NORTH FALLS

Offshore Wind Farm

Schedule of Mitigation

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Glossary of Acronyms

ADD	Acoustic Deterrent Device
AEZ	Archaeological Exclusion Zones
AIC	Aeronautical Information Circulars
AIP	Aeronautical Information Publication
AeIS	Aeronautical Information Service
ALO	Agricultural Liaison Officer
ANO	Air Navigation Order
BCT	Bat Conservation Trust
BPM	Best Practical Means
BWM	The International Convention for the Control and Management of Ships' Ballast Water and Sediments
CAA	Civil Aviation Authority
CDM	Construction Design Management
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CMS	Construction Method Statements
CoCP	Code of Construction Practice
COLREG	Convention on International Regulations for Preventing Collisions at Sea
COSHH	Control of Substances Hazardous to Health
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DLL	District Level Licensing
DMP	Dust Management Plan
DPF	Diesel Particulate Filters
ECoW	Ecological Clerk of Works
EMF	Electromagnetic Fields
EMP	Ecological Management Plan
EPP	Evidence Plan Process
EPS	European Protected Species
ERCoP	Emergency Response Cooperation Plan
ES	Environmental Statement
FLCP	Fisheries Liaison and Coexistence Plan
FLO	Fisheries Liaison Officer
GASCo	General Aviation Safety Council
GHG	Greenhouse Gas
GI	Ground Investigation
HAT	Highest Astronomical Tide
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle

IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ICAO	International Civil Aviation Organisation
ICNIRP	International Commission on Non-ionizing Radiation Protection
ILP	Institute of Lighting Professionals
IMO	International Maritime Organization
INNS	Invasive Non-Native Species
IOF	Important Ornithological Features
IPMP	In-Principle Monitoring Plan
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LLFA	Lead Local Flood Authority
LV	Light Vehicle
MAFF	Ministry of Agriculture, Fisheries and Food
MARPOL	International Convention for the Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MMMP	Marine Mammal Mitigation Plan/Protocol
MMP	Materials Management Plan
MoD	Ministry of Defence
NATS	National Air Traffic Services
NFOW	North Falls Offshore Wind Farm
NOTAM	Notices to Airmen
NRMM	Non-Road Mobile Machinery
NtM	Notice(s) to Mariners
NVSR	Noise and Vibration Sensitive Receptors
OCTMP	Outline Construction Traffic Management Plan
OCoCP	Outline Code of Construction Practice
OLEMS	Outline Landscape and Ecological Management Strategy
O&M	Operation and Maintenance
OPRoWMP	Outline Public Rights of Way Management Plan
OREI	Offshore Renewable Energy Installations
OSPAR	Oslo and Paris Conventions
PEIR	Preliminary Environmental Information Report
PEMP	Project Environmental Management Plan
PLONOR	Pose Little or No Risk to the Environment
PMoW	Precautionary Method of Working
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidance

PRoW	Public Rights of Way
PTS	Permanent Threshold Shift
RWE	RWE Renewables UK Swindon Limited
SAC	Special Area of Conservation
SAR	Search and Rescue
SMP	Soil Management Plan
SNCB	Statutory Nature Conservation Bodies
SOLAS	Safety of Life at Sea
SPA	Special Protection Area
SSC	Suspended Sediment Concentration
SSER	SSE Renewables Offshore Windfarm Holdings Limited
SSSI	Site of Special Scientific Interest
TTS	Temporary Threshold Shift
UKHPI	UK Habitat of Principal Importance
UXO	Unexploded Ordnance
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generators

Glossary of Terminology

Array area	The offshore wind farm area, within which the wind turbine generators, array cables, platform inter-connector cable, offshore substation platform(s) and/or offshore converter platform will be located.
Array cables	Cables which link the wind turbine generators with each other, the offshore substation platform(s) and/or the offshore converter platform.
Bentley Road improvement works	Works involving the widening and improvement of the carriageway along Bentley Road, required to facilitate heavy goods vehicle and abnormal indivisible load access to the onshore cable route and the onshore substation.
Cable circuit (onshore)	The onshore export cables are comprised of cable 'circuits'. Each cable circuit is typically comprised of three power cables, as well as fibre cables and earth cables. It is expected that each circuit would compromise up to seven cables in total.
Cable construction compound	Area set aside to facilitate construction of the onshore cable route. Will be located adjacent to the onshore cable route, with access to the highway.
Cable ducts	Housing for the onshore export cables, typically comprising plastic high-density polyethylene (HDPE) pipes buried underground. Each cable circuit will potentially comprise up to seven individual ducts (i.e. one per cable).
Former array areas	The two distinct offshore wind farm areas (including the 'northern array area' and 'southern array area') which comprised the North Falls offshore wind farm at scoping and Preliminary Environmental Information Report (PEIR) stage.
Haul road	The track along the onshore cable route used by construction traffic to access different sections of the onshore cable route.
Horizontal directional drill (HDD)	Trenchless technique to bring the offshore export cables ashore at landfall. The technique will also be the primary trenchless technique used for installation of the onshore export cables at sensitive areas of the onshore cable route.
Platform Interconnector cable	Cable connecting the offshore substation platforms (OSP) or the OSP and offshore converter platform (OCP)

Jointing bay	Underground structures, constructed at regular intervals along the onshore cable route to connect the sections of cable together so that each cable is a continuous length, as well as facilitating the installation of the cables into the buried cable ducts.
Landfall	The location where the offshore export cables come ashore at Kirby Brook.
Landfall compound	Compound at landfall within which HDD or other trenchless technique would take place.
Landfall construction compound	Compound at landfall within which HDD or other trenchless technique would take place.
National Grid connection point	The grid connection location for the Project. National Grid are proposing to construct new electrical infrastructure (a new substation) to allow the Project to connect to the grid, and this new infrastructure will be located at the National Grid connection point.
National Grid substation connection works	Infrastructure required to connect the Project to the National Grid connection point.
Offshore cable corridor	The corridor of seabed from array area to the landfall within which the offshore export cables will be located.
Offshore converter platform	Should an offshore connection to a third party HVDC cable be selected, an offshore converter platform would be required. This is a fixed structure located within the array area, containing HVAC and HVDC electrical equipment to aggregate the power from the wind turbine generators, increase the voltage to a more suitable level for export and convert the HVAC power generated by the wind turbine generators into HVDC power for export to shore via a third party HVDC interconnector cable.
Offshore export cables	The cables which bring electricity from the offshore substation platform(s) to the landfall, as well as auxiliary cables.
Offshore project area	The overall area of the array area and the offshore cable corridor.
Offshore substation platform(s)	Fixed structure(s) located within the array area, containing HVAC electrical equipment to aggregate the power from the wind turbine generators and increase the voltage to a more suitable level for export to shore via offshore export cables.
Onshore cable route	Onshore route within which the onshore export cables and associated infrastructure would be located.
Onshore export cables	The cables which take the electricity from landfall to the onshore substation. These comprise High Voltage Alternative Current (HVAC) cables, buried underground.
Onshore project area	The boundary within which all onshore infrastructure required for the Project will be located (i.e. landfall; onshore cable route, accesses, construction compounds; onshore substation and cables to the National Grid substation).
Onshore substation	A compound containing electrical equipment required to transform and stabilise electricity generated by the Project so that it can be connected to the National Grid.
Onshore substation construction compound	Area set aside to facilitate construction of the onshore substation. Will be located adjacent to the onshore substation.
Onshore substation works area	Area within which all temporary and permanent works associated within the onshore substation are located, including onshore substation, construction compound, access, landscaping, drainage and earthworks.
Platform interconnector cable	Cable connecting the offshore substation platforms (OSP); or the OSP and offshore converter platform (OCP).
Scour protection	Protective materials to avoid sediment being eroded away from the base of the wind turbine generator foundations and offshore substation platform (OSP) or / and offshore converter platform (OCP) foundations as a result of the flow of water.

Safety zones	A marine zone outlined for the purposes of safety around a possibly hazardous installation or works / construction area
Temporary construction compound	Area set aside to facilitate construction of the onshore cable route. Will be located adjacent to the onshore cable route, with access to the highway where required.
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Trenchless crossing	Use of a technique to install limited lengths of cable below ground without the need to excavate a trench from the surface, used in sensitive areas of the onshore cable route to prevent surface disturbance. Includes techniques such as HDD.
Wind turbine generator (WTG)	Power generating device that is driven by the kinetic energy of the wind.

1 Schedule of mitigation

1.1 Introduction

1. This document sets out a summary of the mitigation and monitoring commitments detailed within the Environmental Statement (ES) for North Falls Offshore Wind Farm (hereafter “North Falls” or “the Project”).
2. This document is organised following the structure of the ES: each ES chapter is presented in turn, and under each chapter heading details of each mitigation commitment is provided, followed by a separate list of each monitoring commitment. Offshore chapters (Chapters 8 – 18, Volume 3.1) are presented first, followed by onshore (Chapters 19 – 27, Volume 3.1) and finally project-wide chapters (Chapter 28 – 34, Volume 3.1).
3. Both ‘embedded’ mitigation (which forms mitigation through design or through best practice, which will be undertaken regardless of the outcome of the assessment, to minimise impacts as far as possible) and ‘additional’ mitigation (which has been identified following the completion of the environmental assessment described in the ES, as required to minimise the effects identified) are detailed in this document.

2 Mitigation and monitoring

2.1 Marine geology, oceanography and physical processes (Chapter 8)

Table 2.1 Mitigation and monitoring in relation to marine geology, oceanography and physical processes

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.1.1	Volume 3.1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Increases in suspended sediment concentrations (SSC) and deposition of disturbed sediments to the seabed due to foundations and cable installation	Embedded mitigation	Micro-siting will be used where practicable to minimise the requirements for seabed preparation prior to foundations and cable installation.	This mitigation is secured through the condition to produce a Design Plan in accordance with the following sections of the draft Development Consent Order (DCO):

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.1.2	Volume 3.1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Morphological and sediment transport effects	Embedded mitigation	Cables will be buried where practicable, minimising the requirement for cable protection measures and thus effects on sediment transport.	This mitigation is secured through the cable specification and installation plan in accordance with the following sections of the Draft DCO Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.1.3	Volume 3.1, Chapter 8 Marine Geology, Oceanography and Physical Processes	Changes to the tidal current and wave regime due to the presence of wind turbine generator (WTG) foundations on the seabed	Embedded mitigation	WTG spacing can be described in general terms at this stage. A minimum separation distance of: • 1180m in the downwind direction; and • 944m in the cross wind direction. This will minimise the potential for interaction between adjacent WTG with respect to marine physical process.	This mitigation is secured through the Requirements of the Draft DCO, as set out at Schedule 1, Part 3, Requirement 2.
Decommissioning					
None proposed					
Monitoring commitments					
Monitoring as described in the In-Principle Monitoring Plan (IPMP) (Document Reference: 7.10)					

2.2 Marine water and sediment quality (Chapter 9)

Table 2.2 Mitigation and monitoring in relation to marine water and sediment quality

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.2.1	Volume 3.1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during construction may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Committed to the use of industry good practice techniques and due diligence regarding the potential for pollution throughout all construction, operation and maintenance, and decommissioning activities. For example, measures to control accidental release of drilling fluids whilst ensuring that any chemicals used are listed on the Oslo and Paris Conventions (OSPAR) List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR) (OSPAR, 2021).	This mitigation is secured through the Project Environmental Management Plan (PEMP), in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.2.2	Volume 3.1, Chapter 9 Marine Water and Sediment Quality	Increases in SSC and deposition of disturbed sediments	Embedded mitigation	Micro-siting will be used where practicable to minimise the requirements for seabed preparation prior to foundation and cable installation.	This mitigation is secured through the condition to produce a Design Plan in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.2.3	Volume 3.1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during Operation and Maintenance (O&M) may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Measures described in 2.2.1	This mitigation is secured through PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Decommissioning					
2.2.4	Volume 3.1, Chapter 9 Marine Water and Sediment Quality	Accidental pollution events during decommissioning may lead to changes in water quality and seabed sediment quality	Embedded mitigation	Measures described in 2.2.1	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
None proposed					

2.3 Benthic and intertidal ecology (Chapter 10)

Table 2.3 Mitigation and monitoring in relation to benthic and intertidal ecology

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.3.1	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Temporary physical disturbance in the array area	Embedded mitigation	Avoidance of the Kentish Knock East Marine Conservation Zone (MCZ), and reduction of the array area and quantum of infrastructure has significantly reduced the impact on the seabed.	This mitigation is secured by the offshore order limits in the Draft DCO (document reference 6.1).
2.3.2	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Temporary physical disturbance in the offshore cable corridor	Embedded mitigation	The offshore cable corridor was selected in consultation with key stakeholders to select a route which minimised impacts on designated sites, such as avoiding overlap with the Margate and Long Sands Special Area of Conservation (SAC).	This mitigation is secured by the offshore order limits in the Draft DCO (document reference 6.1).
2.3.3	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Temporary physical disturbance of intertidal habitats and species	Embedded mitigation	The Applicant is committed to using horizontal directional drilling (HDD) from an onshore location to the subtidal zone. Therefore, there will be no impacts on the intertidal zone.	This mitigation is secured through the description of the Authorised Development at Schedule 1, Part 1 of the Draft DCO.
2.3.4	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Damage to benthic habitats such as *Sabellaria* reef	Embedded mitigation	Pre-construction surveys will be undertaken to determine if Annex I[1] and/or Habitats of Conservation Importance (HOCI)[2] are present within the proposed wind turbine locations or offshore cable routes (offshore export cables, array cables and/or platform	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO:

[1] As defined by Annex I of the Habitats Directive
[2] As defined by JNCC (2016) Review of the Marine Conservation Zone (MCZ) Features of Conservation Importance

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				interconnector cables). Should any Annex I habitats or HOCI be identified in the proposed wind turbine locations and/or cable routes during the pre-construction surveys, micro-siting would be undertaken where practicable, to reduce the requirements for seabed preparation prior to foundation and cable installation and potential impacts to sensitive benthic species. In the case that *Sabellaria spinulosa* reef is identified, a *S. spinulosa* reef mitigation plan will be followed.	Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.3.5	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of Invasive Non-Native Species (INNS)	Embedded mitigation	The risk of spreading INNS will be reduced by employing biosecurity measures in accordance with the following requirements: • International Convention for the Prevention of Pollution from Ships (MARPOL). The MARPOL sets out appropriate vessel maintenance; • The International Convention for the Control and Management of Ships' Ballast Water and Sediments (The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) Convention), which provide global regulations to control the transfer of potentially invasive species; and • The Environmental Damage (Prevention and Remediation (England) Regulations 2015, which set out a polluter pays principle where the operators who cause a risk of significant damage or cause significant damage to land, water or biodiversity will have the responsibility to prevent damage occurring, or if the damage does occur will have the duty to reinstate the environment to the original condition.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.3.6	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Potential for offshore export cables, platform inter-connector cable and array cables to produce electromagnetic fields (EMFs) that interfere with the behaviour of benthic species	Embedded mitigation	The Applicant is committed to burying cables where practicable which reduces the effects of EMFs	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.3.7	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of INNS	Embedded mitigation	Measures in 2.3.5	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Decommissioning					
2.3.8	Volume 3.1, Chapter 10 Benthic and Intertidal Ecology	Introduction or spread of INNS	Embedded mitigation	Measures in 2.3.5	This mitigation is secured through the PEMP, in accordance with the

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
Monitoring as described in the IPMP (Document Reference: 7.10)					

2.4 Fish and shellfish ecology (Chapter 11)

Table 2.4 Mitigation and monitoring in relation to fish and shellfish ecology

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.4.1	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Injury or disturbance to fish and shellfish species from underwater noise from activities associated with foundation for WTG and OSPs/OCP	Embedded mitigation	To reduce impacts to Downs herring, the Applicant is committed to restricting piling activities during a suitable period of time between 1 November and 31 January, the duration of which will be discussed with the Marine Management Organisation (MMO) and their advisors.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 10, Part 2, Condition 22
2.4.2	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Disturbance to fish and shellfish species from underwater noise from activities associated with foundation for WTG and OSPs/OCP	Embedded mitigation	A soft start and ramp-up protocol will be used for pile driving. Each piling event would commence with a soft-start at a lower hammer energy followed by a gradual ramp-up to the maximum hammer energy required (the maximum hammer energy is only likely to be required at a few of the piling installation locations).	This mitigation would also benefit fish ecology, and is secured through the Outline Marine Mammal Mitigation Plan, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.4.3	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during operation may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As outlined in Section 2.2, the Applicant is committed to the use of industry good practice techniques and due diligence regarding the potential for pollution throughout all construction, O&M, and decommissioning activities.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.4.4	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Effect EMF on fish and shellfish species	Embedded mitigation	The Applicant is committed to burying offshore cables where practicable to a target minimum burial depth of 0.6m. Cable burial reduces the strength of EMFs to which fish and shellfish species may be exposed as it constitutes a physical barrier, with fish and shellfish species not able	This mitigation is secured through the cable specification and installation plan in accordance with the following sections of the Draft DCO

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				to transit the immediate proximity of cables where EMFs are strongest.	Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.4.5	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Effect of EMF on fish and shellfish species	Embedded mitigation	Where cables cannot be buried to the minimum depth, appropriate surface laid cable protection will be use	This mitigation is secured through the cable specification and installation plan in accordance with the following sections of the Draft DCO Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.4.6	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Habitat loss	Embedded mitigation	As described in 2.4.4. In addition, cable burial reduces the amount of hard substrate which may be required and associated potential changes to seabed habitat.	This mitigation is secured through the cable specification and installation plan in accordance with the following sections of the Draft DCO Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.4.7	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during O&M may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As described in 2.4.3	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Decommissioning					
2.4.8	Volume 3.1, Chapter 11 Fish and Shellfish Ecology	Accidental pollution events during decommissioning may result in the release of contaminants with potential effects on fish and shellfish species	Embedded mitigation	As described in 2.4.3	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
None proposed					

2.5 Marine mammals (Chapter 12)

Table 2.5 Mitigation and monitoring in relation to marine mammals

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.5.1	Volume 3.1, Chapter 12	Mortality, injury (including permanent threshold shift (PTS) or temporary threshold shift	Embedded mitigation	Each piling event would commence with a soft-start at a lower hammer energy followed by a gradual ramp-up to the maximum hammer energy. required.	This mitigation is secured through the Marine Mammal Mitigation Plan (MMMP), in

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Marine Mammals	(TTS)) or disturbance to marine mammal species from construction noise			accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.5.2	Volume 3.1, Chapter 12 Marine Mammals	Mortality, injury (including PTS or TTS) or disturbance to marine mammal species from construction noise	Embedded mitigation	Before clearance takes place, the following options will be considered, in order of preference; • Left in-situ • Micro-siting of project infrastructure to avoid • Relocation to a less sensitive area for clearance If clearance is required, the following methods would be used, in order of preference; • Low-order (with three attempts for each device) • High-order clearance (only if low-order is unsuccessful, or deemed not possible/unsafe by EOD specialists) o Potential use of bubble curtain depending on environmental variables Maximum of three high-order clearances across the campaign	This would be secured as part of the Marine Licencing process for unexploded ordnance (UXO) clearance in accordance with the Outline MMMP (Document Reference 7.7).
2.5.3	Volume 3.1, Chapter 12 Marine Mammals	Risk of vessel collision	Additional mitigation	Vessel movements, where practicable, will follow set vessel routes and hence areas where marine mammals are accustomed to vessels, in order to reduce any increased collision risk. All vessel movements will be kept to the minimum number that is required to reduce any potential collision risk. Additionally, vessel operators will use best practice to reduce any risk of collisions with marine mammals.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.5.4	Volume 3.1, Chapter 12 Marine Mammals	Accidental pollution events during construction may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	As outlined in Section 2.2, the Applicant is committed to the use of industry good practice techniques and due diligence regarding the potential for pollution throughout all construction, O&M, and decommissioning activities.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.5.5	Volume 3.1, Chapter 12 Marine Mammals	Mortality, injury (including PTS or TTS) or disturbance to marine mammal species from piling noise	Additional mitigation	The (MMMP) for piling will be developed in the pre-construction period and based upon relevant available information, methodologies, industry good practice, latest scientific understanding, current guidance and detailed project design. The MMMP for piling will be developed in consultation with the relevant Statutory Nature Conservation Bodies (SNCBs) and the MMO, detailing the proposed mitigation to reduce the risk of any physical or permanent auditory injury to marine mammals during all piling operations.	This mitigation is secured through the MMMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.5.6	Volume 3.1, Chapter 12 Marine Mammals	Mortality, injury (including PTS or TTS) or disturbance to marine mammal species from accidental UXO detonation	Additional mitigation	A detailed MMMP will be prepared for UXO clearance during the pre-construction phase. The MMMP for UXO clearance will ensure there are adequate mitigation to minimise the risk of any physical or permanent auditory injury to marine mammals as a result of UXO clearance. The MMMP for UXO clearance will be developed in the pre-construction period, when there is more detailed information on the UXO clearance which could be required and the most suitable mitigation, based upon best available information and methodologies at that time, in consultation with the MMO and relevant SNCBs.	This would be secured as part of the Marine Licencing process for UXO clearance in accordance with the Outline MMMP (Document Reference 7.7).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				The MMMP for UXO clearance will include details of all the required mitigation to minimise the potential risk of physical and auditory injury as a result of underwater noise during UXO clearance, for example, this would consider the options, suitability and effectiveness of mitigation such as, but not limited to: • Low-order disposal technique, such as deflagration; • The use of bubble curtains (taking into consideration the environmental limitations); • All detonations to take place in daylight and, when possible, in favourable conditions with good visibility (sea state 3 or less); • Establishment of a monitoring area with minimum of 1km radius. • The observation of the monitoring area will be by dedicated and trained marine mammal observers during daylight hours and suitable visibility; • The potential use of Passive Acoustic Monitoring; • The activation of Acoustic Deterrent Devices (ADDs); • The controlled explosions of the UXO will be undertaken by specialist contractors, using the minimum amount of explosive required in order to achieve safe disposal of the UXO; and • Other UXO clearance techniques, such as the use of scare charge; multiple detonations, if UXO are located in close proximity; avoidance of UXO; or relocation of UXO.	
2.5.7	Volume 3.1, Chapter 12 Marine Mammals	Cumulative disturbance of harbour porpoise in relation to the Southern North Sea SAC conservation objectives	Additional mitigation	A Southern North Sea SAC Site Integrity Plan will be developed to deliver any project mitigation or management measures to reduce the potential for any significant disturbance of harbour porpoise in relation to the Southern North Sea SAC conservation objectives. The Site Integrity Plan will be an adaptive management tool, which can be used to ensure that the most adequate, effective and appropriate measures, if required, are put in	The Site Integrity Plan is conditioned through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				place to reduce the significant disturbance of harbour porpoise in the Southern North Sea SAC. The Site Integrity Plan will be developed in the pre-construction period and will be based upon best available information and methodologies at that time, in consultation with the relevant SNCBs and MMO.	Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.5.8	Volume 3.1, Chapter 12 Marine Mammals	Vessel activity during operation may result in an increased risk of collision with marine mammals	Additional mitigation	Measures described in 2.5.3	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.5.9	Volume 3.1, Chapter 12 Marine Mammals	Accidental pollution events during O&M may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	Measures described in 2.5.4	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Decommissioning					
2.5.10	Volume 3.1, Chapter 12 Marine Mammals	Vessel activity during decommissioning may result in an increased risk of collision with marine mammals	Embedded mitigation	Measures described in 2.5.3	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.5.11	Volume 3.1, Chapter 12 Marine Mammals	Accidental pollution events during decommissioning may result in the release of contaminants with potential effects on marine mammals or prey species	Embedded mitigation	Measures described in 2.5.4	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
Monitoring as described in the IPMP (Document Reference: 7.10)					

2.6 Offshore ornithology (Chapter 13)

Table 2.6 Mitigation and monitoring in relation to offshore ornithology

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.6.1	Volume 3.1, Chapter 13 Offshore Ornithology	Impact from displacement or disturbance of species from protected sites	Embedded mitigation	Offshore cable corridor site selection reduced overlap with the Outer Thames Estuary Special Protection Area (SPA). Site selection was undertaken in consultation with Natural England.	This mitigation is secured by the offshore order limits in the Draft DCO (document reference 6.1).
2.6.2	Volume 3.1, Chapter 13 Offshore Ornithology	Disturbance or displacement of red-throated divers from vessels	Embedded mitigation	Protocol for reducing disturbance to red-throated divers during the core winter period between 1 November and 1 March inclusive.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.6.3	Volume 3.1, Chapter 13 Offshore Ornithology	Disturbance or displacement	Embedded mitigation	Following Preliminary Environmental Information Report (PEIR), the array area has been reduced from 149.5km^2 down to 95km^2. This has involved the complete removal of the former northern array and refinement of the former southern array (now the array area), increasing the distance from the Outer Thames Estuary SPA.	This mitigation is secured by the offshore order limits in the Draft DCO (document reference 6.1).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.6.4	Volume 3.1, Chapter 13 Offshore Ornithology	Mortality from collision with rotating WTG blades	Embedded mitigation	Following PEIR, the maximum number of turbines (assuming the smallest turbine model) has been reduced from 72 to 57 and the number of the largest turbine model has been reduced from 40 to 34.	This mitigation is secured through the Requirements of the Draft DCO, as set out at Schedule 1, Part 3, Requirement 2.
2.6.5	Volume 3.1, Chapter 13 Offshore Ornithology	Mortality from collision with rotating WTG blades	Embedded mitigation	A minimum air gap (the distance between the lower rotor tip of a WTG and the sea surface of 27m above Mean High Water Springs (MHWS) (26.6m above Highest Astronomical Tide (HAT)). This is an increase of 5m above the minimum of 22m MHWS required for navigation purposes to reduce collision risk for birds (as most seabirds tend to fly low to the sea surface).	This mitigation is secured through the Requirements of the Draft DCO, as set out at Schedule 1, Part 3, Requirement 2.
Decommissioning					
None proposed					
Monitoring commitments					
Monitoring as described in the IPMP (Document Reference: 7.10)					

2.7 Commercial fisheries (Chapter 14)

Table 2.7 Mitigation and monitoring in relation to commercial fisheries

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.7.1	Volume 3.1, Chapter 14 Commercial Fisheries	Accidental pollution events during operation may result in the release of contaminants with potential effects on commercially valuable fish and shellfish species	Embedded mitigation	Committed to the use good practice techniques and due diligence regarding the potential for pollution throughout all construction, operation and maintenance, and decommissioning activities. For example, measures to control accidental release of drilling fluids whilst ensuring that any chemicals used are listed on the OSPAR List of Substances Used and Discharged Offshore which Are Considered to PLONOR (OSPAR, 2021).	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.2	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	A Fisheries Liaison Officer (FLO) will be appointed for the Construction Phase and as required during the Operation Phase (including maintenance and repair – see below) to provide a project specific point of contact to liaise and engage with the fishing industry.	This mitigation is secured through the Fisheries Liaison and Coexistence Plan (FLCP), conditioned by Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.3	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The FLCP will detail any additional appropriate evidence-based mitigation measures in line with FLOWW guidance. The FLCP will detail the scheduling, approach and stakeholders with whom liaison will be conducted and the content and formats of information to be provided and the process of recording and acting upon feedback from stakeholders.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.4	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Timely and efficient distribution of Notice(s) to Mariners' (NtMs), Kingfisher notifications and other navigational warnings of the position and nature of works associated with the Project.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 15 Schedule 9, Part 2, Condition 16 Schedule 10, Part 2, Condition 16
2.7.5	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Development of a standard procedure for the claim of loss of/or damage to fishing gear to facilitate co-existence and minimise potential adverse interactions between Project vessels and fishing activities.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.6	Volume 3.1, Chapter 14	Interference with fishing activities	Embedded mitigation	Development of a Code of Good Practice for contracted vessels facilitates co-existence between vessels undertaking works for the Project and fishing vessels and helps reduce potential	This mitigation is secured in the FLCP, conditioned

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Commercial Fisheries			adverse interactions. This will be in addition to compliance of all Project vessels with international marine regulations as adopted by the Flag State, notably the International Regulations for Preventing Collisions at Sea (COLREG) and Safety of Life at Sea (SOLAS).	by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.7	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The Applicant is committed to burying offshore cables where practicable to a target minimum burial depth of 0.6m. Cable burial reduces potential interactions between fishing gear and cables. In addition, cable burial reduces the amount of hard substrate which may be required. Following industry good practice the Applicant will evaluate appropriate cable protection methods available for cables which cannot be buried to the target minimum depth of 0.6m.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.8	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	The Applicant will determine suitable cable burial depths and protection measures via a cable burial risk assessment process. This will consider the vessel densities, types and sizes across and in the vicinity of the offshore cable corridor to ensure protection / burial is sufficient.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.7.9	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Minimum spacing between WTGs will be: • 1180m in the downwind direction; and • 944m in the cross wind direction.	This mitigation is secured through the Requirements, at Schedule 1, Part 3, Requirement 2
2.7.10	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	A FLO will be appointed as required during the Operation Phase (including maintenance and repair) to provide a project specific point of contact to liaise and engage with the fishing industry.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.11	Volume 3.1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Information on the areas where cable protection is installed will be distributed to relevant representative organisations and stakeholders in appropriate formats for inclusion in charts and information bulletins.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 10, Part 2, Condition 22
2.7.12	Volume 3.1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Where rock placement is used for cable protection consideration will be given to designs that minimise potential gear snagging risk (i.e. use of graded rock and 1:3 profile berms). This will facilitate co-existence and reduce potential damage to and from fishing gear and associated safety risks.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.13	Volume 3.1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	In the event that cable exposures are identified during the operational phase, the location of these will be published via the standard notices with additional liaison to be undertaken with fisheries stakeholders. Where appropriate, additional temporary measures would also be put in place (e.g., surface marker buoys, use of guard vessels, etc).	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.14	Volume 3.1, Chapter 14 Commercial Fisheries	Presence of cable protection causing damage to fishing gear	Embedded mitigation	Undertaking of post-lay and burial inspection surveys and, where appropriate and practicable, undertaking of rectification works. This facilitates co-existence and prevents potential damage to and from fishing gear and minimises potential safety risks.	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO:

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.15	Volume 3.1, Chapter 14 Commercial Fisheries	Accidental pollution events during operation may result in the release of contaminants with potential effects on commercially valuable fish and shellfish species	Embedded mitigation	Measures described in 2.7.1	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.16	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.3	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.7.17	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.4	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.18	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.5	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.7.19	Volume 3.1, Chapter 14 Commercial Fisheries	Interference with fishing activities	Embedded mitigation	Measures described in 2.7.6	This mitigation is secured in the FLCP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
Monitoring as described in the Outline Fisheries Liaison and Co-existence Plan (Document Reference: 7.9)					

2.8 Shipping and navigation (Chapter 15)

Table 2.8 Mitigation and monitoring in relation to shipping and navigation

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.8.1	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Application for safety zones during the construction phase and periods of major maintenance.	Application for safety zones will be made post consent under 'The Electricity (Offshore Generating Stations) (Safety Zones) (Applications Procedures and Control of Access) Regulations 2007' (S.I. No 2007/1948), in accordance with the Safety Zone Statement (document reference 7.23).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.8.2	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Compliance by all Project vessels with COLREGS (International Maritime Organization (IMO), 1972) and SOLAS (IMO, 1974).	International maritime law and flag state regulations.
2.8.3	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Layout will be agreed with the MMO in consultation with the Maritime and Coastguard Agency (MCA) and Trinity House. These discussions will include how the layout will comply with Marine Guidance Note (MGN) 654 (MCA, 2021) in terms of maintaining Search and Rescue (SAR) access, and will give due consideration to the existing structures associated with Greater Gabbard. Minimum crosswind spacing will be 944m, noting that minimum downwind spacing will be 1,180m	This mitigation is secured through the Requirements of the Draft DCO (document reference 6.1). Minimum crosswind and downwind spacing are secured through Requirement 2 of the Draft DCO (Schedule 1, Part 3, Requirement 2).
2.8.4	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally.	Embedded mitigation	Compliance with all aspects of MGN 654 *Safety of Navigation: Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response* including its annexes.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Conditions 23 and 25 Schedule 9, Part 2, Conditions 24 and 26 Schedule 10, Part 2, Conditions 24 and 26
2.8.5	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Marine coordination will be implemented to manage project vessels, including in communication with cumulative project marine coordinators as required. The Applicant also commits to use of entry/ exit points into/ out of the array area	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.8.6	Volume 3.1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders.	Embedded mitigation	Emergency Response Cooperation Plan (ERCoP) in the required MCA format and structure and as required under MGN 654.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Conditions 23 and 25 Schedule 9, Part 2, Conditions 24 and 26 Schedule 10, Part 2, Conditions 24 and 26
2.8.7	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the construction of North Falls could lead to increased collision rates in the area.	Embedded mitigation	Advance warning and accurate location details of all construction, maintenance and decommissioning operations. This will include any associated Safety Zones and will be given via usual means including Notices to Mariners and Kingfisher Bulletins.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 15 Schedule 9, Part 2, Condition 16 Schedule 10, Part 2, Condition 16
2.8.8	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Use of guard vessels where identified as necessary via risk assessment, as required under MGN 654.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 23 Schedule 9, Part 2, Condition 24 Schedule 10, Part 2, Condition 24
2.8.9	Volume 3.1, Chapter 15 Shipping and Navigation	Powered Allision Risk	Embedded mitigation	The array construction area will be marked by buoyage as required and directed by Trinity House.	This mitigation is conditioned through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 16 Schedule 9, Part 2, Condition 17 Schedule 10, Part 2, Condition 17

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.8.10	Volume 3.1, Chapter 15 Shipping and Navigation	Impact on vessels transiting to/from local ports in the area, including use of approach channels, port operations and pilotage	Embedded mitigation	Assessment of required cable protection measures. This will form part of the cable specification and installation plan to be produced post consent and will include proposed burial depths and cable protection (where necessary and permitted), noting this will include consideration of the Deep Water routes used by deeper draught vessels locally.	This mitigation is secured through the cable specification and installation plan in accordance with the following sections of the Draft DCO Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.8.11	Volume 3.1, Chapter 15 Shipping and Navigation	Vessel to vessel collision	Embedded mitigation	A Navigation and Installation Plan (NIP) will be in place to manage cable installation and maintenance within the Inner and Outer Precautionary Areas. The NIP will be approved by the MMO, and will include: • How information regarding cable installation and maintenance will be provided to Interested Parties and under what timelines; • How the NIP will be updated and implemented throughout its lifespan; • Details of anticipated activities and specific navigational procedures for individual activities; • Contingency plans and emergency procedures; and • Procedures for instances where cumulative works may be present.	This mitigation is secured through the NIP as conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.8.12	Volume 3.1, Chapter 15 Shipping and Navigation	Allision risk to passing vessels	Additional mitigation	The Applicant will implement a Structure Exclusion Zone, whereby all surface piercing infrastructure including blades will be located at least 1nm from the local routeing measures	This mitigation is secured through Schedule 1, Part 3, Requirement 29 of the Draft DCO,
2.8.13	Volume 3.1, Chapter 15 Shipping and Navigation	Allision risk to passing vessels or vessels navigating internally	Embedded mitigation	Lighting and marking in consultation and agreement with Trinity House, MCA, and the Civil Aviation Authority, and considering International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) G1162/O-139 (IALA, 2021).	This mitigation is secured through the lighting and marking plan conditioned by the following sections of the Draft DCO:

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.8.14	Volume 3.1, Chapter 15 Shipping and Navigation	Allision risk associated with the WTG blades	Embedded mitigation	There will be a minimum blade tip clearance of at least 27m above MHWS which is greater than the minimum clearance the RYA recommend for localised allision risk (RYA, 2019) and which is also noted in MGN 654.	This mitigation is secured through Schedule 1, Part 3, Requirement 2 of the Draft DCO.
2.8.15	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.1	As described in 2.8.1
2.8.16	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.2	As described in 2.8.2
2.8.17	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.3	As described in 2.8.3
2.8.18	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.4	As described in 2.8.4

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.8.19	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.5	As described in 2.8.5
2.8.20	Volume 3.1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders	Embedded mitigation	As described in 2.8.6	As described in 2.8.6
2.8.21	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the maintenance of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.7	As described in 2.8.7
2.8.22	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.8	As described in 2.8.8
2.8.23	Volume 3.1, Chapter 15 Shipping and Navigation	Vessel to vessel collision	Embedded mitigation	A Navigation and Installation Plan (NIP) will be in place to manage cable maintenance within the Inner and Outer Precautionary Areas. The NIP will be agreed with key Interested Parties including PLA, HHA, and Sunk VTS, and will detail: • How information regarding cable installation and maintenance will be provided to Interested Parties and under what timelines; • How the NIP will be updated and implemented throughout its lifespan;	This mitigation is secured through the NIP as conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Details of anticipated activities and specific navigational procedures for individual activities; • Contingency plans and emergency procedures; and • Procedures for instances where cumulative works may be present.	
Decommissioning					
2.8.24	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.1	As described in 2.8.1
2.8.25	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.2	As described in 2.8.2
2.8.26	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.3 and 2.8.4	As described in 2.8.3 and 2.8.4
2.8.27	Volume 3.1, Chapter 15 Shipping and Navigation	Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.5	As described in 2.8.5

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.8.28	Volume 3.1, Chapter 15 Shipping and Navigation	Reduction of emergency response capability due to increased incident rates and/or reduced access for search and rescue responders.	Embedded mitigation	As described in 2.8.6	As described in 2.8.6
2.8.29	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally. Increases in wind farm vessel activity associated with the decommissioning of North Falls could lead to increased collision rates in the area.	Embedded mitigation	As described in 2.8.7	As described in 2.8.7
2.8.30	Volume 3.1, Chapter 15 Shipping and Navigation	Structures within the array area will increase allision risk to passing vessels or vessels navigating internally	Embedded mitigation	As described in 2.8.8	As described in 2.8.8
Monitoring commitments					
Monitoring as described in the Outline Vessel Traffic Monitoring Plan (Document Reference: 7.21)					

2.9 Offshore archaeology and cultural heritage (Chapter 16)

Table 2.9 Mitigation and monitoring in relation to offshore archaeology and cultural heritage

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.9.1	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Embedded mitigation	Archaeological Exclusion Zones (AEZs) around the extents of known wreck sites, marine geophysical anomalies of archaeological interest (A1s) and previously recorded sites that have not been seen in the geophysical data (A3s) and at which the presence of surviving material is considered possible. No development related activities will take place within an AEZ.	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.9.2	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Avoidance where practicable of identified anomalies (A2s) by micro-siting of design	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 10, Part 2, Condition 22
2.9.3	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Avoidance by micro-siting where practicable of previously recorded sites that have not been seen in the geophysical data (A3s) and at which the presence of surviving material is considered unlikely	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.9.4	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct (physical) impact to potential heritage assets	Embedded mitigation	Further investigation of any identified anomalies (A2s) and previously recorded sites (A3s) that cannot be avoided by micro-siting of design and the application of either embedded mitigation (avoidance) or additional mitigation	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.9.5	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	AEZs may be reduced, enlarged or removed in agreement with Historic England if further relevant information becomes available. However, unless modified by agreement, it is important that AEZs are retained throughout the lifetime of North Falls and monitoring of AEZs may be required by the regulator and Historic England to ensure adherence both during construction and in the future operation of the wind farm.	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22 11
2.9.6	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	Further archaeological assessment of high-resolution geophysical data and geoarchaeological assessment of geotechnical data will be undertaken post-application/ post-consent in order to reduce, as far as practicable, the potential for unintended impacts during construction.	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22 11
Operation and maintenance					
2.9.7	Volume 3.1, Chapter 16	Direct (physical) impact to potential heritage assets	Additional mitigation	The archaeological assessment of post-construction monitoring data will further reduce, as far as practicable,	This mitigation is secured through the Written

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Offshore and Intertidal Archaeology and Cultural Heritage			the potential for unintended impacts during operation. If further features of archaeological interest are identified these will be subject to the same mitigation as described for known heritage assets described in mitigation point 2.9.5 above with the primary approach being avoidance.	Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Decommissioning					
2.9.8	Volume 3.1, Chapter 16 Offshore and Intertidal Archaeology and Cultural Heritage	Direct impacts to heritage assets, either present on the seafloor or buried within seabed deposits, may result in damage to, or total destruction of, archaeological material or the relationships between that material and the wider environment	Additional mitigation	The archaeological assessment of any further geophysical data will further reduce, as far as practicable, the potential for unintended impacts during decommissioning. If further features of archaeological interest are identified these will be subject to the same mitigation as described for known heritage assets described in mitigation point 2.9.5 above with the primary approach being avoidance. In the event of an unexpected discovery, the ongoing implementation of a formal protocol for archaeological discoveries, throughout the decommissioning phase, will allow for such discoveries to be efficiently reported, for advice to be provided and for any further mitigation to be considered on a case by case basis, proportionate to the significance of the discovery.	This mitigation is secured through the Written Scheme of Investigation, which is conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Monitoring commitments					
Monitoring as described in the Outline Written Scheme of Investigation (Offshore) (Document Reference 7.11)					

2.10 Aviation and radar (Chapter 17)

Table 2.10 Mitigation and monitoring in relation to aviation and radar

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.10.1	Volume 3.1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	Measures will include issuing Notices to Airmen (NOTAMs) and Aeronautical Information Circulars (AICs), warning of the establishment of obstacles within the North Falls array area and publicity in such aviation publications as Safety Sense and the General Aviation Safety Council (GASCo) Flight Safety magazine.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.10.2	Volume 3.1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	In accordance with The Air Navigation Order (ANO) 2016/765 (Civil Aviation Authority (CAA), 2022b) Article 225A, at least eight weeks before construction commences, details of the position, height above mean sea level (amsl) and lighting of each of the completed permanent structures that are 100m or more amsl, together with scheduled dates of commencement and completion of the works, would be notified in writing to the CAA who would forward the relevant information to National Air Traffic Services (NATS) Aeronautical Information Services (AIS) and the Ministry of Defence (MoD) Defence Geographic Centre (DGC) for inclusion in the UK Aeronautical Information Publication (AIP) and on relevant civil and military aeronautical charts, as notifiable permanent obstructions.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				This permanent information will replace the short-term NOTAMs that will continue to be issued to cover the Project until construction has been completed.	Schedule 10, Part 2, Condition 22
2.10.3	Volume 3.1, Chapter 17 Aviation and Radar	Construction of the wind farm will involve the installation of infrastructure above sea level which could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area	Embedded mitigation	En route navigation charts will be updated as the site construction proceeds. All obstacles over 300ft (91.4m) amsl must be notified to the CAA for inclusion in the UK AIP (section ENR5.4) and on aeronautical maps, and to the Defence Geographic Centre for inclusion in MoD databases.	This mitigation is secured through the PEMP, in accordance with the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Operation and maintenance					
2.10.4	Volume 3.1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	The international marking and lighting requirement, set out in the International Civil Aviation Organisation (ICAO) Annex 14: Aerodrome Design and Operations, specifies that: • “a wind turbine shall be marked and / or lighted if it is determined to be an obstacle.”; and • “the rotor blades, nacelle and upper 2/3 of the supporting mast of wind turbines should be painted white, unless otherwise indicated by an aeronautical study.” UK regulations adopt ICAO Annex 14’s requirements as to lighting of WTGs but do not require that WTGs follow the ICAO recommendation as to paint colour, although CAP 764 does set out the ICAO recommendation by way of guidance. In terms of marking the WTGs, in keeping with recent practice for offshore wind farms, it is anticipated that Trinity House will	This mitigation is secured by Schedule 1, Part 3, Requirement 3 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				require all structures to be painted yellow from the level of HAT to a height directed by Trinity House, and above the yellow section all WTGs will be painted submarine grey.	
2.10.5	Volume 3.1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	North Falls will be lit in accordance with the ANO. ANO Article 222 defines an 'en route obstacle' as any building, structure or erection, the height of which is 150m or more above ground level and requires these to be lit. Article 223 modifies the Article 222 requirement with respect to offshore WTGs, requiring these to be lit where they exceed 60m above HAT with a medium intensity (2000 candela (cd)) steady red light mounted on the top of each nacelle and requires for limited downward spillage of light. Article 223 allows for the CAA to permit that not all WTGs are so lit. The CAA will require that all WTGs on the periphery of any wind farm need to be equipped with aviation warning lighting and such lighting, where achievable, shall be spaced at longitudinal intervals not exceeding 900m. There is no current routine requirement for offshore obstacles to be fitted with intermediate vertically spaced aviation lighting. CAA guidance has been subject to coordination with maritime agencies to avoid confusion with maritime lighting. To that end, the CAA has indicated that the use of a flashing red Morse Code letter 'W' is likely to be approved to resolve potential issues for the maritime community.	This mitigation is secured by Schedule 1, Part 3, Requirement 3 of the Draft DCO.
2.10.6	Volume 3.1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	The Maritime and Coastguard Agency (MCA) is seeking that WTG blade tips are marked in red, together with markings down the blade, to provide a SAR helicopter pilot with a hover reference point as set out in the OREI SAR Requirements document. The MCA also seeks a lighting scheme comprising 200cd red / infra-red lights on the nacelles of non-Article 223 WTGs, to be operated on demand during SAR operations and a WTG shutdown protocol to be applied during rescue situations. An ERCoP will be developed and implemented for all phases of the Project, based upon the MCA's standard template. Appropriate lighting will be utilised to facilitate heli-	This mitigation is secured by condition of the Draft DCO (document reference 6.1)

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				hoisting if undertaken within the North Falls array area, as outlined in CAP 437.	
2.10.7	Volume 3.1, Chapter 17 Aviation and Radar	Infrastructure above sea level could pose a physical obstruction to aircraft utilising the airspace in the vicinity of the North Falls array area.	Embedded mitigation	To satisfy MoD requirements, the WTGs will also be required to be fitted with infra-red lighting in combination with the ANO Article 223 lights. MoD lighting guidance indicates that provided combination infra red / 2000cd visible red lights are used to light the WTGs required to be lit under ANO Article 223, this satisfies the MoD operational requirement.	This mitigation is secured by Schedule 1, Part 3, Requirement 3 of the Draft DCO.
2.10.8	Volume 3.1, Chapter 17 Aviation and Radar	Wind turbine generators could cause interference on civil and military radars.	Additional mitigation	Technical mitigation solution applied to impacted radars to be agreed with the radar operators.	N/A
Decommissioning					
2.10.9	Volume 3.1, Chapter 17 Aviation and Radar	WTGs causing permanent interference on civil and military radars	Additional mitigation	Mitigations applicable from operation phase to remain in place until all WTG blades are removed	As above
Monitoring commitments					
None proposed					

2.11 Infrastructure and other users (Chapter 18)

Table 2.11 Mitigation and monitoring in relation to infrastructure and other users

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.11.1	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	Site selection to reduce potential interactions with neighbouring infrastructure	This mitigation is secured through the order limits of the Draft DCO (document reference 6.1).
2.11.2	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	Advance warning and accurate location details of construction, maintenance and decommissioning operations, associated safety zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins and other appropriate media.	This mitigation is secured through the following sections of the Draft DCO: Schedule 8, Part 2, Condition 15 Schedule 9, Part 2, Condition 16 Schedule 10, Part 2, Condition 16
2.11.3	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	Crossing and proximity agreements will be agreed post-consent with the relevant asset owners, where required.	N/A
2.11.4	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	Consultation with Trinity House to determine appropriate lighting and marking.	This mitigation is secured through the lighting and marking plan conditioned by the following sections of the Draft DCO:

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.11.5	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	Alignment of turbines as required under MGN 654 to provide obstruction free SAR access.	This mitigation is secured through the Schedule 8, Part 2, Condition 23 Schedule 9, Part 2, Condition 24 Schedule 10, Part 2, Condition 24
Operation and maintenance					
2.11.6	Volume 3.1, Chapter 18 Infrastructure and Other Users	Effects on other users (wind farms, subsea cables and pipelines, disposal sites, dredging areas and MOD activities)	Embedded mitigation	As described in 2.11.1 to 2.11.5	As described in 2.11.1 to 2.11.5
Decommissioning					
2.11.7	Volume 3.1, Chapter 18 Infrastructure and Other Users	Interference of North Falls with other marine users could arise from navigational safety issues, aviation (i.e. helicopter operations); overlap of infrastructure and potential interactions during construction, operation and decommissioning; and increased pressure on port facilities.	Embedded mitigation	As described in 2.11.2	As described in 2.11.2
Monitoring commitments					
None proposed beyond that required for Shipping and Navigation (Section 2.8)					

2.12 Ground conditions and contamination (Chapter 19)

Table 2.12 Mitigation and monitoring in relation to ground conditions and contamination

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.12.1	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Potential contamination of surface water features	Embedded mitigation	Trenchless crossing techniques (e.g. HDD) have been committed to where the onshore cable route cross Main Rivers. This would minimise the potential for contamination (if present) from excavation works by limiting the potential for contaminated materials to enter surface waters via surface run off and shallow interconnected groundwater.	Details of crossings where trenchless techniques will be used is provided in the Outline Code of Construction Practice (OCoCP). A final Code of Construction Practice (CoCP), based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.2	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Potential impacts to human health, groundwater and surface water bodies	Embedded mitigation	The development of, and adherence to, a CoCP. The CoCP would be regularly reviewed and updated post consent, prior to and during the construction period. The CoCP would be informed by the findings of any pre-construction ground investigation (GI) and include an assessment of the potential risks to human health and controlled waters receptors posed by the construction of North Falls. Based on that risk assessment, appropriate working methods would be developed to avoid, minimise, or mitigate impacts relating to construction.	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.3	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Potential impacts on human health	Embedded mitigation	Risk mitigation strategies protective of human health that are to be incorporated into the CoCP include: • Use of appropriate Personal Protective Equipment (PPE); • Provision of welfare facilities; • Monitoring of works including air quality and odour; and • Implementation of relevant good working practices including stockpile management and dust suppression	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				activities to reduce the risk relating to the creation and inhalation of wind-blown dusts. The CoCP would incorporate legislation requirements including the Construction Design Management (CDM) Regulations (2015), Health and Safety at Work Act (1974) and Control of Substances Hazardous to Health (COSHH) Regulations.	
2.12.4	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Encountering unexpected contamination	Embedded mitigation	A plan for dealing with unexpected contamination would be developed as part of the CoCP. This plan would also incorporate the Environment Agency best practice guidelines for pollution prevention which have been withdrawn from use but still provide a useful best practice guide and include: • Environment Agency Pollution Prevention Guidance (PPG) 01 – Understanding your environmental responsibilities; • Environment Agency PPG 05 – Works and maintenance near water; • Environment Agency PPG 06 – Working at construction and demolition: preventing pollution guidance; • Environment Agency PPG 08 – Safe storage and disposal of used oils; • Environment Agency PPG 21 – Pollution incident response planning; and Environment Agency PPG 22 –Dealing with spills.	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.5	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Contaminated perched water and groundwater	Embedded mitigation	In areas that have been identified as potential areas of contamination within the Preliminary Risk Assessment (see ES Chapter 19 Ground Conditions and Contamination (Document Reference: 3.2.21)) or encountered during construction works, perched waters within Made Ground or groundwater from dewatering activities would be collected within a tank or lagoon prior to any treatment or discharge. This wastewater shall either be:	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Discharged to foul sewer under a trade effluent consent agreed with the local water company / supplier; and / or, • Discharged to surface water under an environmental permit issued by the Environment Agency. On site treatment plant may be required to treat the wastewater prior to disposal in order to meet discharge limits set by either the Environment Agency or local water company. The CoCP will be secured by DCO Requirement, and an outline version of the CoCP has been submitted with the DCO application (document reference 7.3).	
2.12.6	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Management of excavated soils	Embedded mitigation	Adoption of a Contaminated Land: Applications in Real Environments (CL:AIRE) Industry Code of Practice to manage the re-use and disposal of excavated soils within the onshore project area would also be incorporated as an additional mitigation measure in the CoCP, this would aid in maximising sustainability and provide an audit trail to demonstrate the appropriate use of materials. A Materials Management Plan (MMP) would be drafted in advance of any construction works, this would include chemical screening criteria in order to ensure that imported and / or reused materials are chemically suitable for use. If materials identified as containing asbestos are identified, then a specialist contractor would be employed to aid in its removal from onshore project area, in line with current legislation. The MMP would form part of the final CoCP to be submitted post consent.	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.7	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Site waste management	Embedded mitigation	A Site Waste Management Plan (SWMP) will be developed post-consent to ensure the proper handling and protocols are in place to deal with any generated wastes. The SWMP would form part of the final CoCP to be submitted post consent.	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.12.8	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Soil management	Embedded mitigation	A Soil Management Plan (SMP) which will form part of the CoCP, outlining the mitigation measures and good practice techniques which contractors would be obliged to comply with will be produced. Mitigation measures included within the SMP include: • Consider the weather conditions and whether it is appropriate to work for each soil type; • Store soil appropriately; • Ensure effective drainage systems are used during construction; • Reinstate drainage systems following construction; and • Reinstate and plant vegetation following completion of the construction works. The SMP sets out procedures for the appropriate handling of soils during the works, including: • Using a competent contractor for soil handling, storage and reinstatement under Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites; • Storing topsoil adjacent to where it is stripped, where practicable; • Seeding of topsoil bund with clover mix to fix nutrients and keep the soil live, therefore limiting soil loss and requirement for significant inputs when reinstated; • Storage of the excavated subsoil separately from the topsoil, with sufficient separation to ensure segregation; • Handling of soils according to their characteristics; • Limiting mechanised soil handling in areas where soils are highly vulnerable to compaction during wet weather; • Restricting movements of heavy plant and vehicles to specified routes; and • Minimise excavation footprint as much as reasonably practicable.	This mitigation is secured by Schedule 1, Part 3, Requirements 8 and 13 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Measures set out in the Ministry of Agriculture, Fisheries and Food (MAFF) (2000) Good Practice Guide for Handling Soils and Defra's (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites would be adopted. Additionally, guidance from the Institution of Environmental Sciences (IES) (2020) Sustainable, Healthy and Resilient: Practice-Based Approaches to Land and Soil Management would also be used. Stockpiling of excavated materials during earthworks will be temporary in nature and will only be permitted in designated areas. These designated stockpiling areas will be located a minimum of 10m from any open watercourses where practicable.	
2.12.9	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Source Protection Zone	Embedded mitigation	The onshore cable route has been developed to avoid interaction with groundwater SPZ 1, and thereby minimising the potential impact on abstractions for public water supply. The onshore cable route has been developed to avoid interaction with groundwaters designated as being in an SPZ 1, and thereby minimising the potential impact on abstractions for public potable water supply.	This mitigation is secured by the onshore order limits in the Draft DCO (Document Reference 6.1).
2.12.10	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Potential for contamination of groundwater and surface water bodies	Embedded mitigation	A CoCP would include specific measures that are protective of controlled waters in relation to the storage of fuels, oils, lubricants, wastewater, and other chemicals during the works. This would include: • Storing all fuels, oils, lubricants, wastewater, and other chemicals in impermeable bunds with at least 110% of the stored capacity, with any damaged containers being removed from onshore project area. • Refuelling would take place in a dedicated impermeable area, using a bunded bowser. Biodegradable oils to be used where possible. • Ensuring that spill kits are available on site at all times as well as sandbags and stop logs for deployment in case of emergency spillages.	Development of, and compliance with, a CoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.12.11	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Hydrogeological risk	Embedded mitigation	A hydrogeological risk assessment will be undertaken where earthworks / excavations are within and SPZ or within 50m (or 250m dependent upon the volume abstracted) of private potable groundwater abstractions and pose a potential risk from either existing or potentially introduced contamination. Further hydrogeological risk assessments will be undertaken where earthworks / excavations are within influencing distance of abstractions whereby they may interrupt flow pathways due to dewatering or other associated activities. Additionally, hydrogeological risk assessments for HDD would be undertaken where required. The risk assessment, which would be desk-based, follows a tiered approach with more detailed assessments carried out in areas considered to pose a potentially greater risk to groundwater. The hydrogeological risk assessment will meet the requirements of the Environment Agency's Approach to Groundwater Protection 2018 Framework and be completed post consent.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.12	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Piling risk	Embedded mitigation	A piling risk assessment would be undertaken where piles are to be used (e.g. the onshore substation) in areas of where the potential for contamination exists, in line with the Environment Agency's Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention (Environment Agency, 2001).	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.13	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Potentially contaminated areas	Additional mitigation	A pre-construction targeted GI would be undertaken in areas identified as potential sources of contamination in order to assess site characteristics of the onshore project area. This would then allow for the assessment of contaminated areas and appropriate remediation strategies to be produced should the identified contamination be	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				deemed to represent an unacceptable risk to human health. The strategy would be implemented following approval by the local authorities. Groundwater monitoring wells would also be required as part of the GI works in order to establish the groundwater regime and to identify, for example, whether contamination is from onsite or offsite sources.	Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.14	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Preferential pathways for ground gas/vapours	Additional mitigation	The use of materials with a similar porosity, e.g. re-instatement of excavated materials, as the surrounding environment would mitigate the ground gas / vapour risks associated with creating a preferential pathway along the length of the onshore cable route.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.12.15	Volume 3.1, Chapter 19 Ground Conditions and Contamination	Human health	Additional mitigation	If a significant source of ground gas / vapour generating material is encountered during construction an assessment should be undertaken to establish the potential risks to human health receptors and potential mitigation measures that may be required. Mitigation measures vary according to the permanence of the construction works, i.e. temporary short-term risks can be managed according to the Health and Safety at Work Act, and monitoring maybe required. It is noted that accumulation is unlikely in open excavations which are vented to atmosphere. With respect to the design of a permanent structure, assessment with respect to the incorporation of ground gas / vapour membranes or venting may be required. It is noted ground gas / vapour sources are not noted in the area of proposed building construction.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Operation and maintenance					
	Volume 3.1, Chapter 19 Ground	Potential contamination during O&M	Embedded mitigation	Following the completion of construction works, the O&M manual for North Falls will be handed to the Applicant by the Principal Contractor. The folder will include information in	This mitigation measure is detailed in the OCoCP submitted with the DCO

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Conditions and Contamination			relation to the residual risks present within the onshore project area. Maintenance workers that are required to undertake ground excavations during the operation of North Falls would be provided with the information contained within the O&M manual regarding the nature of ground conditions within each area so that they can develop site and task specific risk assessments and method statements with their recommendations being implemented. During cable repair / maintenance works and at the onshore substation, all fuels, oils, lubricants, and other chemicals would be stored in an impermeable bund with at least 110% of stored capacity. Spill kits would be available on site and an Emergency Response Plan (ERP) (or similar) would be developed and recorded within the O&M manual. The ERP will outline the mitigation measures to be undertaken in the event of an uncontrolled release of hazardous materials.	application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Decommissioning					
None proposed					
Monitoring commitments					
Groundwater and ground gas monitoring may be required as part of any pre-construction targeted GIs that may be required in order to determine the site characteristics of the onshore project area and if they pose a potential risk to human health, groundwater and surface water receptors.					

2.13 Onshore air quality (Chapter 20)

Table 2.13 Mitigation and monitoring in relation to onshore air quality

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.13.1	Volume 3.1, Chapter 20 Onshore Air Quality	Construction air quality effects arising from Non-Road Mobile Machinery (NNRM)	Embedded mitigation	Mitigation measures specific to Non-Road Mobile Machinery (NRMM) are outlined within the Project's OCoCP submitted as part of the Project's DCO application and will be secured within the final CoCP submitted post-consent. NRMM and plant should be well maintained. If any emissions of dark smoke occur, then the relevant machinery should stop immediately, and any problem rectified. In addition, the following controls should apply to NRMM: • All NRMM should use fuel equivalent to ultralow sulphur diesel (fuel meeting the specification within EN590:2004) where practicable; • All NRMM should comply with the appropriate NRMM regulations; • All NRMM would be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting); • The ongoing conformity of plant retrofitted with DPF, to a defined performance standard, should be ensured through a programme of onsite checks; and • Fuel conservation measures should be implemented, including instructions to (i) throttle down or switch off idle construction equipment; (ii) switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded and (iii) ensure equipment is properly maintained to ensure efficient fuel consumption.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Consideration will also be given to the siting of NRMM within the working area. Where practicable, locating generators and plant at the greatest distance from receptors will reduce the potential for air quality effects.	
2.13.2	Volume 3.1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	**Communications** • Develop and implement a stakeholder communications plan that includes community engagement before work commences on site. • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager. • Display the head or regional office contact information.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.13.3	Volume 3.1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	The Project is committing to industry good practice dust management measures, as described below. **Dust Management** • Develop and implement a Dust Management Plan (DMP) (this will form part of the CoCP), which may include measures to control other emissions, approved by the local authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes. • Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary. • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked. • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site. • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud. • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				re-used on site. If they are being re-used on-site cover as described below. • Manage stockpiles to prevent wind whipping. • Ensure all vehicles switch off engines when stationary – no idling vehicles. • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate). • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials. • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). Further details provided in ES Chapter 27 Traffic and Transport (Document Reference: 3.1.29). • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				soon as reasonably practicable after the event using wet cleaning methods. • Avoid bonfires and burning of waste materials.	
2.13.4	Volume 3.1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	**Construction dust management** • Ensure sand and other aggregates are stored in appropriate manner to minimise dust generation for example the use of bunded areas. • Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. • For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.13.5	Volume 3.1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	**Earthworks dust management** • Manage earthworks and exposed areas/soil stockpiles to stabilise surfaces. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.13.6	Volume 3.1, Chapter 20 Onshore Air Quality	Construction dust effects upon sensitive receptors	Additional mitigation	**Trackout dust management** • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Record all inspections of haul routes and any subsequent action in a site logbook. • Install hard surfaced haul routes where practicable, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. • Locate access gates at least 10m from receptors where possible.	Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Operation and maintenance					
None proposed					
Decommissioning					
None proposed					
Monitoring commitments					
None proposed					

2.14 Water resources and flood risk (Chapter 21)

Table 2.14 Mitigation and monitoring in relation to water resources and flood risk

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.14.1	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	**Trenchless crossings** All Main Rivers will be crossed using trenchless techniques such as HDD to avoid direct interaction with these watercourses. Most Ordinary Watercourses will also be crossed using trenchless techniques. To mitigate the impact of a breakout of drilling lubricant, a horizontal directional drilling method statement will be subject to DCO Requirement prior to commencement of construction activities. It will detail both the measures proposed to reduce the risk of a breakout occurring, and the contingency plans steps to reduce the extent of the breakout and to clean up the spill should it occur. In summary, these steps include: • Pre-drilling ground conditions assessment and hydrofracture modelling to target formations with lower risk of breakout; • Use of drill casing in softer, surface deposits; • Constant fluid monitoring during drilling, so that a breakout can be identified as soon as it occurs; • Provision of appropriate spill management supplies and staff training on breakout management on site; • Process of containment and spill removal once a spill has been identified. An Outline a horizontal directional drilling method statement has been submitted alongside the DCO application (Document Reference: 7.15).	Development of a horizontal directional drilling method statement and contingency plan is secured by Schedule 3, Part 1, Requirement 23 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.14.2	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	**Haul road crossings** Temporary bridges may be used as options to traverse Main Rivers where direct access is not readily available from both sides. Selection of a crossing technique for Ordinary Watercourses not crossed using trenchless techniques will be dependent on local site conditions and may include the use of temporary culverts. If temporary culverts are required they will be adequately sized to avoid impounding flows (including allowing for increased winter flows as a result of climate change) and the invert set below bed level to allow bedload transport.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.14.3	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects on surface watercourse	Embedded mitigation	**Trenched crossings** Where temporary dams are used: • The onshore export cables would typically be a minimum of 3 m below the channel bed (dependent on local geology and geomorphological risks). This would avoid exposure during periods of higher energy flow when the bed could be mobilised. This depth takes into consideration anticipated climate-change related changes in fluvial flows and erosion that will occur over time; • The amount of time that temporary dams or flumes are in place will be kept to a minimum; • Flumes or pumps would be adequately sized to ensure that flows downstream are maintained whilst minimising upstream impoundment; • Scour protection would also be used to protect the river bed downstream of the dam from high energy flow at the outlets of flumes and pumps; • If a diversion channel is required, geotextiles or similar techniques will be used to line the channel and prevent sediment entering the watercourse; • Vegetation would not be removed from the banks unless necessary to undertake the works, in which case removal would be restricted to the smallest practicable footprint;	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Channel bed and banks would be sympathetically reinstated (e.g. by replacing re-sectioned banks with more natural profiles that are typical of the natural geomorphology of the watercourse); • Prior to dewatering the area between the temporary dams, a fish rescue would be undertaken.	
2.14.4	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects on agricultural drainage	Embedded mitigation	The Applicant will appoint a land drainage consultant to develop pre-and post-construction drainage plans. Additionally, land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An outline CoCP will be submitted with the DCO application and this will include outline soil management measures and outline the mitigation measures and industry good practice techniques, which contractors would be obliged to comply with. The DCO will contain a requirement to submit a final CoCP and SMP (which must be in accordance with the Outline CoCP) prior to commencement of construction.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.14.5	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects arising from sediment supply to watercourses	Embedded mitigation	Construction activities will adhere to industry good practice measures as detailed in the Environment Agency's PPG notes (PPG1, PPG5, PPG8 and PPG21). Although the Environment Agency's PPG notes have been revoked in England, they have been updated as Guidance for Pollution Prevention (GPP notes) for use in Scotland and Northern Ireland (NetRegs, 2022). Updates are included in the measures listed below. Construction Industry Research and Information Association (Construction Industry Research and Information Association (CIRIA)) best practice (Control of water pollution from construction sites: Guidance for consultants and contractors (C532) (2001)) will also be adhered to. Specific measures will potentially include: • Minimising the amount of time stripped ground and soil stockpiles are exposed; • Only removing vegetation from the area that needs to be exposed in the near future;	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Seeding or covering stockpiles; • Using geotextile silt fencing at the toe of the slope, to reduce the movement of silt – this should be installed before soil stripping has begun and vehicles start tracking over the site; • On-site retention of sediment to be maximised by routing all drainage through the site drainage system; • Include measures to intercept sediment runoff at source in the drainage system using suitable filters to remove sediment from water discharged to the surface drainage network; • Plant and wheel washing is carried out in a designated area of hard standing at least 10m from any watercourse or surface water drain, rock outcrop (hard rock at surface) or karstic sinkhole; • Traffic movements would be restricted to minimise surface disturbance; • Collect run-off in lagoons and allow suspended solids to settle before disposal; • Divert clean water away from the area of construction work in order to minimise the volume of contaminated water; and • Routing the cable to avoid water resources and flood risk receptors where possible. In locations where large areas of exposed ground lie adjacent to watercourses, buffer strips of vegetation will be retained where possible to prevent runoff. Other embedded best practice measures include: • Limiting the extent of open excavations along the onshore cable route to short sections at any one time (work fronts). Topsoil would be stripped from the entire width of the onshore cable route for the length of the work front, then stored and capped to minimise erosion from wind and rain; and • Temporary works areas (e.g., construction compounds and trenchless crossing areas) within the onshore project area may comprise hardstanding of permeable material,	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				such as gravel aggregate or alternatively matting/timber or similar, underlain by geotextile or another suitable material to a minimum of 50% of the exposed area. This would minimise the area of open ground. • At the onshore substation temporary swales are proposed along the perimeter of the construction compound to intercept and attenuate runoff (and sediment) before discharge to a temporary attenuation pond via a filter drain/pipe running along the length of the temporary haul road (the temporary ponds will be located in Tenpenny Brook's catchment). Full details of the construction drainage strategy at the onshore substation can be found in the Outline Operational Drainage Plan (Document Reference: 7.19).	
2.14.6	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects arising from supply of contaminants	Embedded mitigation	Specific measures relevant to the prevention of contaminant supply to water bodies will prevent the immediate discharge of contaminated water and sediment from the onshore cable route into the surface drainage network, and will include: • Situating concrete and cement mixing and washing areas at least 10m away from the nearest water body. These areas will incorporate settlement and recirculation systems to allow water to be re-used. All washing out of equipment would take place in a contained area and the water collected for disposal off-site; • Storing all fuels, oils, lubricants and other chemicals in impermeable bunds with at least 110% of the stored capacity, with any damaged containers being removed from site. Refuelling would take place in a dedicated impermeable area, using a bunded bowser, located at least 10m away from the nearest water body; • Ensuring that spill kits are available on site at all times as well as sand bags and stop logs for deployment on the outlets from the site drainage system in case of emergency spillages; • Foul drainage (e.g., from construction welfare facilities) will be collected through mains connection to an existing	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				mains sewer (if such a connection is available) or collected in a septic tank located within the DCO order limits and transported off site for disposal at a licensed facility with appropriate treatment capacity within its existing permit; • During construction, the onshore cable installation will be designed such that it will be bounded by parallel drainage channels (one on each side) to intercept drainage within the working width. Additional drainage channels will be installed to intercept water from the cable trench. This will be discharged at a controlled rate into local ditches or drains via temporary interceptor drains. Depending upon the precise location, water from the channels will be infiltrated or discharged into the existing drainage network; • Construction drainage will be developed and implemented to minimise water within the cable trench and ensure ongoing drainage of surrounding land. If water enters the trenches during installation from surface runoff of groundwater seepage, this will be pumped via settling tanks, sediment basins or mobile treatment facilities to remove sediment, before being discharged into local ditches or drains via temporary interceptor drains. Existing land drains will be reinstated following construction; • Potential contaminants will be stored under cover to prevent rainwater carrying pollutants away; and • Potential contaminants will be stored in a safe place away from vehicles, to prevent collisions. In addition, buffer strips of vegetation will be retained adjacent to water bodies where possible, to intercept any contaminated runoff. During operation of the substation the proposed drainage system and treatment train is to be designed to comply with the water quality design criteria outlined in the CIRIA SuDS manual. Full details of the operational drainage strategy at the	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				onshore substation can be found in the Outline Operational Drainage Plan (Document Reference: 7.19). To protect groundwater bodies, excavation will be shallow, except where below road or rail infrastructure and water bodies, where it may be deeper. At HDD locations GIs and a hydrogeological risk assessment meeting the requirements of The Environment Agency's Approach to Groundwater Protection (Environment Agency, 2018), will be undertaken at each major trenchless crossing location.	
2.14.7	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Changes to surface and groundwater flows and flood risk	Embedded mitigation	• Changes in surface water runoff resulting from the increase in impermeable area following construction of the onshore cable route, and particularly the onshore substation, would be attenuated and discharged at a controlled rate, in consultation with the Lead Local Flood Authority (LLFA) (Essex County Council) and the Environment Agency, and potentially Anglian Water (if a connection to their drainage infrastructure is required during construction of the onshore substation). An Operational Drainage Plan will be developed in consultation with the relevant regulators and approved by the relevant planning authority. • As described above for watercourse crossings, the Applicant will appoint a land drainage consultant to develop pre-and post-construction drainage plans. Land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An outline CoCP including outline soil management measures will be submitted with the DCO and the DCO will contain a requirement to submit a final CoCP and SMP prior to commencement of construction. • During construction, the onshore cable installation would be designed such that it will be bounded by parallel drainage channels (one on each side) to intercept drainage within the working width. Additional drainage channels would be installed to intercept water from the	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				cable trench. This would be discharged at a controlled rate into local ditches or drains via temporary interceptor drains. Depending upon the precise location, water from the channels would be infiltrated or discharged into the existing drainage network. • Construction drainage would be developed and implemented to minimise water within the cable trench and ensure ongoing drainage of surrounding land. If water enters the trenches during installation from surface runoff of groundwater seepage, this would be pumped via settling tanks, sediment basins or mobile treatment facilities to remove sediment, before being discharged into local ditches or drains via temporary interceptor drains. Existing land drains would be reinstated following construction. • As described for watercourse crossings, temporary culverts will be adequately sized to avoid impounding flows. • At the onshore substation temporary swales are proposed along the perimeter of the construction compound to intercept and attenuate runoff before discharge to a temporary attenuation pond via a filter drain/pipe running along the length of the temporary haul road (the temporary pons will be located in tenpenny Brook's catchment). Full details of the construction drainage strategy at the onshore substation can be found in the Outline Operational Drainage Plan (Document Reference: 7.19).	
2.14.8	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Groundwater quality and abstractions for public water supply	Embedded mitigation	• The onshore cable route has been developed to avoid interaction with groundwater Source Protection Zone 1, and therefore minimise the potential for impact on abstractions for public water supply. • GIs and a hydrogeological risk assessment meeting the requirements of the Environment Agency's Approach to Groundwater Protection (Environment Agency, 2018), will be undertaken at each HDD crossing location.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• A written scheme dealing with contamination of any land and groundwater will be submitted and approved by the relevant planning authority before construction activities commence.	
Operation and maintenance					
2.14.9	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Effects arising from supply of contaminants	Embedded mitigation	Measures described in 2.14.6.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.14.10	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Changes to surface and groundwater flows and flood risk	Embedded mitigation	Measures described in 2.14.7. During operation of the substation, the current strategy is to discharge all surface water runoff from impermeable surfaces across the scheme at restricted rates into an unnamed ordinary watercourse located to the south of the overall site. Discharge will be at the undeveloped greenfield rate. The onshore substation design includes a permanent attenuation pond and attenuation swale for the access road. Full details of the operational drainage strategy at the onshore substation can be found in the Outline Operational Drainage Plan (Document Reference: 7.19).	Detailed in the Outline Operational Drainage Strategy submitted with the DCO application (Document Reference: 7.19). Development of an Operational Drainage Strategy is secured by Requirement 22 of the Draft DCO (Schedule 1, Part 3, Requirement 22)
2.14.11	Volume 3.1, Chapter 21 Water Resources and Flood Risk	Groundwater quality and abstractions for public water supply	Embedded mitigation	Measures described in 2.14.8.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Decommissioning					
None proposed					
Monitoring commitments					
As there are designated sites within the onshore project area (e.g., Holland Haven Marshes Site of Special Scientific Interest (SSSI)) water quality monitoring may be required. Parameters would be agreed with the Environment Agency but may include a range of metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), petroleum hydrocarbons and general inorganics (pH, biochemical oxygen demand (BOD), dissolved oxygen, suspended and dissolved solids).					

2.15 Land use and agriculture (Chapter 22)

Table 2.15 Mitigation and monitoring in relation to land use and agriculture

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.15.1	Volume 3.1, Chapter 22 Land Use and Agriculture	Effects on agricultural drainage	Embedded mitigation	The Applicant will appoint a land drainage consultant to develop pre- and post-construction drainage plans. Additionally, land drainage systems will be maintained during construction and land drainage would be reinstated following completion of construction works during the reinstatement phase. An OCoCP (Document Reference: 7.13) is being submitted with the DCO application and this will include outline soil management measures and outline the mitigation measures and best practice techniques, which contractors would be obliged to comply with. The DCO will contain a requirement to submit a final CoCP and	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3,

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				SMP (which must be in accordance with the OcoCP) prior to commencement of construction.	Requirement 8 of the Draft DCO.
2.15.2	Volume 3.1, Chapter 22 Land Use and Agriculture	Temporary loss of agricultural land	Embedded mitigation	Wherever practicable, access to severed land for farm vehicles and agricultural machinery will be maintained. Where necessary and feasible, crossing points would be discussed and agreed with landowners and occupiers by the Agricultural Liaison Officer (ALO) pre-construction. Where practicable and in order to reduce impacts on agricultural productivity, the planning and timings of works will be discussed with landowners and occupiers. An outline CoCP (Document Reference: 7.13) is being submitted with the DCO application, this includes appointment of an ALO and appropriate discussions to be had with landowners, which contractors would be obliged to legally comply with. Following construction, the Project will reinstate the surface of the affected land to a condition similar to that which existed prior to entry being taken, and as evidenced by a pre-entry schedule of condition. A Schedule of Condition will be undertaken prior to entry to assess the soil composition and depth of topsoil. Prior to construction, a SMP will be prepared along with a soil sampling survey. This information will be used during reinstatement to ensure the soils are returned to their former condition suitable for previous use. Contractors will abide by DEFRA's 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance, ensuring the working area will be reinstated to its pre-existing condition as far as reasonably practical. Habitat reinstatement method statements will be implemented for all habitats reinstated following the completion of construction (including semi-improved grassland, hedgerows and arable field margins).	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.15.3	Volume 3.1, Chapter 22 Land Use and Agriculture	Loss of soil to erosion	Embedded mitigation	An SMP, including a Construction Method Statement (CMS) for soil handling, will be completed in advance of construction by a suitable and competent soil specialist, who will have experience of working in the Essex region if reasonably possible, and agreed with the relevant planning authority in advance of the works.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Measures set out in the MAFF (2000) Good Practice Guide for Handling Soils and Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites will be adopted and included in the SMP, secured within the CoCP, including: • Consider the weather conditions where it is appropriate to work for each soil type; • Store soil appropriately; • Ensure effective drainage systems are used during construction; • Reinstate drainage systems following construction; • Reinstate and plant vegetation following completion of the construction works; and • Produce a SMP outlining the mitigation measures and best practise techniques, which contractors would be obliged to comply with.	Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.15.4	Volume 3.1, Chapter 22 Land Use and Agriculture	Soil degradation	Embedded mitigation	Mitigation measures to further reduce the effect of the construction activities include developing a SMPas part of the CoCP, secured through DCO Requirement, which will set out procedures for the appropriate handling of soils during the construction works, including: • Using a competent contractor for soil handling, storage and reinstatement under Defra (2009) Construction code of practice for the Sustainable Use of Soils on Construction Sites; • Storing topsoil adjacent to where it is stripped, where practicable; • Seeding of topsoil bund with clover mix to fix nutrients and keep the soil live, therefore limiting soil loss and requirement for significant inputs when reinstated; • Storage of the excavated subsoil separately from the topsoil, with sufficient separation to ensure segregation; • Handling of soils according to their characteristics; • Limiting mechanised soil handling in areas where soils are highly vulnerable to compaction during wet weather; • Restricting movements of heavy plant and vehicles to specified routes; and • Minimise excavation footprint as much as reasonably possible.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.15.5	Volume 3.1, Chapter 22 Land Use and Agriculture	Effects on agri-environmental schemes	Embedded mitigation	The embedded mitigation relating to agri-environment schemes will be the avoidance of land parcels that are subject to Environmental Stewardship Schemes or Countryside Stewardship Schemes, wherever possible. The Principal Contractor would be required to comply with the SMP, as detailed in the CoCP, which will include measures for the reinstatement of soils post-construction. In general, it is considered that any ecological losses associated with impacts to agri-environment schemes will be mitigated through the embedded mitigation set out in Chapter 23 Onshore Ecology (see Table 2.16 below). This includes mitigation relating to habitat reinstatement, in particular around hedgerows, arable field margins and semi-improved grassland habitats.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Operation and maintenance					
None proposed					
Decommissioning					
None proposed					
Monitoring commitments					
None proposed					

2.16 Onshore ecology (Chapter 23)

Table 2.16 Mitigation and monitoring in relation to onshore ecology

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.16.1	Volume 3.1, Chapter 23 Onshore Ecology	Effects on ecological receptors	Embedded mitigation	Prior to works commencing, North Falls will prepare an Ecological Management Plan (EMP) setting out full details of the ecological mitigation measures which will be adhered to during the Project's construction. This will include: • A programme of works; • A list of roles and responsibilities for ecological mitigation, including the role of an ecological clerk of works (EcoW); • A plan showing ecological constraints; • Full details of best practice mitigation required in relation to all species and habitats affected by the Project; • Full details of any project-specific mitigation identified within this chapter, including habitat creation or protected species mitigation programmes. Any such programmes will be accompanied by mitigation layout plans; • A list of protected species licences and site consents required to facilitate construction; • Habitat reinstatement method statements for all habitats proposed to be reinstated following the completion of construction (including grassland, hedgerows, watercourses and arable field margins – see below); • Any associated standalone mitigation plans, e.g. reptile precautionary method of works, invasive species management plan, etc. as required. As part of the Project's DCO application, an Outline Landscape and Ecological Management Strategy (OLEMS) will be submitted which will set out the ecological mitigation requirements identified within the ES that must be incorporated into the EMP for delivery during the Project's construction. The OLEMS will act as the	Detailed in the OLEMS submitted with the DCO application (Document Reference: 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				single source for all ecological mitigation measures proposed within the ES.	
2.16.2	Volume 3.1, Chapter 23 Onshore Ecology	Effect on ecological receptors	Embedded mitigation	The EMP will include details of best practice for minimising impact to notable habitats and legally protected and notable species, including (but not limited to): • Avoid sensitive times of the year for construction activities, including: ○ Avoid undertaking vegetation removal during the bird nesting season (March – August inclusive, although weather dependent) where practicable. Where this cannot be achieved, a pre-construction check of all nesting habitat is required no more than 48 hours prior to removal. Should a nest be found, a buffer zone (minimum 5m) around the nest must be created, and no works must be undertaken within the buffer zone until the young have fledged. This mitigation also applies to suitable habitat for ground nesting birds. ○ Avoid undertaking above ground vegetation removal during the reptile active period (March – October inclusive) wherever practicable and avoiding undertaking below ground vegetation removal e.g. roots and coppice stools during the reptile hibernation period (November – February inclusive) where practicable. If not practicable, above ground vegetation identified as suitable to support reptiles removed during the reptile active period must be done so whilst adhering to a precautionary method of working (PMoW) for reptiles, supervised by a suitably qualified ecologist. A precautionary methodology for vegetation removal will involve cutting vegetation to a minimum height of 150mm, allowing reptiles to vacate the area as the habitat would be unsuitable for them at such a short vegetation height, allowing an ecologist to search for any reptiles, then once cleared further cutting can take place. For any reptiles found during construction, a suitable translocation area will be	Detailed in the OLEMS submitted with the DCO application (Document Reference: 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				decided upon to re-release the reptiles away from construction activities. • Undertaking pre-construction checks of all habitats identified of being of conservation importance prior to works, to ensure that the ecological constraints identified prior to consent have not changed. • Ensuring security lighting used during construction adheres as far as possible to accepted lighting guidance (Bat Conservation Trust (BCT) and Institute of Lighting Professionals (ILP), 2023), This will include the following measures: ○ Ensure lighting is cowled and angled downwards and does not shine directly on sensitive habitats; ○ Ensure lighting is motion activated to minimise unnecessary light spill; ○ Ensure lighting is localised and limited during construction. • Ensuring industry good practice pollution prevention measures are adhered to at all times to minimise the risk of pollutant release to sensitive habitats. • Best Practical Means (BPM) to be employed during construction to limit dust, odour, and exhaust emissions during construction works, to reduce potential effects upon air quality-sensitive habitat. • All habitats temporarily disturbed during constricted are reinstated in full upon completion of construction. • A 20m standoff will be in place where works on the north side of the SSSI/LNR, to avoid direct impacts on the designated site during construction. • Protective fencing will be installed around retained UK Habitat of Principal Importance (UKHPIs). • A 15m buffer zone will be in place surrounding most areas of ancient woodland to avoid direct impacts during construction, except for Holland Mill Wood where this distance is not possible.	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.16.3	Volume 3.1, Chapter 23 Onshore Ecology	Effects on ecological receptors	Embedded mitigation	North Falls has committed to seeking to use trenchless techniques (e.g. HDD) where possible at all key sensitive linear features, including the following: • Holland Haven Marshes SSI/LNR; • All 'important' hedgerows, and those hedgerows potentially suitable for supporting dormice and/or commuting / foraging bats; • Main rivers and watercourses potentially suitable for supporting water voles / otters; • Veteran trees; • Woodland UKHPI; • Ponds UKHPI. At this stage in the Project's design trenchless techniques cannot be committed to at all locations, where the engineering feasibility of using such techniques needs further assessment before it can be confirmed. The list of crossings where trenchless techniques are committed to is described in Chapter 5 Project Description (Document Reference 3.1.), Appendix 5.1 Crossing Schedule (Document Reference 3.3.2).	Details of crossings where trenchless techniques will be used is provided in the OCoCP. A final CoCP, based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.16.4	Volume 3.1, Chapter 23 Onshore Ecology	Effects on watercourses	Embedded mitigation	At all trenched watercourse crossings, good industry practice measures will be in place to minimise disturbance of the beds, banks and downstream habitats. Where temporary dams are used, the measures set out in Table 2.14 will be undertaken.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.16.5	Volume 3.1, Chapter 23 Onshore Ecology	Effects on watercourses	Embedded mitigation	At all watercourses crossed using trenchless techniques, to minimise the risk of breakout, the measures set out in under the Table 2.14 will be undertaken.	Development of a horizontal directional drilling method statement and contingency plan is secured by Schedule 3, Part 1, Requirement 23 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.16.6	Volume 3.1, Chapter 23 Onshore Ecology	Effects on hedgerows	Embedded mitigation	NFOW have committed to reduce the onshore cable route working width to 30m at hedgerow crossings where open cut trenching is proposed, to minimise the amount of hedgerow removal required. This will be achieved by not including the topsoil/subsoil storage bunds in the onshore cable route working width at hedgerow crossings. Hedgerows will be replanted following construction but note that canopy tree species cannot be replanted within 6m of the buried cables, which will restrict tree planting for a 37m swathe during hedgerow reinstatement (as the maximum width of hedgerow removal is 30m, in practice this restriction will only apply for a maximum 30m swathe). Hedgerow planting would be undertaken in the first winter season following construction.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.16.7	Volume 3.1, Chapter 23 Onshore Ecology	Effects on habitats	Embedded mitigation	All habitats subject to temporary disturbance during construction, will be reinstated in full following the completion of construction. The specific details of the reinstatement will be set out within the EMP for each habitat. The following core principles for habitat reinstatement would be included within the EMP: **Grassland habitats** All topsoil stripped in grassland areas would be stored separately and reinstated following the completion of construction. Topsoil storage would be subject to a Soil Management Plan (secured through a DCO Requirement), which would also detail measures for soil storage and handling. Grassland reseeding would be undertaken using a local seed mix, to be agreed in advance with Natural England and Essex Wildlife Trust. Where practicable, harvesting a green hay crop from the grassland areas being lost will be carried out, for use as seed on the reinstatement and compensation areas. Where practicable the salvage of turves from grasslands areas being lost will be carried out for re-use on the reinstatement and compensation areas. **Trees and hedgerows**	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.13). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				As advised by Essex County Council during the Evidence Plan Process (EPP), all tree and shrub planting undertaken by NFOW will be subject to an up to 10 year after care period. As advised by Natural England during the EPP, all hedgerows within the onshore project area not removed for construction to be allowed, where practicable, to thicken up during construction and operation to facilitate use as feeding and commuting corridors for wildlife. All reinstated hedgerows will be replanted using locally important and native species, as advised by Essex Wildlife Trust. Pre-planting will be carried out where practicable so hedgerows and trees can establish as close as possible to the time of initial habitat loss. **Arable field margins** Efforts will be made to reinstate this habitat, in consultation with Essex Wildlife Trust and the local landowner, to ensure the optimum benefits can be gained from each margin affected. Prior to construction, the arable field margins will be re-surveyed to assess their conservation value. Attempts will then be made to ensure habitat reinstatement takes the form of one of the following (Joint Nature Conservation Committee (JNCC), 2008): • Cultivated, low-input margins (land managed specifically to create habitat for annual arable plants); • Margins sown to provide seed for wild birds (margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter); • Margins sown with wild flowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates; • Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses. The precise nature of the reinstatement will be based on agreement with landowners made post-consent and detailed in the final EMP.	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.16.8	Volume 3.1, Chapter 23 Onshore Ecology	Biodiversity net gain	Embedded mitigation	NFOW are exploring opportunities to deliver a minimum of 10% BNG for the onshore elements of the Project, as articulated within the Environment Act 2021. The Project is engaging with Natural England and other ecological stakeholders and members of the Onshore Ecology ETG to identify suitable projects and plans for delivering this BNG. Further details regarding the location of the Project's BNG are set out within the Biodiversity Net Gain Strategy (Document Reference 7.22). As part of NFOW's BNG targets, habitat creation will be required to off-set losses in biodiversity value within the onshore project area. Habitat creation will be detailed in the EMP and post-consent BNG Assessment Report.	Details of the Project's biodiversity net gain are set out within the Biodiversity Net Gain Strategy, submitted with the DCO application (Document Reference 7.22). Provision of a post-consent biodiversity net gain assessment, and its implementation, is secured by Schedule 1, Part 3, Requirement 21 of the Draft DCO.
2.16.9	Volume 3.1, Chapter 23 Onshore Ecology	Habitat creation	Embedded mitigation	As part of the landscaping, EMP and BNG commitments, habitat creation will be carried out as compensation. Habitat creation will be detailed in the EMP, and will include measures such as: • Increase habitat connectivity, with a specific focus on providing habitat for notable species which may be present in the relevant areas; • New woodland creation and maintenance, to link and/ or fortify the existing habitat network; • Drainage features designed to meet wildlife needs as well as water management requirements. • Hibernacula for reptiles, amphibians and small mammals. • Attenuation pond creation and maintenance for use by amphibians, reptiles and water vole; • Wildflower meadow creation and maintenance; • Installation of bird and bat boxes at appropriate trees/ woodland; and • Ecological improvements to watercourses. The OLEMS (Document Reference: 7.14) provides further details on the proposed habitat creation at the onshore substation.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.10	Volume 3.1, Chapter 23	Effects on trees	Embedded mitigation	An Arboricultural Impact Assessment (AIA) will be undertaken to assess the quality of the existing trees along the length of	Detailed in the OLEMS submitted with the DCO application (Document Reference

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Onshore Ecology			proposed onshore cable route. All reports and plans must comply with 'British Standard 5837:2012 Trees in relation to design demolition and construction – Recommendations' and should provide details on all existing trees and vegetation to be retained and/or removed to facilitate the Project, outlining any Arboricultural impacts and constraints. This will identify any trees within the onshore project area that would pose a constraint to the Project and if they are of sufficient quality to merit protection and/or retention. An Arboricultural Method Statement (AMS) and associated tree protection plans will be required to ensure retained vegetation is adequately protected throughout the course of the Project's construction. Pre-construction tree survey will be undertaken by an appropriately qualified arboriculturist. This survey will define specific mitigation measures that will be implemented to protect trees that are located adjacent to the construction working areas. This will include the identification of root protection areas. The arboricultural report will be submitted to and agreed with the local authority prior to the commencement of any construction works. The AIA and pre-construction walkover will be used to inform the Arboricultural Management Plan provided post-consent.	7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.11	Volume 3.1, Chapter 23 Onshore Ecology	Effects on hedgerows	Additional mitigation	Mitigation measures employed in relation to hedgerows include: • Haul roads will be microsited to use existing hedgerow gaps where possible during the Project's detailed design; • Hedgerow replanting will be undertaken in the first season following the completion of construction. Hedgerows will be replanted using locally important and native species as advised by Essex Wildlife Trust and following the Essex Hedgerow Local Biodiversity Action Plan (LBAP); and • All hedgerow sections permanently removed at the onshore substation would be replaced as part of the Project's landscaping scheme. The details of the outline scheme will be prepared and presented as part of the ES.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.12	Volume 3.1, Chapter 23	Effects on bats	Additional mitigation	Hedgerow removal will be programmed for winter to give bats time to adjust to the change prior to the maternity period.	Detailed in the OLEMS submitted with the DCO application (Document Reference

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Onshore Ecology			Hedgerows will be removed in the preceding winter as close to the onset of works as possible, and works will not commence after nights of poor weather (in case of bad weather roosts being used). Hedgerow replanting will follow in the first winter after construction, with the exception of the 6m gap required for the haul road, which will be replanted following the completion of onshore construction (i.e. after at most 18 months). Replanting will follow guidance to encourage insect biomass (Collins, 2023). Future hedgerow management to include allowing standard trees to develop during the period of aftercare (up to 10 years) to improve quality of the hedgerow as a foraging resource. The Project will seek to retain as many mature trees as practicable given the benefits they provide within linear commuting / foraging features. Pre-construction surveys will be undertaken in advance of works commencing. If any new features identified as supporting bats require removal during these surveys, this will be completed under a Natural England European Protected Species (EPS) mitigation licence. Confirmed roosting sites that cannot be retained will be removed pre-construction, in line with the EPS mitigation licence method statement and BCT best practice guidelines: gently taking down the structure in sections and leaving them on the ground for 24 hours to allow any bats to vacate the feature(s). Where roosts of low conservation significance are lost to the Project, bat boxes will be installed as mitigation (Bat Conservation Trust, 2016). The type of bat box needed will depend on the species found in the onshore project area, and these will be determined once bat field surveys have been concluded.	7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.13	Volume 3.1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	It is considered that the least impactful option for water voles would be to manage the risk of breakout through the Horizontal Directional Drill Method Statement and Contingency Plan, rather than to displace water voles unnecessarily.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.16.14	Volume 3.1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	A pre-construction survey will be undertaken prior to construction to confirm presence of water voles and otters within the onshore project area. If no field signs of water voles or otters are found within 50m of the onshore project area, no specific water vole or otter mitigation will be required. If the presence of water voles or otter holts is confirmed, then mitigation under the appropriate licence regime will be agreed with Natural England.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.15	Volume 3.1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	Wherever practicable, night-time working near watercourses will be avoided or else minimised to reduce indirect impacts of light and noise on water voles and otters. Exit ramps from excavations will be provided at night near watercourses with confirmed presence of otters, to provide them with a means of escape.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.16	Volume 3.1, Chapter 23 Onshore Ecology	Effects on water voles and otters	Additional mitigation	Exit ramps from excavations will be provided at night near watercourses with confirmed presence of otters, to provide them with a means of escape.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.17	Volume 3.1, Chapter 23 Onshore Ecology	Effects on great crested newts	Additional mitigation	North Falls propose to ensure appropriate mitigation for impacts upon great crested newts through Natural England's District Level Licensing (DLL) scheme for Essex. NFOW are seeking to enter the scheme in advance of DCO approval, with a formal application for a DLL being made post-consent. An Impact Assessment and Conservation Payment Certificate (IACPC) is being obtained in advance of DCO approval to formally enter North Falls into the DLL scheme.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.18	Volume 3.1, Chapter 23	Effects on reptiles	Additional mitigation	For those habitat mosaics which support 'good' populations of reptiles, which are potentially directly affected during construction, a reptile translocation programme will be undertaken where necessary. This will be included in the EMP and supervised by an	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Onshore Ecology			ECoW. The translocation programme will follow Natural England's Standing Advice on reptiles (Natural England, 2022) and Herpetofauna Worker's Manual (Gent and Gibson, 2003). It will involve undertaking pre-construction surveys to understand the current population size / distribution, identifying a suitable translocation site which provides the correct habitat features for the population to be translocated and undertaking an appropriate duration of trapping days (to be specified following the pre-construction surveys). Once trapping is complete the site will be cleared using a PMoW to minimise potential impacts upon any remaining individuals.	by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.16.19	Volume 3.1, Chapter 23 Onshore Ecology	Effects on hazel dormice	Additional mitigation	For the three hedgerows where small-scale hedgerow removal is required, the hedgerow is recommended to be cleared during the hibernation period (November to March inclusive) to avoid the risk of killing or injuring individuals during clearance works. In order to the mitigate the effects of habitat fragmentation, temporary hedgerows would be put in place across the gap during the active season (April to October inclusive. These temporary hedgerows would be taken down during the day to allow vehicles to use the haul road, and put back in place overnight when the dormice are active. They would consist of 'dead hedges', or containerised hedges, with the final proposed method being detailed within the EMP. Where practicable, additional feeding sites and nesting boxes would be installed in hedgerows and woodland edges outside of the onshore project area, to accommodate for any hazel dormice disturbed by noise (Bright, Morris and Mitchell-Jones, 2006).	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
Operation and maintenance					
None proposed					
Decommissioning					
None proposed					

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Monitoring commitments					
2.16.20	Volume 3.1, Chapter 23 Onshore Ecology	Effects on hazel dormice	Monitoring	Post-construction monitoring of locations where water voles have been directly affected by construction would be undertaken during the breeding season one year after completion of construction and in line with any licence conditions, to determine the continued presence of the water vole populations.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
Additional monitoring of populations of local protected and notable species may need to be carried out to ensure there is no significant effects on local populations or conservation status. Such species may include, but not be limited to, water vole, badger, hazel dormice and great crested newts. Furthermore, habitat creation proposals, particularly around the substation, will be managed and monitored under an OLEMS which would be submitted as part of the DCO application and finalised before construction.					

2.17 Onshore ornithology (Chapter 24)

Table 2.17 Mitigation and monitoring in relation to onshore ornithology

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.17.1	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Mitigation measures for onshore ornithological receptors are described under items 2.16.1-11 in Table 2.14 above. Details of additional mitigation measures specifically relevant to onshore ornithology receptors are described below.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
					Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.2	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Within the EMP, the following additional mitigation measure to those described in 2.16.1 will be included: • If considered necessary, a list of Schedule 1 bird species' licences and site consents required to facilitate construction.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.3	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	During site selection, the location of the crossing of Holland haven Marshes SSSI was carefully selected to avoid sensitive parts of Holland Haven Marshes SSSI for the breeding and non-breeding bird assemblages, e.g., the lagoon and adjacent wetland areas. Suitable screening would be erected for the duration of HDD work at landfall, around the landfall compound, in order to reduce the likelihood of visual or noise disturbance to birds utilising Holland Haven Marshes SSSI and adjoining land. Further information will be included within the EMP developed post-consent, secured by DCO Requirement. To avoid potentially significant disturbance effects to SSSI/SPA qualifying features using functionally-linked land within the onshore project area, suitable temporary screening may be erected around any other discrete locations of importance for birds (for example a particular agricultural reservoir used by green sandpipers), for the duration of onshore works within a specified area of possible disturbance, as determined by an ECoW or suitably qualified ornithologist (where required). The requirements for restrictions would be informed by pre-construction surveys and may be seasonal, and therefore screening would only be erected should nearby works overlap with key periods for birds recorded utilising such locations.	This mitigation is secured by the onshore order limits of the Draft DCO. Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.17.4	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	**Habitat reinstatement** Effort would also be made to determine whether it is practicable to create suitable habitat for turtle doves, e.g., tall scrub and dense hedgerow, taking into consideration current good practice advice from sources such as Operation Turtle Dove.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.5	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on barn owl	Additional mitigation	For barn owl, a number of nest boxes are located within and surrounding the Holland Haven Marshes SSSI. Occupancy and breeding success of these is likely to have reduced over time due to the deterioration of the wood constructions and occupation by jackdaws in some of them. Effort would be made in consultation with the Essex Wildlife Trust, Tendring District Council and Natural England, to repair or replace existing nest boxes, or add new ones in suitable locations across the onshore project area to enhance nesting conditions, and ultimately increase the productivity of the local breeding population.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.6	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on grey partridge	Additional mitigation	Soft landscaping works within the onshore substation works area will be sympathetic for the year-round habitat requirements of grey partridge, by providing hedgerows and tree planting with thick, grassy cover on low banks for nesting and semi-improved grassland for chick-rearing. Indicative locations and extents for these landscaping measures are shown on the outline landscaping plan provided in the OLEMS (Document Reference 7.14). Due to its scarcity in the area, grey partridge will be considered as a key species in the EMP to ensure that nesting is unaffected by construction activities. Although not a Schedule 1 species, restrictions to construction (e.g. temporary halts to work) would be deployed by the ECoW during the breeding season if required, to avoid disturbance to adults or broods which may be located away from nest sites.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.17.7	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on quail	Additional mitigation	Although the presence and distribution of quail may vary each year in response to agricultural land use changes, if construction activity is likely to occur during the breeding season within the 27ha field where quails were recorded in 2022 (see Figure 24.23 (Document Reference 3.2.20)), provisions would be made to ensure that the field (or adjacent field within the onshore project area) remains suitable for breeding. This would be achieved by enhancing the areas of unfarmable land in the field so that they provide suitable habitat, for example the growth of permanent (e.g. retained from the previous year), tall and dense vegetation (cereal, linseed and/or grassland).	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.8	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Additional mitigation	Measures will be adopted to minimise noise, light and disturbance on key aggregations of non-breeding birds, such as: keeping existing hedgerows and vegetation for visual screening, or the installation of additional solid or acoustic fencing around compounds or noisy plant where considered necessary. This is of particular relevance to the landfall HDD works near the Holland Haven Marshes SSSI. Construction activity in important areas for non-breeding Important Ornithological Features (IOFs) (e.g., the two agricultural reservoirs near Thorpe-le-Soken used by green sandpipers) would be monitored by the ECoW and should it be determined that construction activities may impact upon non-breeding birds insomuch as to them affecting survival rates, additional mitigation would be deployed, and may include measures such as avoidance of work around dawn and dusk, high tides, or extended periods of cold weather.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
Operation and maintenance					
2.17.9	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on ornithological receptors	Embedded mitigation	Measures described in 2.17.1	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.17.10	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on grey partridge	Additional mitigation	Measures described in 2.17.6	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.17.11	Volume 3.1, Chapter 24 Onshore Ornithology	Effects on barn owl	Additional mitigation	Measures described in 2.17.5	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
Decommissioning					
None proposed					
Monitoring commitments					
Monitoring IOFs breeding populations will be undertaken by the ECoW or a qualified ornithologist during construction phase as part of the EMP, to ensure legal compliance with the Wildlife and Countryside Act 1981 (as amended). It is also anticipated that, depending on the final location of project infrastructure and in the unlikely event HDD works at landfall are undertaken during winter months, monitoring of the Holland Haven Marshes SSSI non-breeding bird assemblages may be undertaken to ensure that there are no significant construction disturbance effects. Similarly, if onshore cable works take place during the non-breeding season within an area of potential disturbance from Hamford Water SSSI, then monitoring would take place to ensure no significant disturbance to the non-breeding bird assemblage. Any habitat creation (e.g. associated with the onshore substation) and reinstatement will require monitoring and maintenance otherwise habitat quality may degrade and negate the original intended mitigation role of the habitats. Such management strategies would be highlighted in the EMP.					

2.18 Onshore archaeology and cultural heritage (Chapter 25)

Table 2.18 Mitigation and monitoring in relation to onshore archaeology and cultural heritage

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.18.1	Volume 3.1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Embedded mitigation	The Project has submitted an Outline Onshore Written Scheme of Investigation (WSI) (Document Reference 7.12) as part of the Project's DCO application. This document will outline the strategy to undertake additional programmes of survey and evaluation post-consent and will include a range of likely mitigation options and responses to be utilised under various scenarios. The OWSI will be prepared in accordance with industry good practice guidance provided by the Chartered Institute for Archaeology (CIfA). Archaeological mitigation is envisaged to comprise a combination of the following recognised standard approaches: • Further advance and enacting of preservation in situ options and requirements (e.g., avoidance / micro-siting / HDD etc., where practicable); • Archaeological excavation: including subsequent post-excavation assessment, and analysis, publication and archiving; • Archaeological monitoring / watching brief: including subsequent post-excavation assessment, and analysis, publication and archiving (where appropriate); and • Earthwork condition surveys: including subsequent reporting and archiving (followed by backfilling and reinstatement, where required on a case-by-case basis).	Provision of and compliance with an Onshore WSI in accordance with the Outline Onshore WSI is secured through Requirement 11 of the Draft DCO (Schedule 1, Part 3, Requirement 11)
2.18.2	Volume 3.1, Chapter 25 Onshore	Effects on geoarchaeological / palaeoenvironmental remains	Additional mitigation	Further evaluation of potential geoarchaeological / palaeoenvironmental remains is likely to include a programme of geoarchaeological monitoring of engineering-led GI works to	Provision of and compliance with an Onshore WSI in accordance with the Outline Onshore WSI is secured through Requirement 11

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Archaeology and Cultural Heritage			inform mitigation approaches such as geoarchaeological assessment and palaeoenvironmental survey.	of the Draft DCO (Schedule 1, Part 3, Requirement 11)
2.18.3	Volume 3.1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on Historic Landscape Character	Additional mitigation	Impact to the Historic Landscape Character (including hedgerows and parish boundaries) will be minimised by returning field boundaries / areas / hedgerows to their pre-construction condition and character post-construction, as part of a sensitive programme of backfilling and reinstatement / landscaping. Certain hedgerows and field boundaries (e.g., parish boundaries) may require recording prior to the construction process and enhanced provisions made during reinstatement.	Provision of and compliance with an Onshore WSI in accordance with the Outline Onshore WSI is secured through Requirement 11 of the Draft DCO (Schedule 1, Part 3, Requirement 11)
2.18.4	Volume 3.1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Additional mitigation	The preferred and optimum mitigation measure is preservation in situ, wherever practicable. By avoiding sub-surface archaeological remains (sites / features), either largely or in their entirety (as indicated by existing and available data), the magnitude of impact may be reduced depending on the extent of the site / feature in question (with reference to change or impact upon heritage significance) and the degree to which preservation in situ has been applied. Each site will be considered on a case-by-case basis and with consideration of the principles presented in the Historic England document 'Preserving Archaeological Remains' (2015) to ensure preservation is the correct decision for the archaeological remains in question. Where avoidance is not practicable, significant impacts upon sub-surface archaeological remains will, to a degree, be offset by the application of appropriate alternative mitigation measures (such as archaeological recording) which serve to preserve archaeological remains, where present, by record (e.g., following intrusive evaluation and subsequent excavation, where required).	Provision of and compliance with an Onshore WSI in accordance with the Outline Onshore WSI is secured through Requirement 11 of the Draft DCO (Schedule 1, Part 3, Requirement 11)

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.18.5	Volume 3.1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Embedded mitigation	The onshore substation will be designed to reduce the overall height and massing of associated structures and other elements as far as practicable. Landscape proposals will include measures for the enhancement of local biodiversity during the operational phase of the onshore substation. This will include landscape screening of the onshore substation through hedgerow and woodland planting. Once matured, this will help to integrate the onshore substation into the existing landscape of arable fields and boundary trees/hedgerows.	Onshore substation design details and landscaping are secured through Requirements 6 and 7of the Draft DCO (Schedule 1, Part 3, Requirements, 6 & 7)
2.18.6	Volume 3.1, Chapter 25 Onshore Archaeology and Cultural Heritage	Effects on onshore archaeological and cultural heritage features	Embedded mitigation	The layout of the offshore wind turbines will be designed appropriately to reduce visual effects, taking into account other constraints such as ecological effects, safety reasons or engineering and design parameters. The final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent based on the findings of pre-construction surveys.	Offshore turbine design details are secured through Requirement 2 of the Draft DCO (Schedule 1, Part 3, Requirement 2).
Decommissioning					
None proposed					
Monitoring commitments					
Monitoring requirements for onshore archaeology would be described in the Outline WSI (Onshore) submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction taking account of the final detailed design of North Falls. Direct (physical) impacts would be offset or reduced through either preservation in situ or archaeological fieldwork and reporting, undertaken by professional archaeologists and monitored by Essex County Council Historic Environment Service (Place Services) on behalf of Tendring District Council.					

2.19 Noise and vibration (Chapter 26)

Table 2.19 Mitigation and monitoring in relation to noise and vibration

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.19.1	Volume 3.1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Embedded mitigation	BPM implemented during the construction phase, detailed in the CoCP secured through a DCO Requirement. An Outline CoCP (Document Reference 7.13) has been submitted with the DCO application. The OCoCP identifies the normal working hours for the project as 07:00 and 19:00 hours Monday to Saturday, except in emergency or unplanned situations. The period between 13:00 and 19:00 on a Saturday is classified as an evening, see Table 26.7, ES Chapter 26 Noise and Vibration (Document Reference 3.1.28), and as such is subject to a more stringent construction noise limit than the daytime. The OCoCP specifies that construction work carried out during Saturday afternoon between the hours of 13:00 and 19:00 will be lighter duties that are much quieter than those carried out at other times, except for trenchless crossing works. The proposed trenching construction works include the creation of top soil bunds. These have been assumed to reduce noise emissions from the following construction activities by 5 dB: • Trench excavation and backfill • Jointing bay excavation and backfill • Trenchless crossing works	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.19.2	Volume 3.1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Additional mitigation	Where, in spite of the embedded mitigation, including the project design process and BPM, significant effects are anticipated to remain, the following further mitigation	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				measures will be considered and included in the CoCP, where applicable and practicable: • Limiting working hours to avoid the most noise-sensitive times such as weekends; • Selection of quieter plant, equipment or working methods; • Use of additional silencers and/or enclosures around noisy equipment; • Reduced numbers of plant during sensitive periods; • Reduced on-time of plant during sensitive periods; • Increased separation distance between works and Noise and Vibration Sensitive Receptors (NVSRs); • Interspersing of noisy works between quieter works to provide periods of respite; • Phasing of the works to ensure that the noisiest operations are performed during the least sensitive times and vice-versa; and • Review of the construction programme to minimise the duration of the works at the closest approach to properties where possible to give periods of respite.	Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.19.3	Volume 3.1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors	Additional mitigation	**Temporary screening** BS 5228-1 indicates that screening provides 5 to 10dB of attenuation, but the effectiveness is dependent on the position of the barrier between the source and receiver and its height. The standard states: “assume an approximate attenuation of 5 dB when the top of the plant is just visible to the receiver over the noise barrier, and of 10 dB when the noise screen completely hides the sources from the receiver”.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.19.4	Volume 3.1, Chapter 26 Noise and Vibration	Effects on noise sensitive receptors arising from off-site construction traffic	Additional mitigation	The off-site construction road traffic is predicted to result in large noise level changes at the majority of NSRs on Bentley Road, although these are only anticipated to result in significant effects at CTR1. The following potential measures to mitigate all these road traffic noise effects have been identified:	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured

				• Temporary screening between the road and the NVSR. This is potentially feasible for the majority of the NVSRs, and, if line of sight from the road is blocked, this should reduce road traffic noise levels by around 10dB;
				• A reduction in peak Light Vehicle (LV) trips through the promotion of car-sharing or contractor provided minibuses, etc;
				• A reduction in peak daily heavy goods vehicle (HGV) trips through measures such as:
				  ○ Stockpiling of materials to reduce peak daily HGV demand;
				  ○ Backhauling, i.e. using laden vehicles to import stone and export excavated material;
				  ○ Optimising the size of HGVs to reduce the total number;
				  ○ Incentivising the appointed construction Contractor to seek engineering refinements to reduce material quantities and therefore HGV numbers; and
				  ○ The reuse of materials onsite to reduce offsite HGV trips, e.g. using excavated materials to form bunds, etc.
				• A temporary reduction in the speed limit along Bentley Road.
					secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
					This mitigation measure is also detailed in the Outline Construction Traffic Management Plan (OCTMP) (Document Reference 7.16). Development of, and compliance with, a Construction Traffic Management Plan (CTMP) in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

2.19.5	Volume 3.1, Chapter 26 Noise and Vibration	Effects on vibration sensitive receptors	Additional mitigation	Additional vibration mitigation measures which could be implemented are the following: • Choosing alternative, lower impact equipment or methods wherever possible; • Scheduling the use of vibration-causing equipment, at the least sensitive time of day; • Routing, operating or locating high vibration sources as far away from sensitive areas as possible; • Sequencing operations so that vibration-causing activities do not occur simultaneously; and • Keeping equipment well maintained.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.19.6	Volume 3.1, Chapter 26 Noise and Vibration	Effects on vibration sensitive receptors arising from operational onshore substation	Embedded mitigation	A number of mitigation options are available that can be applied as appropriate. These include, but are not limited to, one or a combination of the following: electrical components with reduced sound power levels, enclosures or localised screening around selected noisy components, a noise barrier around some or all of the onshore substation and using buildings and other structures within the onshore substation to form a noise barrier. The onshore substation will be located in the same onshore substation works area as the Five Estuaries Offshore Wind Farm onshore substation. The proposed substation area for the National Grid Electricity Transmission Norwich to Tilbury project is also in close proximity to the proposed onshore substation works area. Discussions between the promoters and EIA specialists of each project identified a need to define operational noise level limits for each onshore substation, such that cumulative noise levels do not exceed the LOAEL (35dB $L_{Ar,Tr}$). The proposed limits for each project are provided in Table 26.37of ES Chapter 26 Noise and vibration (Document Reference 3.1.28). Compliance with these limits will be secured by DCO Requirement.	Noise limits are secured by Requirement 17 of the Draft DCO (Schedule 1, Part 3, Requirement 17).
Decommissioning					
None proposed					
Monitoring commitments					
All predicted North Falls residual effects are identified to be not significant; hence, noise and vibration monitoring is not anticipated to be required. However, the assessment of cumulative road traffic noise effects in ES Chapter 26 Noise and Vibration (Document Reference 3.1.28) indicates the potential for significant effects at the receptors on Bentley Road. Noise monitoring may be required to determine the presence of a significant cumulative effect and further mitigation. Construction noise and vibration will be monitored in line with the final CoCP, which will detail the procedure for dealing with complaints and managing potential exceedances of relevant noise and vibration criteria.					

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
The DCO would require a noise investigation protocol to be prepared and implemented. This would require a scheme for monitoring noise levels and assessment to be set out in the event of a complaint about noise from the onshore substation.					

2.20 Traffic and transport (Chapter 27)

Table 2.20 Mitigation and monitoring in relation to traffic and transport

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.20.1	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	An OCTMP (Document Reference 7.16) is submitted with the DCO application. The OCTMP would contain details of measures to control, monitor and enforce HGV movements and would provide details of the mechanisms for managing design of accesses and offsite highway works. The OCTMP would also include 'Travel Plan' measures to manage the number of single occupancy car trips.	Development of a CTMP, based on the OCTMP, is secured by Requirement 9 of the Draft DCO (Schedule 1, Part 3, Requirement 9).
2.20.2	Volume 3.1, Chapter 27 Traffic and Transport	Potential construction-related traffic disturbance within Thorpe-le-Soken	Embedded mitigation	As requested by Essex County Council, HGV movements through Thorpe-le-Soken will be scheduled to occur outside of school start and finish times. These restrictions would be managed through the CTMP.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.3	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	An access strategy has been developed that seeks to reduce the impact of HGV traffic upon the most sensitive communities and to avoid travelling via narrow roads. The access strategy would be facilitated by:	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• The construction of a temporary haul road along the onshore cable route; • The creation of vehicle crossovers; and • Controls on vehicle routing.	secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.4	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	A temporary haul road would be provided to provide safe access for construction vehicles along the onshore cable route, thus reducing the requirement for vehicles to travel via the public highway.	This mitigation measure is detailed in the OCTMP Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.5	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To avoid vehicle access via unsuitable locations, where the onshore cable route and haul road cross certain sensitive roads, no direct access would be provided and vehicles would only be permitted to cross the highway. The proposed access strategy includes: • Little Clacton Road. To avoid construction traffic access via Little Clacton Road, Great Holland, vehicles would access from access (notated AC) AC-2 and travel north on the temporary haul road crossing (notated CR) over Little Clacton Road (CR-1) before travelling north towards the existing railway line. • B1034, Damant's Farm Lane, B1414 and Golden Lane. To reduce the volume of construction traffic routed via Thorpe-le-Soken, access would be taken from the B1035 to the north of the village (through AC-4). Traffic would then travel on the temporary haul road north from AC-4, crossing over at crossing points CR-2, CR-3, CR-4 and CR-5. • Lodge Lane, Wolves Hall Lane, and Stones Green Road. To avoid HGV access via Tendring Green along the B1035, all HGV traffic would access from the north via access AC-6 or AC-7 and travel south on the temporary haul road, crossing over at crossing points CR-8(A or B), CR-7 and CR-6.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Payne's Lane, Spratts Lane, Barlon Road and Ardleigh Road. To avoid construction traffic accessing via these narrow roads, all traffic would access from the east via access AC-9 or AC-11 and travel west on the temporary haul road, crossing over at crossing points CR-9(A), CR-10(A), CR-11(A) and CR-12. These measures are captured in the OCTMP (Document Reference 7.16)	
2.20.6	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	**Landfall access AC-1 and onshore cable route access AC-2, vehicle routeing strategy** To avoid the necessity for HGVs to travel via the B1033 and Thorpe-le-Soken towards the landfall access (AC-1) and onshore cable route (AC-2) it was agreed with Essex County Council (at a meeting on the 5 May 2022, detailed in Appendix 27.4, Volume 3.3Table 2.1) that all HGVs would be routed towards the A133	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.7	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	**Onshore cable route, access AC-4 and AC-5, vehicle routing strategy** To avoid the necessity for HGVs to travel via the B1035 and Tendring Green and Tendring towards access AC-4 and AC-5, it was agreed with Essex County Council (at a meeting on the 5 May 2022 (as detailed in Appendix 27.4, Volume 3.3Table 2.1) that all HGVs would be routed south on the B1035 and then west on the B1033 towards the A133.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.8	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	**Onshore cable route and onshore substation access AC-9, AC-10 and AC-11, vehicle routeing strategy** To avoid the necessity for HGVs to travel via Little Bromley towards the onshore cable route and onshore substation access (AC-9, AC-10 and AC-11), all HGVs would be routed south on Bentley Road, towards the A120.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.9	Volume 3.1, Chapter 27	Construction-related traffic effects	Embedded mitigation	To avoid disruption to transport users whilst the projects cables are installed under road and rail infrastructure,	This mitigation measure is detailed in the OCTMP (Document Reference 7.16).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured

	Traffic and Transport			trenchless crossing techniques will be used at the following locations:
				• The railway line towards Walton-on-the-Naze and Frinton-on-Sea.
				• All A and B roads and the following local roads:
				  ○ Little Clacton Road;
				  ○ Golden Lane;
				  ○ Lodge Lane
				  ○ Wolves Hall Lane;
				  ○ Stones Green Road
				  ○ Bentley Road; and
				  ○ Ardleigh Road.
					Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

2.20.10	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	Where road closures are planned to install the Project's cables under local roads, it is proposed that access would be maintained through the closure for pedestrians and cyclists.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.11	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To avoid disruption to transport users whilst the projects' cables are installed under Lodge Lane and Spratts Lane, temporary road diversions would be established. This would be via agreed diversion routes, via existing private tracks or a temporary access track within the DCO order limits.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.12	Volume 3.1, Chapter 27 Traffic and Transport	Construction-related traffic effects	Embedded mitigation	To facilitate the safe and efficient movement of construction traffic along Bentley Road to AC-9, AC-10 and AC-11 a series of highway improvements have been discussed and agreed with Essex County Council and National Highways (as detailed in Table 2.1). These improvements comprise of: • Widening of the junction of the A120 and Bentley Road; • Widening of Bentley Road to between 6.0 and 6.5m in width;	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• A temporary 40mph speed limit from the junction with the A120 to the existing 40mph speed limit to the south of Little Bromley; and • Provision of a temporary offroad footway/cycleway along Bentley Road from the junction with the A120 to the north of AC-9, AC-10 and AC-11. These measures are captured in the OCTMP (Document Reference 7.16) and described in more detail within the TA (Appendix 27.1, Volume 3.3).	
2.20.13	Volume 3.1, Chapter 27 Traffic and Transport	Amenity	Additional mitigation	To mitigate potentially significant amenity effects along links 25 and 35, the OCTMP (Document Reference 7.16) contains a commitment to manage HGV trips along these links to not exceed the forecast average daily HGV demand.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.20.14	Volume 3.1, Chapter 27 Traffic and Transport	Highway safety effects	Additional mitigation	To mitigate effects on pedestrian and cyclist safety at cluster 8, links 22 and 23, prior to the commencement of construction the condition of the markings and surfacing upon the approach to the roundabout will be reviewed and if markings and high friction surfacing (on the A133 approach to the roundabout) are deemed to require refreshing the Applicant will facilitate conversations with Essex County Council to prioritise the delivery of these maintenance measures. This commitment is outlined within the OCTMP. In addition to the maintenance of this roundabout, measures are outlined in the OCTMP to make North Falls HGV drivers aware of the existing road safety risks at this location and consequently minimise potential impacts, including: • Driver inductions and training • Driver information packs • Near miss reporting These enhanced driver education measures are promoted in addition to those contained in a ‘typical’ CTMP.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.20.15	Volume 3.1, Chapter 27 Traffic and Transport	Operational traffic effects	Embedded mitigation	To provide for operational HGVs to periodically visit the onshore substation to carry out routine checks and maintenance, it may be necessary to implement 'access management measures', such as the use of escort vehicles to allow occasional HGV accessing to the onshore substation to pass oncoming traffic, reducing the potential for delays.	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
Decommissioning					
None proposed					
Monitoring commitments					
An OCTMP (Document Reference 7.16) will be submitted alongside the DCO application and further developed and agreed with stakeholders prior to construction. The OCTMP will provide details of the proposed approach to monitoring of traffic movements associated with North Falls. In summary, these are expected to include commitments to monitoring and reporting of: • Vehicle numbers against agreed targets; • Transgressions of HGVs from routes; • Accidents and near misses; • Highway condition; and • Complaints					

2.21 Human health (Chapter 28)

Table 2.21 Mitigation and monitoring in relation to human health

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.21.1	Volume 3.1, Chapter 28 Human Health	Physical activity effects	Embedded mitigation	At landfall, HDD will be used in order to avoid disturbances to the public and access to the beach. To avoid disruption to transport users, trenchless crossing techniques will be used in certain locations.	Details of crossings where trenchless techniques will be used is provided in the OCoCP. A final CoCP, based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.21.2	Volume 3.1, Chapter 28 Human Health	Journey times and/or reduced access effects	Embedded mitigation	Potential effects on journeys times and access will be minimised through the following: • An OCTMP that will be submitted with the DCO application. o This will contain measures to control, monitor and enforce HGV movements and would provide details of the mechanisms for managing design of accesses and offsite highway works. o It will also include a 'Travel Plan' to manage the number of single occupancy car trips. o Any restrictions requested or agreed with Essex County Council (or other relevant stakeholders) will be managed through the CTMP. o Additional embedded mitigation measures, such as access strategy, crossings, etc., for Project-generated traffic, including AILs, are detailed in Chapter 27 Traffic and Transport (Document Reference 3.1.29)).	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.
2.21.3	Volume 3.1, Chapter 28 Human Health	Workforce health	Embedded Mitigation	The Applicant is committed to providing appropriate Occupational Health and Hygiene services for the construction and operational workforce. The Applicant would promote health and well-being, including occupational health and hygiene and good worker conduct through the	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				preparation and implementation of a Code of Conduct in accordance with the principles in the CoCP, an outline version of which is submitted with the DCO application (Document Reference 7.13). The Applicant provides clear standards for the conduct of its workforce, these include a Code of behaviour/conduct; Employee Rules; Health and Safety; Drugs, Alcohol and Substance Misuse, etc. Drug and alcohol testing would be an integral part of the occupational health service. The Applicant would require Contractors to put in place similar arrangements and enforce a commensurate standard of conduct across the workforce. The Applicant would ultimately reserve the right to remove persons from the Project in the event of unacceptable conduct. Health promotion information would be available to the workforce, e.g. at facilities provided for the construction workforce (see the OCoCP (7.13)).	Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.21.4	Volume 3.1, Chapter 28 Human Health	Physical activity effects	Additional mitigation	Industry best practice mitigation measures have been recommended as part of diversions to help minimise the risk of any behavioural change as a result of unexpected or unknown duration changes. These include: • Providing reopening signs and notices that advertise the reopening of the route and promote active travel connectivity to destinations; and • Liaison with Essex County Council about proposed construction works on Public Rights of Way. These measures will be included within the Outline Public Rights of Way Management Plan (OPRoWMP) (Document Reference: 7.17) submitted along with the DCO application.	Detailed in the OPRoWMP submitted with the DCO application (Document Reference 7.17). Development of, and compliance with, a PRoWMP in accordance with the OPRoWMP is secured by Requirement 24 of the Draft DCO (Schedule 1, Part 3, Requirement 24).
Operation and maintenance					
2.21.5	Volume 3.1, Chapter 28 Human Health	EMFs	Embedded mitigation	The Proposed Development will adopt the International Commission on Non-ionizing Radiation Protection (ICNIRP) guidelines (1999, 2009, 2010) and Government voluntary Code of Practice on EMF public exposure Department of	Details of measures in relation to EMFs is provided in the OCoCP. A final CoCP, based

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Energy and Climate Change, 2012). Such considerations are inherent to the detailed engineering considerations of cable specification and routing. Embedded design for EMF comprises the shielding of part of the cable which is designed to the ICNIRP guidelines (1998) 'Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz)' and guidelines (2010) 'Guidelines for limiting exposure to time-varying electric and magnetic fields (1Hz – 100 kHz)'. Overhead cables will not be used for North Falls. Embedded mitigation includes burying cables. EMF decreases rapidly with distance. Burying cables creates distance between any receptor at the surface (even directly above the cables) and the cable, resulting in a lower field than the cable itself generates. Relevant public EMF exposure guideline limits are noted in NPS EN-5 and would be complied with by the Proposed Development. These guidelines are long standing and have a high safety margin. The levels of exposure that they require would not pose a risk to public health. The Project will provide clear and non-technical information about the electrical infrastructure and its compliance with UK guidance. This information will explain that potential EMF risks have been eliminated through careful design and do not pose a risk to public health.	on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
Decommissioning					
None proposed					
Monitoring commitments					
None proposed					

2.22 Seascape, landscape and visual impact assessment (Chapter 29)

Table 2.22 Mitigation and monitoring in relation to seascape, landscape and visual impact assessment

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.22.1	Volume 3.1, Chapter 29 Seascape, landscape and visual impact assessment	Potential seascape, landscape and visual effects during construction	Embedded mitigation	Following PEIR, the array area has been reduced from 149.5km^2 down to 95km^2. This has involved the complete removal of the former northern array. This has increased the distance from the coast from 22km to approximately 40km at the closest point.	This mitigation is secured through the order limits of the Draft DCO (document reference 6.1).
2.22.2	Volume 3.1, Chapter 29 Seascape, landscape and visual impact assessment	Potential seascape, landscape and visual effects during construction	Embedded mitigation	Following PEIR, the maximum tip height of the wind turbines has been reduced from 397m to 377m above MHWS.	This mitigation is secured through Requirement 2 of the Draft DCO (Schedule 1, Part 3, Requirement 2).
2.22.3	Volume 3.1, Chapter 29 Seascape, landscape and visual impact assessment	Potential seascape, landscape and visual effects during construction	Embedded mitigation	Following PEIR, the number of turbines (assuming the largest turbine model) has been reduced from 40 to 34, and the maximum number of turbines (assuming the smallest turbine model) has been reduced from 72 to 57.	This mitigation is secured through Requirement 2 of the Draft DCO (Schedule 1, Part 3, Requirement 2).
Operation and maintenance					
2.22.4	Volume 3.1, Chapter 29 Seascape, landscape and visual impact assessment	Potential visual effects during operation	Additional mitigation	As described in 2.22.1 to 2.22.3	As described in 2.22.1 to 2.22.3
Decommissioning					
None proposed					
Monitoring commitments					
None proposed					

2.23 Landscape and visual impact assessment (Chapter 30)

Table 2.23 Mitigation and monitoring in relation to landscape and visual impact assessment

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.23.1	Volume 3.1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	North Falls has committed to seeking to use trenchless techniques where practicable at all key sensitive linear features, including: • All 'important' hedgerows and those hedgerows potentially suitable for supporting dormice or commuting / foraging bats; • Watercourses potentially suitable for supporting water voles / otters; • Veteran trees; • Woodland UKHPI; • Ponds UKHPI. At this stage in the Project's design, trenchless techniques cannot be committed to at all locations, where the engineering feasibility of using such techniques needs further assessment before it can be confirmed. The list of techniques being considered at each crossing is described in Chapter 5 Project Description (Document Reference 3.1.7), Appendix 5.1 Crossing Schedule (Crossing Schedule 3.3.2).	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
2.23.2	Volume 3.1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	NFOW have committed to reduce the onshore cable route working width to 30m at hedgerow crossings where open cut trenching is proposed, to minimise the amount of hedgerow removal required. This will be achieved by not including the topsoil/subsoil storage bunds in the onshore cable route working width at hedgerow crossings. Hedgerows will be replanted following construction but note that canopy tree species cannot be replanted within 5m of the buried cables, which will restrict canopy tree planting for a 37m swathe during hedgerow reinstatement.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Hedgerow planting would be undertaken in the first winter season following construction.	
2.23.3	Volume 3.1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during construction	Embedded mitigation	All habitats subject to temporary disturbance during construction, will be reinstated in full following the completion of construction. The specific details of the reinstatement for each habitat will be set out within an Ecological Management Plan. This will be developed post-consent in line with the OLEMS (Document Reference 7.14). The following core principles for habitat reinstatement are included within the OLEMS: **Grassland habitats** • All topsoil stripped in grassland areas would be stored separately and reinstated following the completion of construction. Topsoil storage would be subject to a Soil Management Plan (secured through a DCO Requirement), which would also detail measures for soil storage and handling. Grassland reseeding would be undertaken using a local seed mix, to be agreed in advance with Natural England and Essex Wildlife Trust. • Where practicable, harvesting a green hay crop from the grassland areas being lost will be carried out, for use as seed on the reinstatement and compensation areas. Where practicable the salvage of turves from grasslands areas being lost will be carried out for re-use on the reinstatement and compensation areas. **Trees and hedgerows** • As advised by Natural England during the EPP, all hedgerows within the onshore project area not removed for construction to be allowed, where practicable, to thicken up during construction and operation to facilitate use as feeding and commuting corridors for wildlife. • All reinstated hedgerows will be replanted using locally important and native species, as advised by Essex Wildlife Trust. Pre-planting will be carried out where practicable so	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				hedgerows and trees can establish as close as possible to the time of initial habitat loss. **Arable field margins** Efforts will be made to reinstate this habitat, in consultation with Essex Wildlife Trust and the local landowner, to ensure the optimum benefits can be gained from each margin affected. Prior to construction, the arable field margins will be re-surveyed to assess their conservation value. Attempts will then be made to ensure habitat reinstatement takes the form of one of the following (JNCC, 2008): • Cultivated, low-input margins (land managed specifically to create habitat for annual arable plants); • Margins sown to provide seed for wild birds (margins or blocks sown with plants that are allowed to set seed and which remain in place over the winter); • Margins sown with wildflowers or agricultural legumes and managed to allow flowering to provide pollen and nectar resources for invertebrates; • Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses. The precise nature of the reinstatement will be based on agreement with landowners made post-consent and detailed in the final EMP.	
2.23.4	Volume 3.1, Chapter 30 Landscape and Visual Impact Assessment	Visual impact	Embedded mitigation	Mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process. A Design Vision (Document Reference 2.3) has been developed which sets out principles that will guide the detailed design process post-consent. This was presented at PEIR, and has been further developed in response to input from the Design Council. The Design Vision will ensure that good design is embedded within the approach to the Project post consent.	Details are secured in the Design Vision (Document Reference 2.3) submitted with the DCO application and secured by Requirement 5 (Schedule 1, Part 3, Requirement 5).
Operation and maintenance					

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.23.54	Volume 1Volume 3.1, Chapter 30 Landscape and Visual Impact Assessment	Potential landscape effects during operation	Embedded mitigation	As advised by Essex County Council during the EPP, all tree and shrub planting undertaken by NFOW will be subject to an up to 10 year after care period.	Detailed in the OLEMS submitted with the DCO application (Document Reference 7.14). Development of a EMP is secured by Requirement 12 of the Draft DCO (Schedule 1, Part 3, Requirement 12).
Decommissioning					
None proposed					
Monitoring commitments					
Details of long-term monitoring of the landscape mitigation, for maintenance purposes, are set out in the OLEMS (Document Reference 7.14).					

2.24 Socio-economics (Chapter 31)

Table 2.24 Mitigation and monitoring in relation to socio-economics

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.24.1	Volume 3.1, Chapter 31	Effects upon socio-economic receptors	Embedded mitigation	Community engagement is ongoing and will continue after submission of the DCO and throughout the development of	Detail of this mitigation is provided in the Outline Skills and Employment Plan (OSEP) (Document Reference 7.18). A Skills and

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Socio-Economics			the project. Stakeholders in relation to socio-economics that will be engaged include: • Local authorities; • Landowners; • Local communities; • Education institutions; and • Local suppliers and businesses, including local accommodation suppliers. Consultation will also help ensure that management plans are prepared and implemented sufficiently to mitigate any potential impacts.	Employment Plan in accordance with the OSEP requires to be approved and implemented, as secured by Requirement 18 of the Draft DCO (Schedule 1, Part 3, Requirement 18).
2.24.2	Volume 3.1, Chapter 31 Socio-Economics	Effects associated with air quality	Embedded mitigation	Measures outlined for other topics apply to mitigating socio-economic effects. Please refer to the relevant section above. Summary mitigation which applies to socio-economic receptors includes measures described in 2.13: • Industry good practice dust management mitigation measures • Mitigation measures specific to NNRW	Detailed in the (OCoCP submitted with the DCO application (Document Reference 7.13).
2.24.3	Volume 3.1, Chapter 31 Socio-Economics	Effects associated with noise and vibration	Embedded mitigation	Measures described in 2.19 include: • Implementation of a Code of Construction Practice. • Reduction of construction phase noise and vibration and operational substation noise and vibration.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.24.4	Volume 3.1, Chapter 31 Socio-Economics	Effects associated with traffic and transport	Embedded mitigation	Measures described in 2.20 include: • Implementation of a CTMP • Delivery time restrictions • Strategy for access • Trenchless crossings • Mitigation for crossing private access tracks	This mitigation measure is detailed in the OCTMP (Document Reference 7.16). Development of, and compliance with, a CTMP in accordance with the OCTMP is secured by Schedule 1, Part 3, Requirement 9 of the Draft DCO.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Onshore substation access vehicle routeing strategy	
2.24.5	Volume 3.1, Chapter 31 Socio-Economics	Effects on landscape and visual amenity	Embedded mitigation	Measures described in 2.23 include: • Mitigation by construction method (e.g. use of trenchless techniques) and design (e.g. reduced onshore cable route working width) selection • Mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process. This will include consideration of the location of the various components within the onshore substation works area, and consideration of the materials used, colour palette and boundary treatments (as included in the North Falls Design Vision, 2024).	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.24.6	Volume 3.1, Chapter 31 Socio-Economics	Effects on land use and agriculture	Embedded mitigation	Measures described in 2.15 include: The embedded mitigation relating to Agri-environment schemes will be the avoidance of land parcels that are subject to Environmental Stewardship Schemes or Countryside Stewardship Schemes, wherever possible.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.24.7	Volume 3.1, Chapter 31 Socio-Economics	Effects on Outline Skills and Employment (OSEP)	Embedded mitigation	North Falls considers that details on use of mitigation / enhancement measures related to skills and employment are most appropriate to present as part of an OSEP. This has been submitted as part of the DCO application and will be secured through a DCO Requirement.	Detail of this mitigation is provided in the Outline Skills and Employment Plan (OSEP) (Document Reference 7.18). A Skills and Employment Plan in accordance with the OSEP requires to be approved and implemented, as secured by Requirement 18 of the Draft DCO (Schedule 1, Part 3, Requirement 18).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Operation and maintenance					
2.24.9	Volume 3.1, Chapter 31 Socio-Economics	Effects associated with noise and vibration	Embedded mitigation	Measures described in 2.19.	As described at 2.19.
2.24.10	Volume 3.1, Chapter 31 Socio-Economics	Effects associated with traffic and transport	Embedded mitigation	Measures described in 2.20.	As described at 2.20.
2.24.11	Volume 3.1, Chapter 31 Socio-Economics	Effects on landscape and visual amenities	Embedded mitigation	Measures described in 2.23.	As described at 2.23.
Decommissioning					
None proposed					
Monitoring commitments					
Measures described in 2.19, 2.20 and 2.23.					

2.25 Tourism and recreation (Chapter 32)

Table 2.25 Mitigation and monitoring in relation to tourism and recreation

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.25.1	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Construction works along the final onshore cable route will employ a sectionalised approach to minimise impacts. The trenches will be excavated and backfilled once the cable ducts are laid, and the reinstatement process will commence in as short a timeframe as possible.	Detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13).
2.25.2	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	The Applicant has committed to install the cables at the landfall using HDD, thereby avoiding physical disturbance or prolonged access restrictions to Frinton Beach and Holland Haven.	Details of crossings where trenchless techniques will be used is provided in the OCoCP. A final CoCP, based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.25.3	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	The Applicant has committed to using trenchless crossing techniques such as HDD at major crossings such as major roads, river, and rail crossings.	Details of crossings where trenchless techniques will be used is provided in the OCoCP. A final CoCP, based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.25.4	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	An OPRoWMP has been submitted as part of the DCO application, which includes a full list of crossings and a description of onshore construction techniques at each location and other proposed mitigation measures. Disruption to Public Rights of Way (PRoWs) will be managed by the Principal Contractor to ensure continued safe access along the PRoW for members of the public, and all efforts will be made to minimise PRoW closure durations. The exact management method will be agreed in advance with the relevant local authority and detailed within the final PRoW	Detailed in the OPRoWMP submitted with the DCO application (Document Reference: 7.17). Development of, and compliance with, a PRoWMP in accordance with the OPRoWMP is secured by Requirement 24 of the Draft DCO (Schedule 1, Part 3, Requirement 24).

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				Management Plan, secured through DCO Requirements. Methods available include: • Where possible and safe PRoWs shall remain open; • Temporary road closures with diversions in place; and • Permanent closure with an alternative route provided. Where the onshore substation will be constructed and onshore export cables installed, any PRoW that is within 500m shall remain open where practicable to minimise impacts to recreational users. Where this is not practicable and a PRoW is intersected by the onshore substation construction and cable installation during construction and operational phases, a suitable, short term, temporary diversion will be established. Diversions will be agreed upon prior to the commencement of the project with all relevant bodies, for all footpaths, bridleways, byways and cycle routes affected. Where haul roads intersect PRoWs, access shall be maintained safely through use of banksman and gates where necessary, ensuring there is minimal impact to the footpath, bridleway, byway or NCN. Where open cut trenching is used, trenches will be reinstated following the installation of the cable ducts to allow PRoW to be repaired and reopened as soon as possible. Where the temporary diversions will be established, relevant safety measures shall also be implemented. This shall include, for example, the erection of fencing where necessary and safety signs for guidance. This mitigation measure will allow tourists and visitors to adapt to the affected PRoWs as a result of the Project. However, where temporary diversions are not a reasonable alternative, a new permanent route shall be provided, such as for Little Bromley footpath 15, which will allow for recreational activities to continue with minimal impact.	

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.25.5	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Working areas during construction and operational maintenance will be enclosed within fencing, enabling continued use of nearby routes whilst work is underway where possible. The type of fencing will be selected to suit the location and purpose and will be agreed with the relevant local authority. Similar approaches will be implemented for coastal construction works around the landfall area and marine works along the offshore cable corridor and around the array area. Offshore safety zones will also be sought, and the buffer area will be drawn as appropriate.	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.25.6	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Outline management plans which oversee construction activities and O&M activities will be prepared and submitted alongside the DCO application. These plans include an OCoCP covering construction dust, noise, vibration, and other forms of pollution, an OCTMP, an Outline Landscape and OLEMS, and an Outline Landscape and Ecological Management Strategy (OLEMS).	Secured within the OLEMS (Document Reference: 7.14) and OCTMP (Document Reference: 7.16).
2.25.7	Volume 3.1, Chapter 32 Tourism and Recreation	Disruptions to tourism and recreational assets	Embedded mitigation	Community engagement is ongoing and will continue after submission of the DCO and throughout the development of the project. Stakeholders in relation to tourism and recreation that will be engaged include: • Local authorities; • Landowners; and • Local communities and businesses, including local accommodation suppliers. Consultation will also help ensure that management plans are prepared and implemented sufficiently to mitigate any potential impacts.	Secured within the OLEMS (Document Reference: 7.14) and OCTMP (Document Reference: 7.16).
Operation and maintenance					
2.25.8	Volume 3.1, Chapter 32	Effects on PRoW	Embedded mitigation	All mitigation measures shall be maintained throughout the use of the temporary/permanent PRoWs during the construction of the Project. Maintenance shall include:	Detailed in the OPRoWMP submitted with the DCO application (Document Reference: 7.17). Development of, and compliance with, a PRoWMP in

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
	Tourism and Recreation			• Repairing damage caused throughout construction; • repairing/ resurfacing PRoW when needed; • inspection and maintenance of new signage installed for guidance; • inspection and maintenance of drains along these diverted routes and • clearance of litter along PRoWs associated with the temporary construction works. A contractor will undertake an inspection survey of the affected PRoWs at the following times: • Prior to the commencement of the construction phase; • At least once during the construction phase and • Following the completion of the construction phase.	accordance with the OPRoWMP is secured by Requirement 24 of the Draft DCO (Schedule 1, Part 3, Requirement 24).
Decommissioning					
None proposed					
Monitoring commitments					
Where monitoring is proposed for tourism and recreation, this would be agreed with the appropriate stakeholders prior to construction works commencing and included within the OCoCP, which is submitted along with the DCO application. As part of the OPRoWMP, NFOW would conduct PRoW condition surveys before, during, and after the construction phase to identify any damages that need to be repaired and to compare pre- and post-construction conditions.					

2.26 Climate change (Chapter 33)

Table 2.26 Mitigation and monitoring in relation to climate change

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Construction					
2.26.1	Volume 3.1, Chapter 33 Climate Change	Release of greenhouse gasses due to the Project	Embedded mitigation	The IEMA Greenhouse Gas (GHG) Management Hierarchy, which sets out a structure to eliminate, reduce, substitute and compensate (IEMA, 2022), has been followed as part of the Project's development.	Details of us of the GHG Management Hierarchy will be detailed in the OCoCP. A final CoCP, based on the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO.
2.26.2	Volume 3.1, Chapter 33 Climate Change	Mitigating the effects of climate change on the Project	Embedded mitigation	Climate change resilience measures which are embedded into the Project design include: • Based on standard industry practice and occupational health and safety regulations and standards, construction management plans, CoCP PEMP, will include risk assessments and health and safety protocols, which will be prepared prior to the commencement of construction works. Outline versions of these plans accompany the DCO application (document references 7.13 and 7.6). • These management plans will account for exposure of site workers and construction plant to extreme weather events and ensure appropriate preparation and response measures are in place to minimise their impacts. These measures would include, but are not limited to, the following: o Scheduling construction activities based on seasonality and timely weather forecasts; o Monitoring of on-site weather conditions and severe weather alert services; o Incorporating a severe weather protocol into construction management plans and assigning clear responsibilities in the event of an emergency; and	This mitigation measure is detailed in the OCoCP submitted with the DCO application (Document Reference: 7.13). Development of, and compliance with, a CoCP in accordance with the OCoCP is secured by Schedule 1, Part 3, Requirement 8 of the Draft DCO. Also secured through the PEMP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				○ Requiring contractors to include additional provisions in their management plans based on weather conditions at the time of works such as additional rest breaks during heatwaves, securing stored equipment and material during high wind events and specifying de-icing equipment during cold spells.	
2.26.3	Volume 3.1, Chapter 33 Climate Change	Mitigating the effects of climate change on the Project	Embedded mitigation	The WTGs and fixed substructures have been designed with sufficient safety margins to account for extreme weather events such as storm surges and high winds. The substructures, turbines and inter-array cables have been designed using metocean hindcast data as the basis for all loadcases. Hindcast models synthesise long-term time series of wind, waves and current data and are correlated with satellite observations and real-time measurements. Based on the models, wind, wave and current parameters for 10-year, 50-year and 100-year extreme weather events were extrapolated and accounted for in the Project design.	N/A
2.26.4	Volume 3.1, Chapter 33 Climate Change	Mitigating the effects of climate change on the Project	Embedded mitigation	The flood risk assessment undertaken for the Project assesses flood risk at the onshore substation and has incorporated allowances for climate change in the drainage design. See ES Chapter 21 Water Resources and Flood Risk (Document Reference: 3.1.23) and associated Appendix 21.3 Flood Risk Assessment (Document Reference: 3.3.29) for further details.	This mitigation is secured through the Project design parameters detailed within the Requirements of the Draft DCO (Schedule 1, Part 3, Requirement 6).
Operation and maintenance					
2.26.5	Volume 3.1, Chapter 33 Climate Change	Release of greenhouse gasses due to the project	Embedded mitigation	• The turbine controller monitors the operational health of the turbines and adjusts the pitch and orientation based on the site conditions. At wind speeds above the design operational load limit, the turbines will shut down and remain in idle configuration to prevent structural damage during gusts or sustained high winds. Normal operations will resume once the wind speed returns below the cut-out speed.	Secured through the PEMP, secured by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
				• Regular inspections and maintenance of offshore infrastructure will be carried out over the Project's operational lifetime to identify and remediate any damage and maintain good working conditions. Similar to construction works, prior to the commencement of O&M activities, risk assessments and health and safety protocols will be prepared, which will include the identification of suitable windows for works based on timely weather forecasts and the monitoring of weather conditions on-site. The Project's O&M personnel will monitor emerging climate change data and observed climate change impacts, such as extreme weather incidents on-site, and develop appropriate risk management measures on a rolling basis.	
Decommissioning					
2.26.6	Volume 3.1, Chapter 33 Climate Change	Mitigating the effects of climate change on the Project	Embedded mitigation	Prior to the commencement of decommissioning activities, as part of health and safety protocols, a review of recent climate hazards and up-to-date climate projection data will be undertaken to develop suitable mitigation and management measures, which will be secured in management plans for this stage of works.	Secured by the decommissioning requirements of the Draft DCO (Schedule 1, Part 3, Requirements 25 and 26).
Monitoring commitments					
None proposed					

2.27 Major Accidents and Disasters (Chapter 34)

Table 2.27 Mitigation and monitoring in relation to major accidents and disasters

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
Mitigation					
Major Accidents					
2.27.1	Volume 3.1, Chapter 34 Major Accidents and Disasters	Major fires	Embedded mitigation	Development of a PEMP will outline safety measures to reduce the risk of a major accident or disaster resulting from offshore fires. Emergency response plans will be developed following discussions with the relevant bodies. The plan will include risk assessments and designated evacuation plans for workers in the unlikely event of a fire breaking out.	This mitigation is secured through the PEMP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
Project Specific Risks					
2.27.2	Volume 3.1, Chapter 34 Major Accidents and Disasters	Exposed cables leading to vessel snagging	Embedded mitigation	Cable Burial Risk Assessments will be developed to set out the installation methods. The Cable Burial Risk Assessment will also set out environmental and navigational issues. Cable burial techniques, where possible, and the Project will comply with all cabling industry standards in locations where cabling infrastructure will be buried.	This mitigation is secured through the PEMP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.27.3	Volume 3.1, Chapter 34 Major Accidents and Disasters	Vessel interactions (e.g. collision, allision	Embedded mitigation	• Application for safety zone; • Cable Burial Risk Assessment; • Display on charts; • Guard vessels; • Lighting and marking; • Marine coordination; • ERCoP; • MGN compliance; • Project vessel compliance with international marine regulations; • Promulgation of information; and • Crossing and proximity agreements	This mitigation is secured through the Requirements of the Draft DCO (Schedule 1, Part 3).
2.27.4	Volume 3.1, Chapter 34 Major Accidents and Disasters	Aviation collision	Embedded mitigation	• Promulgation of obstacle location, together with permanent marking and lighting of obstacles; • Aviation obstacle lighting; and • Compliance with requirements for SAR	This mitigation is secured through the Requirements of the Draft DCO (Schedule 1, Part 3).
2.27.5	Volume 3.1, Chapter 34 Major Accidents and Disasters	Accidental spills or hazardous material	Embedded mitigation	PEMP will be produced and followed to cover the construction, operation and maintenance phases of the Project. This will include planning for accidental spills, address all potential contaminant releases and include key emergency contact details. The MPCP will set the management measures to be implemented during construction, operation and decommissioning to mitigate the risks of accidental spills of hazardous materials. Measures to reduce instances of spills, remedial action and response measures to be used in the event of a spill or collision, and detail measures for refuelling at sea.	This mitigation is secured through the PEMP, conditioned by the following sections of the Draft DCO: Schedule 8, Part 2, Condition 21 Schedule 9, Part 2, Condition 22 Schedule 10, Part 2, Condition 22
2.27.6	Volume 3.1, Chapter 34 Major Accidents and Disasters	Disturbance of UXO in offshore project area	Embedded mitigation	• Pre-construction surveys; • Development of an Unexploded Ordnance Risk Mitigation Strategy which will include mitigation strategies to avoid pUXO in the first instance, removing risk receptors or threat sources if required.	UXO clearance to be licenced separately.

Reference	Cross reference to ES	Environmental effect	Mitigation type	Mitigation and monitoring commitments	Where mitigation is secured
2.27.7	Volume 3.1, Chapter 34 Major Accidents and Disasters	Workplace accident	Embedded mitigation	• Qualified staff; • Appropriate and maintained equipment, plant and vessels; and • Provision of first aid and safety equipment.	This mitigation is secured through the PEMP and OCoCP, both secured as referred to above.
Monitoring					
None proposed					

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North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

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