordance with The Waste Enforcement (England and Wales) Regulations 2018 makes amendments to the Environmental Protection Act (1990) and the Environment Act (1995); and</li> <li>&gt; Use of a Site Waste Management Plan to monitor wastes arisings and ensure adherence to duty of care and wastes legislation on site and also the anticipation of sustainable waste management practices by maximising waste prevention, reuse and recycling for material destined for offsite waste management. This will actively discourage sending waste to landfill.</li> </ul>
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Surface Water Drainage	Development of the OnSS will result in the construction of low permeability surfacing, increasing the rate of surface water runoff from the site. A surface water drainage scheme is required to ensure the existing runoff rates to the surrounding water environment are maintained at pre-development rates. An outline surface water drainage scheme will be provided as part of the OnSS Flood Risk Assessment, when developed at ES/ DCO application.



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Surface Water Drainage	The detailed (post-consent) design of the surface water drainage scheme would be based on a series of infiltration/soakaway tests carried out on site and the attenuation volumes outlined in the supporting OnSS FRA. The tests will be undertaken prior to construction and in accordance with the BRE Digest 365 Guidelines in order to determine the suitability of ground for accepting a drainage discharge.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Surface Water Drainage	Construction of the onshore sub-station will require temporary management of surface water during construction. Control measures will be included within the CoCP to minimise the risk of water pollution.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Surface Water Drainage	Construction of the onshore ECC will require temporary management of surface water along the route. Control measures will be included within the CoCP to minimise the risk of water pollution.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Cable trenching, construction haul roads and construction site accesses which cross surface watercourses will require measures to ensure that the water quality and flow rates are unaffected either directly or indirectly. These measures will be secured as part of the CoCP.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	The onshore ECC and the construction haul roads will be designed to minimise land take and to avoid, where possible, impacts on existing drainage networks and features.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	The Contractor will produce a flood response plan which will set out actions in the event of flooding or a flood warning during construction works within a flood zone. This would include a procedure for evacuation of personnel and the securing or relocating sensitive equipment and/ or materials stored in bulk.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	The onshore TCC and construction access and haul roads would comprise, where practical, permeable gravel overlying a permeable geotextile membrane of an appropriate standard.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Cable entry and exit points within jointing bays and TJBs will be sealed with an appropriate waterproofing material to mitigate flood risk.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Where required and practical, drainage would be installed either side of the onshore ECC to ensure existing land drainage flow regimes are maintained.



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Surface water flowing into the trenches and work areas during the construction period will be pumped via settling tanks or ponds to remove sediment and potential contaminants, before being discharged into local ditches or drains via temporary interceptor drains. Where gradients on site are significant, cable trenches will include a hydraulic brake (bentonite or natural clay seals) to reduce flow rates along trenches and hence reduce local erosion.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Any field drainage intercepted during the cable installation will either be reinstated following the installation of the cable or diverted to a secondary channel through agreement with the appropriate stakeholders.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Flood Risk	Any stockpiles along the cable route will have gaps to allow surface water runoff to pass through.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering drainage systems or local watercourses. Additionally, the bunded areas will have impermeable bases to limit the potential for migration of contaminants into groundwater following any leakage/spillage. Bunds used to store fuel, oil etc. will have a 110% capacity.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Any refuelling of machinery will be undertaken within designated areas where spillages can be easily contained.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Machinery will be routinely checked to ensure it is in good working condition to reduce the risk of leaks.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	A spill procedure will be documented, and spill kits kept in the vicinity of potentially hazardous materials storage areas.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Disturbance to areas close to watercourses will be reduced to the minimum necessary for the work.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Excavated material will be placed in such a way as to avoid any disturbance of areas close to the banks of watercourses and to prevent spillage into water features.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Use of sediment fences along watercourses when working in close proximity, to prevent sediment being washed into watercourses.



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Covers will be used by lorries transporting materials to/ from site to prevent releases of dust/ sediment to watercourses or drains.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	If applicable, storage of stockpiled materials should be covered when not in use to prevent materials being dispersed by wind or rainfall runoff.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Any visual/ olfactory signs of contamination encountered during excavation should be reported and investigated.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	A briefing will be included within the site induction highlighting the importance of water quality, the location of watercourses and pollution prevention measures.
Onshore	Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention	Drainage works to be constructed to relevant statutory guidance.
Onshore	Volume 3, Chapter 5: Ground Conditions and Land Use Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk	Pollution prevention (Operation)	The OnSS would contain potential pollutants which could include cooling oils, lubricants, fuels, greases, etc. The design, maintenance and operation of the facility would follow good practice in line with the prevailing guidance and legislation with regard to measures such as the storage and management of potentially polluting substances, emergency spill response procedures, clean up and control of any potentially contaminated surface water runoff and routine inspection to prevent or contain leaks of any pollutants.  Where required good practice will be undertaken to excavate and replace without impacting soil quality significantly during any cable replacement.
Onshore	Volume 3, Chapter 7: Onshore Archaeology and Cultural Heritage	Preservation in situ	Where practicable archaeological remains of high heritage significance will be avoided and preserved in situ. Preservation in situ is the conservation of an archaeological asset in its original location and is the preferred method of conservation of assets of high or very high heritage significance in accordance with best practice.





Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 7: Onshore Archaeology and Cultural Heritage	Construction of the cable installation	<p>An agreed programme of archaeological investigation work will be put into place to ensure that any heritage assets or deposits of geoarchaeological/palaeoenvironmental interest that may be present could be identified and recorded. This would be secured as a requirement of the DCO and would be detailed within a Written Scheme of Investigation (WSI) to be prepared in consultation with the Development Control Archaeologist advising Essex County Council (to be approved by Essex County Council).</p> <p>Archaeological investigation and recording would provide a partial mitigation of the loss of archaeological interest and would be less preferable to conservation of a heritage asset in situ (DECC 2011).</p> <p>Archaeological investigation and recording are therefore a partial mitigation that would reduce the magnitude of adverse change to a degree dependent on the interests that comprise the heritage significance of an individual heritage asset.</p>
Onshore	Volume 3, Chapter 7: Archaeology and Cultural Heritage	ECC works during operation	Reinstatement of ECC works, including landscaping such as hedgerow.
Onshore	Volume 3, Chapter 7: Archaeology and Cultural Heritage	Operation of the cable installation	Retention and restoration of existing screening planting where practicable and the implementation of new/additional planting and/or landscaping. This would be part of a scheme of landscape mitigation secured as a requirement of the DCO. Details of landscape mitigation are set out in Volume 3 Chapter 3.2: Landscape and Visual Impact Assessment of this PEIR.
Onshore	Volume 3, Chapter 8: Traffic and Transport	Construction Traffic Management Plan	<p>Heavy Goods Vehicle (HGV) traffic will only enter the onshore ECC from the highway at agreed access points, thus minimising the impact on the local minor road network. Where the onshore ECC crosses the local road network, construction vehicles will need to cross the existing road to continue along the onshore ECC, no new junctions are proposed. As noted above, HGV construction traffic will not be permitted to access the onshore ECC from the public highway at these crossings, unless defined as an access point, and will be limited to directly crossing from one side of the road to the other to continue along the haul road. The temporary works required at each of these crossing points will therefore be significantly less than that required at Temporary Construction Compound (TCC) entrances, where HGV traffic will be exiting the public road network. Priority will be given to existing traffic on the local roads and, where necessary, the traffic entrance onto the roads will be managed. Barriers will be provided, and access will be controlled, to prevent members of the public accessing the construction works.</p>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 8: Traffic and Transport	Construction – Workforce Travel Plan (WTP)	An Outline WTP is provided as (Volume 5, Annex 8.5: Outline Workforce Travel Plan) and includes a range of demand management measures including a target car share ratio. The Outline WTP also provides details of how compliance with targets will be measured, monitored and reported upon.
Onshore	Volume 3, Chapter 8: Traffic and Transport	Construction – Strategy for access	The strategy for access has selected routes that where possible, seek to reduce the impact of traffic upon local communities.
Onshore	Volume 3, Chapter 8: Traffic and Transport	No roads to be fully closed to install cables under the public highway	<p>HDD (or another trenchless technique) (or other trenchless crossing technique) will be utilised for the installation of the export cable under the A120 (and others where this is considered appropriate).</p> <p>Where feasible, for the roads where the open trenching method is to be adopted to remain open at all times and minimise disruption, it is proposed that:</p> <ul style="list-style-type: none"> <li>&gt; The road crossings would be completed in two stages maintaining one traffic lane in each direction;</li> <li>&gt; Traffic would be controlled through temporary traffic signals;</li> <li>&gt; A safe route would be maintained for pedestrians through the works areas;</li> <li>&gt; Advanced signing would be implemented to assist drivers in finding alternative routes; and</li> <li>&gt; The works would be staggered so that multiple roads would not be closed at the same time, minimising the potential impact to users of the highway network.</li> </ul>
Onshore	Volume 3, Chapter 8: Traffic and Transport	Use of temporary haul roads.	Maximising the length of temporary haul roads at construction sites, to remove as much HGV traffic from the local highway network as possible.
Onshore	Volume 3, Chapter 9: Airbourne Noise and Vibration	Construction noise - Landfall	A number of mitigation options can be employed, these include, but are not limited to, one or a combination of the following: the selection of quieter equipment, relocating noisier plant at greater distances from the noise sensitive receptors, the use of a noise barrier around the perimeter of the works, localised acoustic screening around noisy plant, or the use of an enclosure quieter working methods or temporary screening.



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 3, Chapter 10: Air Quality	Air quality	<p>The necessary air quality control measures and mitigation are included as part of the draft CoCP. The draft CoCP will be developed for the proposed onshore construction activities which will adhere to construction industry good practice guidance for control measures and dust management. The CoCP will be secured as a requirement of the DCO. The construction phase control measures are outlined within Volume 5, Annex 10.5: air Quality Mitigation Measures.</p>
Onshore	Volume 7, Chapter 3: Draft Code of Construction Practice (CoCP)	CoCP	<p>The CoCP has been developed to reduce and mitigate the effects of VE during construction overall. It aims to provide clear and appropriate means of monitoring and ensuring compliance with a wide range of good practice measures and sets out a series of measures and standards of work, which will be applied throughout the construction period to:</p> <ul style="list-style-type: none"> <li>&gt; Provide effective planning, management and control during construction to manage and mitigate potential impacts on people, businesses and the natural and historic environments</li> <li>&gt; Provide a framework for engaging with the local community and its representatives throughout the construction period.</li> </ul> <p>Draft CoCP relates to the onshore elements of VE only (i.e landward of Mean High Water Springs). This includes the following construction works:</p> <ul style="list-style-type: none"> <li>&gt; Landfall</li> <li>&gt; Export Cable Corridor</li> <li>&gt; Temporary Construction Compound and Site Accesses</li> <li>&gt; Onshore Substation</li> <li>&gt; Works by VE within the National Grid Electricity Transmission (NGET) East Anglia Connection Node Substation, and associated underground connection works from the OnSS</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Onshore	Volume 5, Annex 8.3: Outline Construction Traffic Management Plan (CTMP)	CTMP	<p>The Outline CTMP sets out the approach that will be taken to manage the potential impacts of construction traffic for the onshore works. The Outline CTMP relates to construction traffic associated with the onshore elements of the Project comprising:</p> <ul style="list-style-type: none"> <li>&gt; Export cable installation from the landfall location to the Transition Jointing Bays (TJBs) including HDD;</li> <li>&gt; Temporary works associated with landfall HDD and TJB excavation;</li> <li>&gt; Cable installation along the onshore ECC including jointing bays and potential HDD;</li> <li>&gt; Temporary works associated with the ECC and OnSS including establishment of haul roads and TCCs;</li> <li>&gt; Proposed OnSS and associated construction access;</li> <li>&gt; Connection to existing National Grid infrastructure; and</li> <li>&gt; Reinstatement and mitigation works enacted during the construction phase.</li> </ul>
Onshore	Volume 5, Annex 10.5: Air Quality Mitigation Measures	Air quality	Volume 5, Annex 10.5: Air Quality Mitigation Measure details the extent of controls required to ameliorate impacts associated with dust/ particle matter generated from construction activities. These have been included in the CoCP.
Onshore	Volume 5, Annex 8.4: Outline Public Access Management Plan (PAMP)	Public access	The Outline PAMP sets out the approach that will be taken to manage public access to the PRoW.
Onshore	<p>Volume 3, Chapter 2: Landscape, Visual Impact Assessment (LVIA)</p> <p>Volume 3, Chapter 3: Socio-Economic, Tourism and Recreation</p> <p>Volume 3, Chapter 4: Onshore Biodiversity and Nature Conservation</p> <p>Volume 3, Chapter 5: Ground Conditions and Land Use</p>	Decommissioning - General	<p>LVIA</p> <ul style="list-style-type: none"> <li>&gt; Protection of landscape elements during decommissioning of OnSS to avoid loss of trees, hedgerows and other landscape elements.</li> </ul> <p>Socio-Economic, Tourism and Recreation</p> <ul style="list-style-type: none"> <li>&gt; It is anticipated that the OnSS building will be demolished, and all external switchgear/infrastructure removed. Cable ducts for Onshore ECC to be left in situ with cables removed, which would result in no effect.</li> <li>&gt; The Socio-Economic, Tourism and Recreation assessment assumes that the relevant mitigation measures applied during the decommissioning of the</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
	<p>Volume 3, Chapter 6: Hydrology, Hydrogeology and Flood Risk</p> <p>Volume 3, Chapter 8: Traffic and Transport</p>		<p>VE project would be similar to those during the construction phase. As such, it is assumed that the embedded mitigation shown for the construction phase would be applicable during the decommissioning phase as well.</p> <p>Onshore Biodiversity and Nature Conservation</p> <ul style="list-style-type: none"> <li>&gt; Decommissioning practices will incorporate measures similar to the construction phase, to prevent impact to ecological receptors.</li> <li>&gt; Provision of a decommissioning plan in advance of decommissioning works will be a requirement of the DCO, to include protection of ecological features, based on up-to-date survey information and relevant guidance in place at the time of decommissioning.</li> </ul> <p>Ground Conditions and Land Use:</p> <ul style="list-style-type: none"> <li>&gt; Decommissioning practices will incorporate measures like the construction phase, to prevent pollution. These measures will include emergency spill response procedures, control of surface water and clean up and remediation of any contaminated soils. Exposed cables ducts will be sealed with an appropriate water proofing material to mitigate flood risk or creation of preferential flow pathways.</li> </ul> <p>Hydrology, Hydrogeology and Flood Risk:</p> <ul style="list-style-type: none"> <li>&gt; Decommissioning practices will incorporate measures similar to the construction phase, to prevent pollution and increased flood risk. These measures will include emergency spill response procedures, control of surface water and clean up and remediation of any contaminated soils. Exposed cables ducts will be sealed with an appropriate waterproofing material to mitigate flood risk or creation of preferential flow pathways.</li> <li>&gt; Decommissioning will be undertaken in accordance with relevant guidelines at the time of decommissioning and will include measures to protect the water environment.</li> </ul> <p>Traffic and Transport</p> <ul style="list-style-type: none"> <li>&gt; Decommissioning works would be undertaken in accordance with best practice measures at the relevant time.</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical processes	Project design – Landfall	In the nearshore (out to 1,600 m seaward of Mean High Water Springs (MHWS)), cable remedial protection measures will not include loose rock or gravel. This will limit the blockage of longshore sediment transport and minimise any modification to nearshore waves and tidal currents.
Offshore	Volume 2, Chapter 4: Offshore Ornithology	Project Design – Offshore ECC	A key driver for the identification of the preferred offshore ECC was the location of ornithological designations present along the coastline to the west of the array areas, and avoidance of these, while minimising overlap with the Outer Thames Estuary SPA as far as possible (Volume 4, Annex 4.9: Seabird Distributions Recorded in Aerial Surveys, Figure 2.4.1). Furthermore, with respect to the Outer Thames Estuary Special Protected Area (SPA), the offshore ECC is aligned with deeper water channels which is both less preferred habitat for red-throated divers and also already subject to higher levels of vessel traffic. Therefore, additional disturbance to this species will be kept to a minimum.
Offshore	Volume 2, Chapter 4: Offshore Ornithology	Construction disturbance	Implementation of a best practice protocol for minimising disturbance to the Outer Thames Estuary SPA (or any other potentially affected designated site) qualifying features during construction and operation, which would comprise restrictions of vessel movements to and from the array areas (including determining best practice on vessel movements through the SPA when red-throated divers are present), and any offshore ECC construction activity within the SPA.
Offshore	Volume 2, Chapter 8: Commercial Fisheries	Fisheries Liaison Plan	<p>VE OWFL is committed to ongoing liaison with fishermen throughout all stages of the project, based upon Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW) (2014, 2015) guidance and the following:</p> <ul style="list-style-type: none"> <li>&gt; Appointment of a company Fisheries Liaison Officer (FLO) to maintain effective communications between the project and fishermen;</li> <li>&gt; Appropriate liaison with relevant fishing interests to ensure that they are fully informed of development planning and any offshore activities and works;</li> <li>&gt; Timely issue of notifications including Notice to Mariners (NtMs), Kingfisher Bulletin notifications and other navigational warnings to the fishing community to provide advance warning of project activities and associated Safety Zones and advisory safety distances;</li> <li>&gt; Prior to any survey, pre-construction, construction or major O&amp;M works, it may be necessary to remove or re-locate static fishing gear (for example pots). Other users of the sea, including commercial fisheries, will be</li> </ul>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
			<p>contacted in advance via NtMs, to inform them of upcoming activities to allow time for removal or re-location of static gear to take place; and</p> <p>&gt; Development, prior to construction, of a Fisheries Liaison and Co-existence Plan (FLCP), setting out in detail the planned approach to fisheries liaison and means of delivering any other relevant mitigation measures.</p>
Offshore	Volume 2, Chapter 9: Shipping and Navigation	Charting of Infrastructure	All infrastructure associated with VE (including subsea cables) will be shown on appropriately scaled UKHO admiralty charts.
Offshore	Volume 2, Chapter 9: Shipping and Navigation	MGN 654	VE will be compliant with MGN 654 and its annexes including in relation to reductions of no more than 5% in under keel clearance and the SAR Checklist.
Offshore	Volume 2, Chapter 9: Shipping and Navigation; Chapter 12: Infrastructure and Other Marine Users	Promulgation of information	Local Notifications to Mariners and Kingfisher Bulletins will be updated and reissued at weekly intervals during construction, operation and maintenance and decommissioning.
Offshore	Volume 2, Chapter 9: Shipping and Navigation	Buoyed construction and decommissioning area	<p>The array construction and decommissioning area will be marked by buoyage as required by Trinity House.</p> <p>Trinity House has indicated during consultation that additional aids to navigation (such as buoys) may be necessary to mitigate effects during the construction phase; this will be discussed as part of lighting and marking discussions for the final array layout post consent.</p>
Offshore	Volume 2, Chapter 9: Shipping and Navigation; Volume 2, Chapter 12: Infrastructure and Other Marine Users	Marine coordination for project vessels	<p>Marine coordination will be implemented to manage project vessels including a Traffic Management Plan.</p> <p>Marine coordination should include consideration of day-to-day project vessel movements including designated entry/ exit points to and from the arrays and defined routes to and from construction/ decommissioning and O&amp;M ports.</p>
Offshore	Volume 2, Chapter 9: Shipping and Navigation	Guard Vessels	A guard vessel(s) will be deployed where deemed appropriate by risk assessment.
Offshore	Volume 2, Chapter 4: Offshore Ornithology; Chapter 9: Shipping and Navigation	Minimum blade clearance	There will be a minimum blade tip clearance of at least 28 m above MHWS.
Offshore	Volume 2, Chapter 9: Shipping and Navigation	Project vessel compliance with international marine regulations	Project vessels will comply with international marine regulations as adopted by the Flag State, including International Regulations for Preventing Collisions at Sea (COLREGs) and International Convention for Safety of Life at Sea (SOLAS).



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Offshore	Volume 2, Chapter 9: Shipping and Navigation	Traffic management strategy	Traffic management strategy (including cumulative considerations) will be discussed with local ports and the Sunk VTS.
Offshore	Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage	Archaeological Exclusion Zones (AEZs)	All intrusive activities undertaken during the life of the project will be routed and micro-sited to avoid any identified marine heritage receptors pre-construction, with AEZs as detailed in the Outline Marine WSI unless other mitigation is agreed with Historic England.
Offshore	Volume 2, Chapter 11: Offshore Archaeology and Cultural Heritage	Written Schemes of Investigation (WSI)	An Outline Marine WSI document will be produced to accompany the PEIR to outline the AEZs and establish the basis for mitigation measures and further archaeological campaigns for the project. This will be developed to form the Draft Marine WSI followed by the Agreed Marine WSI.
Offshore	Volume 4, Chapter 11: Offshore Archaeology and Cultural Heritage Technical Report	Protocol for Archaeological Discoveries (PAD)	Additional unknown or unexpected marine heritage receptors identified during the project stages will be reported utilising the project-specific PAD.
Offshore	Volume 4, Chapter 11: Offshore Archaeology and Cultural Heritage Technical Report	Archaeological assessment of available data	Offshore geophysical surveys (including unexploded ordnance (UXO) surveys) and offshore geotechnical campaigns undertaken during the life of the project will be subject to full archaeological review where relevant in consultation with Historic England. Areas with geoarchaeological potential will be targeted during the geotechnical sampling campaigns and results published will aim to enhance the palaeogeographic knowledge and understanding of the area.
Offshore	Volume 2, Chapter 12: Infrastructure and Other Marine Users	Project Design - Cable crossing agreements	Crossing and proximity agreements with known existing and proposed pipeline and cables operators will be sought.





Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Offshore	Volume 2, Chapter 13: Military and Civil Aviation	Compliance with MGN 654	<p>An Emergency Response Co-operation Plan (ERCoP) secured by a requirement of the DCO will be in place for the construction, operation and decommissioning phases of VE. The ERCoP is completed initially in discussion between the developer and the MCA, SAR and Navigation Safety Branches. Detailed completion of the plan will then be in cooperation with the Maritime Rescue Coordination Centre (MRCC), responsible for maritime emergency response. The ERCoP must then be submitted to and approved by the Maritime Coastguard Agency (MCA). The ERCoP would detail specific marking and lighting of the wind turbines. The Search and Rescue (SAR) helicopter bases would be supplied with an accurate chart of the VE wind turbine locations, helicopter access positions and spacing between wind turbines. Furthermore, the arrangements of liaison between the wind farm developer and HM Coastguard in the event of an emergency response would be detailed together with an explanation of procedures and processes carried out. The requirement for an ERCoP will be conditioned within the Marine Licence and the DCO.</p>
Offshore	Volume 2, Chapter 13: Military and Civil Aviation	Notification to aviation stakeholders	<p>The Defence Geographic Centre (DGC) will be informed of the locations, heights and lighting status of the wind turbines, including estimated and actual dates of construction and the maximum height of any construction equipment to be used, prior to the start of construction, to allow inclusion on Aviation Charts.</p>
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes; Chapter 3: Marine Water and Sediment Quality; Chapter 5: Benthic and Intertidal Ecology; Chapter 6: Fish and Shellfish Ecology; Chapter 8: Commercial Fisheries; Chapter 9: Shipping and Navigation; Chapter 12: Infrastructure and Other Marine Users	Cable Specification and Installation Plan (CSIP)	<p>Development of, and adherence to a CSIP post consent. The CSIP will set out appropriate cable burial depth in accordance with industry good practice, minimising the risk of cable exposure. The CSIP will also ensure that cable crossings are appropriately designed to mitigate environmental effects, these crossings will be agreed with relevant parties in advance of CSIP submission. The CSIP will include a detailed Cable Burial Risk Assessment (CBRA) to enable informed judgements regarding burial depth to maximise the chance of cables remaining buried whilst limiting the amount of sediment disturbance to that which is necessary. The CSIP will be conditioned in the deemed Marine Licence.</p>



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Offshore	Volume 2, Chapter 3: Marine Water and Sediment Quality; Chapter 4: Offshore Ornithology; Chapter 5: Benthic and Intertidal Ecology; Chapter 5: Benthic Ecology; Chapter 6: Fish and Shellfish Ecology; Chapter 7: Marine Mammal Ecology; Volume 2, Chapter 9: Shipping and Navigation	Project Environmental Management Plan (PEMP)	A PEMP is proposed to be produced to ensure that the potential for contaminant release is strictly controlled. The PEMP will include a MPCP and will also incorporate plans to cover accidental spills, potential contaminant release and include key emergency contact details (e.g. EA, Natural England, MCA and the project site co-ordinator). The PEMP will be secured as a condition in the deemed Marine Licence(s).
Offshore	Volume 2, Chapter 4: Offshore Ornithology; Chapter 6: Fish And Shellfish Ecology; Chapter 7: Marine Mammal Ecology	Marine Mammal Mitigation Plan (MMMP)	A MMMP will be implemented (see Volume 7, Report 6: Outline MMMP). This will also reduce potential effect and disturbance to fish, shellfish and ornithological receptors.
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes; Chapter 3: Marine Water and Sediment Quality; Chapter 5: Benthic Ecology; Chapter 6: Fish and Shellfish Ecology; Chapter 8: Commercial Fisheries; Chapter 9: Shipping and Navigation; Chapter 12: Infrastructure and Other Marine Users	Project design – Cable protection	Cables will typically be buried at a target burial depth to be determined by a Cable Burial Risk Assessment. Where cable burial is not possible, cable protection will be applied. Cable protection will be applied as and where appropriate according to the cable burial design plan.
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical processes; Chapter 3: Marine Water and Sediment Quality; Chapter 5: Benthic Ecology; Chapter 6: Fish and Shellfish Ecology	Scour Protection	Development of a Scour Protection Plan (SPP) which will consider the need for scour protection where there is the potential for scour to develop around wind farm infrastructure, including turbine and substation/ platform foundations and cables. The plan will be secured via a condition in the deemed Marine Licence.



Onshore/Offshore	PEIR document where commitment has been made	Mitigation Measure	Mitigation measure – further information
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes; Chapter 3: Marine Water and Sediment Quality; Chapter 5: Benthic and Intertidal Ecology; Chapter 6: Fish and Shellfish Ecology; Chapter 7: Marine Mammal Ecology; Chapter 12: Infrastructure and Other Marine Users	Decommissioning Plan	A Decommissioning Programme will be developed to cover the decommissioning phase as required under Chapter 3 of the Energy Act 2004. As the decommissioning phase will be a similar process to the construction phase but in reverse (i.e., increased project vessels on-site, partially deconstructed structures) the embedded mitigation measure will be similar to those for the construction phase. The Decommissioning Plan will be secured as a condition in the deemed Marine Licence.
Offshore	All offshore topics	Project design – Development boundary	The development boundary selection was made following a series of constraints analyses, with the array area and offshore ECC selected to ensure the impacts on the environment and other marine users are minimised.
Offshore	Volume 2, Chapter 6: Fish and Shellfish Ecology; Chapter 8: Commercial Fisheries; Chapter 9: Shipping and Navigation; Chapter 12: Infrastructure and Other Marine Users	Safety zones	Safety zones of up to 500 m will be sought during construction, maintenance and decommissioning phases. Where appropriate, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.
Offshore	Volume 2, Chapter 8: Commercial Fisheries; Chapter 9: Shipping and Navigation; Chapter 10: Seascape, Landscape and Visual; Chapter 12: Infrastructure and Other Marine Users; Chapter 13: Military and Civil Aviation	Lighting and Marking	VE OWFL is committed to marking and lighting the project in accordance with relevant industry guidance and as advised by relevant stakeholders including the MCA, Civil Aviation Authority (CAA) and Trinity House. VE OWFL will also ensure the project is adequately marked on nautical charts.
Offshore	Volume 2, Chapter 6: Fish and Shellfish Ecology; Chapter 7: Marine Mammal Ecology	Project Design - Maximum Hammer Energy	Identification of maximum hammer energy and ramp up procedure to be used during pile driving (7,000 kJ for monopile, 3,000 kJ for pin -pile).
Offshore	Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes	Disposal sites	The project array areas and offshore ECC will be licensed as disposal sites for the deposition of dredgings and drill arisings. All material that is dredged from the seabed will be disposed of within these sites to ensure material is retained within the local sediment transport system.

The logo for Five Estuaries Offshore Wind Farm. The word "FIVE" is written in a large, sans-serif font. The letter 'I' is grey, 'V' is purple, and 'E' is pink. To the right of "FIVE" are three wavy lines representing water, colored blue, green, and yellow from top to bottom. Below "FIVE" is the word "ESTUARIES" in a large, grey, sans-serif font. At the bottom of the logo is the phrase "OFFSHORE WIND FARM" in a smaller, grey, sans-serif font.

FIVE  
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