DOGGER BANK D WIND FARM

Outline Code of Construction Practice

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Glossary

Term	Definition
Additional Mitigation	Measures identified through the EIA process that are required as further action to avoid, prevent, reduce or, if possible, offset likely significant adverse effects to acceptable levels (also known as secondary (foreseeable) mitigation). All additional mitigation measures adopted by the Project are provided in the Commitments Register.
Birkhill Wood Substation	The onshore grid connection point for DBD identified through the Holistic Network Design process. Birkhill Wood Substation which is being developed by National Grid Electricity Transmission and does not form part of the Project.
Development Consent Order (DCO)	A consent required under Section 37 of the Planning Act 2008 to authorise the development of a Nationally Significant Infrastructure Project, which is granted by the relevant Secretary of State following an application to the Planning Inspectorate.
Effect	An effect is the consequence of an impact when considered in combination with the receptor's sensitivity / value / importance, defined in terms of significance.
Embedded Mitigation	Embedded mitigation includes: • Measures that form an inherent part of the project design evolution such as modifications to the location or design of the development made during the pre-application phase (also known as primary (inherent) mitigation); and • Measures that will occur regardless of the EIA process as they are imposed by other existing legislative requirements or are considered as standard or best practice to manage commonly occurring environmental impacts (also known as tertiary (inexorable) mitigation). All embedded mitigation measures adopted by the Project are provided in the Commitments Register.
Energy Storage and Balancing Infrastructure (ESBI)	A range of technologies such as battery banks to be co-located with the Onshore Converter Station, which provide valuable services to the electrical grid such as storing energy to meet periods of peak demand and improving overall reliability.
Enhancement	Measures committed to by the Project to create or enhance positive benefits to the environment or communities, as a result of the Project. All enhancement measures adopted by the Project are provided in the Commitments Register.
Environmental Impact Assessment (EIA)	A process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information and includes the publication of an Environmental Statement.

Term	Definition
Environmental Statement (ES)	A document reporting the findings of the EIA which describes the measures proposed to mitigate any likely significant effects.
Grid Connection	The offshore and onshore electricity transmission network connection to Birkhill Wood Substation.
Haul Roads	Temporary tracks set aside to facilitate transport access during onshore construction works.
Impact	A change resulting from an activity associated with the Project, defined in terms of magnitude.
Jointing Bays	Underground structures constructed at regular intervals along the onshore export cable corridor to facilitate the joining of discrete lengths of the installation of cables.
Landfall	The area on the coastline, south-east of Skipsea, at which the offshore export cables are brought ashore, connecting to the onshore export cables at the transition joint bay above Mean High Water Springs.
Link Boxes	Structures housing electrical equipment located alongside the jointing bays in the onshore export cable corridor and the transition joint bay at the landfall, which could be located above or below ground.
Mean High Water Spring	MHWS is the average of the heights of two successive high waters during a 24-hour period.
Mitigation	Any action or process designed to avoid, prevent, reduce or, if possible, offset potentially significant adverse effects of a development. All mitigation measures adopted by the Project are provided in the Commitments Register.
Monitoring	Measures to ensure the systematic and ongoing collection, analysis and evaluation of data related to the implementation and performance of a development. Monitoring can be undertaken to monitor conditions in the future to verify any environmental effects identified by the EIA, the effectiveness of mitigation or enhancement measures or ensure remedial action are taken should adverse effects above a set threshold occur. All monitoring measures adopted by the Project are provided in the Commitments Register.
Onshore Converter Station (OCS) Zone	The area within which the Onshore Converter Station and Energy Storage and Balancing Infrastructure will be located in vicinity of Birkhill Wood Substation.
Onshore Converter Station (OCS)	A compound containing electrical equipment required to stabilise and convert electricity generated by the wind turbines and transmitted by the export cables into a more suitable voltage for grid connection into Birkhill Wood Substation.

Term	Definition
Onshore Development Area	The area in which all onshore infrastructure associated with the Project will be located, including any temporary works area required during construction and permanent land required for mitigation and enhancement areas, which extends landward of Mean Low Water Springs. There is an overlap with the Offshore Development Area in the intertidal zone.
Onshore Export Cables	Cables which bring electricity from the transition joint bay at landfall to the Onshore Converter Station zone (High Voltage Direct Current (HVDC) cables) and from the Onshore Converter Station zone onwards to Birkhill Wood Substation (High Voltage Alternative Current (HVAC) cables).
Onshore Export Cable Corridor (ECC)	The area within which the onshore export cables will be located, extending from the landfall to the Onshore Converter Station zone and onwards to Birkhill Wood Substation.
Preliminary Environmental Information Report (PEIR)	The PEIR provides a draft environmental assessment and information to support and inform the statutory consultation process in the pre-application phase. The PEIR will be updated to produce the Project's ES that will accompany the DCO application.
Principal Contractor(s)	Contractor(s) appointed by the Undertaker to plan, manage, monitor and coordinate the construction of the Project. The Principal Contractor may oversee several subcontractors within their supply chain.
Project Design Envelope	A range of design parameters defined where appropriate to enable the identification and assessment of likely significant effects arising from a project's worst-case scenario. The Project Design Envelope incorporates flexibility and addresses uncertainty in the DCO application and will be further refined during the EIA process.
Temporary Construction Compounds	Areas set aside to facilitate the construction works for the onshore infrastructure, which include the landfall construction compound, main and intermediate construction compounds for onshore export cable works and OCS and ESBI construction compounds.
The Applicant	SSE Renewables and Equinor acting through 'Doggerbank Offshore Wind Farm Project 4 Projco Limited'.
The Project	Dogger Bank D (DBD) Offshore Wind Farm Project, also referred to as DBD in this PEIR.
The Undertaker	Doggerbank Offshore Wind Farm Project 4 Projco Limited.
Transition Joint Bay (TJB)	An underground structure at the landfall that houses the joints between the offshore and onshore export cables.
Trenching	Open cut method for cable or duct installation.

Term	Definition
Trenchless Techniques	Trenchless cable or duct installation methods used to bring offshore export cables ashore at landfall, facilitate crossing major onshore obstacles such as roads, railways and watercourses and where trenching may not be suitable. Trenchless techniques included in the Project Design Envelope include Horizontal Directional Drilling (HDD), auger boring, micro-tunnelling, pipe jacking / ramming and Direct Pipe.

1 Introduction

1.1 Introduction

1. SSE Renewables and Equinor acting through 'Doggerbank Offshore Wind Farm Project 4 Projco Limited' (hereafter 'the Applicant') is seeking a Development Consent Order (DCO) for the Dogger Bank D Offshore Wind Farm (hereafter 'the Project' or 'DBD').

2. This Outline Code of Construction Practice (CoCP) has been prepared to support all onshore construction activities in relation to the onshore elements of the Project landward of Mean Low Water Springs (MLWS). These works include but are not limited to:

   - Pre-construction surveys and activities across the Onshore Development Area;
   - Installation of accesses, temporary haul roads, construction compounds and other temporary infrastructure such as culverts and drainage across the Onshore Development Area;
   - Landfall trenchless duct installation and pull-in of export cables and jointing at the transition joint bay (TJB);
   - Construction of the TJB, jointing bays and associated link boxes at the landfall and along the onshore export cable corridor (ECC);
   - Installation of cable ducts along the onshore ECC from the landfall to the Onshore Converter Station (OCS) zone and onwards to the grid connection point at Birkhill Wood Substation and pull-in of export cables at jointing bay locations;
   - Construction of the OCS and Energy Storage and Balancing Infrastructure (ESBI) within the OCS zone; and
   - Reinstatement of temporary land across the Onshore Development Area.

3. A full project description is given in the Preliminary Environmental Information Report (PEIR), **Volume 1, Chapter 4 Project Description**.

4. This document does not relate to the Project's offshore construction works seaward of MHWS, which is covered separately by the **Outline Project Environmental Management Plan** (PEMP) (document reference 8.6). Landfall works will span both offshore and onshore, therefore the relevant aspects of both the Outline CoCP and Outline PEMP will apply to these works.

1.2 Purpose of the Outline Code of Construction Practice

5. This Outline CoCP has been developed as a preliminary draft alongside the Preliminary Environmental Impact Report (PEIR) for provided for statutory consultation. This Outline CoCP will be updated to incorporate stakeholder feedback from the statutory consultation and further developed post-PEIR to reflect the outcomes of the ongoing Environmental Impact Assessment (EIA) process and design refinements. An updated Outline CoCP will be included as part of the DCO application.

6. The Outline CoCP sets out mitigation and monitoring measures required to be implemented during the construction of the onshore elements of the Project.

7. The Outline CoCP provides a framework for effective planning, monitoring and management of onshore construction works to minimise impacts on the environment and local communities, in line with the findings of the EIA. The measures identified in the Outline CoCP have been derived from regulatory requirements and industry best practice for the construction of Nationally Significant Infrastructure Projects (NSIP) and in particular offshore wind farm developments.

1.3 Structure of the Outline Code of Construction Practice

8. The Outline CoCP is set out as follows:

- **Section 2** outlines the approach to environmental management, including how the Outline CoCP will be implemented;
- **Section 3** identifies general site management and environmental measures; and
- **Section 4** identifies specific mitigation and monitoring measures for managing onshore environmental issues.

2 Approach to Environmental Management

2.1 Commitments

9. Through the ongoing EIA process, project design and stakeholder engagement, measures have been identified that will be implemented during the Project's onshore construction to avoid, prevent, reduce or, if possible, offset potentially significant adverse environmental effects. These measures are fully detailed in **Volume 2, Appendix 6.3 Commitments Register**.

10. The Commitments Register identifies how each environmental measure will be legally secured such as through supporting management plans and DCO requirements. **Plate 2-1** provides an indicative illustration of the framework of management plans for the Project's onshore elements.

11. The provision of a CoCP in accordance with this Outline CoCP post-consent and prior to the commencement of the relevant stage of onshore construction works is included as Commitment ID CO39 in the Commitments Register.

12. Where applicable, this Outline CoCP identifies measures from the Commitments Register by their Commitment ID, a unique identification number.

2.2 Implementation of the Outline Code of Construction Practice

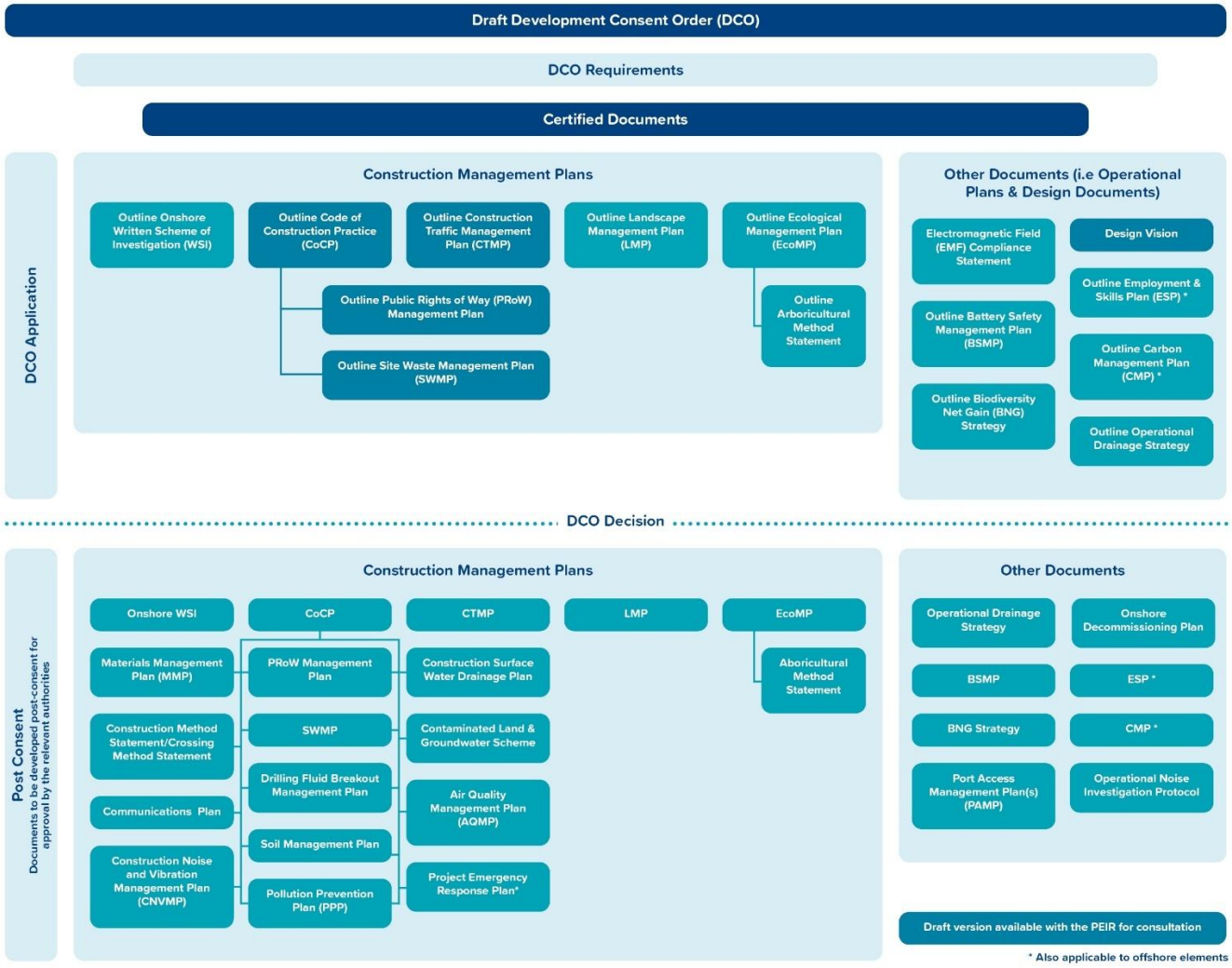
13. As stated in **Section 1.2**, this draft version of the Outline CoCP will be updated following statutory consultation and submitted as part of the DCO application. The Outline CoCP and CoCP will also serve as a securing mechanism for the environmental measures therein and supporting management plans.

14. The Outline CoCP, as approved, will be certified by the Secretary of State, and following granting of the DCO, the CoCP will be developed post-consent in accordance with the certified Outline CoCP. The certified Outline CoCP will be provided to the Principal Contractor(s) for inclusion in the relevant contracts for the Project's onshore construction works. Management plans to support the CoCP will be prepared to demonstrate how the principles and measures in the Outline CoCP will be implemented and ensure ongoing compliance during construction.

15. The Project's onshore construction may adopt a staged approach to the approval of DCO requirements, allowing requirements to be approved in part by stage of works or in whole.

16. Prior to the commencement of the relevant stage of onshore construction works, a stage-specific CoCP and its supporting management plans will be developed and submitted for approval by East Riding of Yorkshire Council (ERYC) and in consultation with relevant stakeholders (e.g. Environment Agency and Natural England).

Plate 2-1 Indicative Hierarchy of Management Plans for the Project's Onshore Elements



2.3 Supporting Plans to the Code of Construction Practice

17. **Table 2-1** sets out supporting management plans that are / will be included as appendices to the CoCP. The status indicates whether the listed plan is provided as an outline document at PEIR stage, will be provided at DCO application, or if it will be developed post-consent. Details of these management plans and the environmental measures they include are described in the relevant sections of this Outline CoCP.

Table 2-1 Supporting Management Plans Forming Appendices to the Code of Construction Practice

Name	Purpose	Status
Outline Management Plans Appended to the Outline CoCP (to be submitted with the DCO application)		
Outline Public Rights of Way (PRoW) Management Plan	To outline temporary management measures for all PRoW and cycle routes affected by onshore construction works and identify any temporary or permanent closures or diversions.	A draft version of the **Outline Public Rights of Way Management Plan** (**Appendix A** of this document) is provided with the PEIR. The outline plan will be updated following statutory consultation and submitted as part of the DCO application. The plan will be further developed post-consent in accordance with the Outline PRoW Management Plan and included in the CoCP.
Outline Site Waste Management Plan (SWMP)	To outline measures to manage waste generated from onshore construction works.	A draft version of the **Outline Site Waste Management Plan** (**Appendix B** of this document) is provided with the PEIR. The outline plan will be updated following statutory consultation and submitted as part of the DCO application. The plan will be further developed post-consent in accordance with the Outline SWMP and included in the CoCP.

Name	Purpose	Status
Construction Plans Appended to the CoCP (to be developed post-consent)		
Air Quality Management Plan (AQMP)	To outline measures to manage dust and other air emissions generated from onshore construction works.	The plan will developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Communications Plan	To describe how relevant stakeholders, such as local authorities, residents, businesses and emergency services, will be notified prior to and kept informed during onshore construction works and outline grievance mechanisms.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Construction Method Statement	To describe the scope and methodology to be adopted during the specific stage of onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Construction Noise and Vibration Management Plan (CNVMP)	To outline measures to manage noise and vibration generated from onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Construction Surface Water Drainage Plan	To outline management measures for surface water drainage during onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Contaminated Land and Groundwater Scheme	To outline the approach to post-consent investigations and management of known and potential contamination sources prior to and during onshore construction works. This will include site-specific remedial measures as required and a response protocol for the discovery of unexpected contamination.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Crossing Method Statement(s) (including watercourses and other third-party assets such as pipelines and cables)	To describe the crossing design and methodology to be adopted for crossings during the relevant stage of onshore construction works and outline associated environmental control measures. Crossings requiring a Crossing Method Statement will be identified using a risk-based approach prior to the commencement of the relevant stage of works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP where the stage of works involves obstacle crossing(s) such as watercourses and third-party assets.

Name	Purpose	Status
Drilling Fluid Breakout Management Plan	To outline measures to reduce the risk of drilling fluid breakout incidents from trenchless installation activities during the relevant stage of onshore construction works and provide a response protocol should a breakout occur.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP where the stage of works involves the use of trenchless installation techniques.
Project Emergency Response Plan	To outline the response protocol(s) to be adopted during onshore construction works in the event of environmental and occupational health and safety incidents. This will include a Flood Warning and Evacuation Plan.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Materials Management Plan (MMP)	To outline measures to manage the reuse of site-won materials generated from onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Pollution Prevention Plan (PPP)	To outline measures to reduce the risk of pollution incidents to ground and surface waters during onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.
Soil Management Plan (SMP)	To outline measures to manage the handling of soil during onshore construction works.	The plan will be developed post-consent in accordance with the Outline CoCP and included in the CoCP.

18. In addition to the above supporting management plans, **Table 2-2** identifies other relevant management plans that should be read in conjunction with the CoCP, which are secured through separate requirements in the draft DCO.

Table 2-2 Other Management Plans to be Read Alongside the Code of Construction Practice

Name	Purpose	Status
Outline Carbon Management Plan (CMP)	To outline the approach to managing greenhouse gas emissions throughout the Project's whole lifecycle. This will include greenhouse gas emission reduction measures to be adopted during onshore construction works.	The outline plan will be developed and submitted with the DCO application. The CMP will be further developed post-consent.

Name	Purpose	Status
Outline Construction Traffic Management Plan (CTMP)	To outline measures to manage Heavy Goods Vehicle (HGV) and employee traffic during onshore construction works and the location and design of construction and operational accesses.	A draft version of the Outline CTMP (document reference 8.15) is provided with the PEIR. The outline plan will be updated following statutory consultation and submitted with the DCO application. The CTMP will be further developed post-consent in accordance with the Outline CTMP.
Outline Ecological Management Plan (EcoMP)	To outline measures to manage impacts to habitats and relevant ecological receptors prior to, during and following onshore construction works and any ecological mitigation / compensation / enhancement requirements.	The outline plan will be developed and submitted with the DCO application. The EcoMP will be further developed post-consent.
Outline Landscape Management Plan (LMP)	To outline measures for the retention of landscape features and reinstatement strategy for areas temporarily disturbed during onshore construction works and any landscape mitigation / compensation planting requirements.	The outline plan will be developed and submitted with the DCO application. The LMP will be further developed post-consent.
Outline Onshore Written Scheme of Investigation (WSI)	To outline the approach to undertaking post-consent archaeological surveys and evaluation. This will include site-specific archaeological mitigation measures to be adopted prior to and during onshore construction works.	The outline plan will be developed and submitted with the DCO application. The Onshore WSI will be further developed post-consent.

2.4 Roles and Responsibilities

19. **Table 2-3** sets out the key roles and responsibilities required for the implementation of the CoCP. This be further detailed and confirmed post-consent in the CoCP following the appointment of the Principal Contractor(s).

Table 2-3 Roles and Responsibilities for the Implementation of the Code of Construction Practice

Role	Responsibilities
The Undertaker	The Undertaker will hold overall responsibility for: • Coordinating the delivery of the Project's onshore construction works; • Ensuring compliance with relevant regulations, best practice standards, the granted DCO and requirements therein; and • Managing and monitoring the performance of the Principal Contractor(s).
Principal Contractor(s)	Multiple Principal Contractor(s) may be appointed to undertake different stages of onshore construction works. Each Principal Contractor will be responsible for: • Delivering the relevant stage(s) of the Project's onshore construction works; • Ensuring compliance with relevant regulations, best practice standards and the Project's health and safety and environmental standards; and • Managing and monitoring the performance of their staff and any subcontractor(s). Each Principal Contractor and their subcontractor(s) will be required to deliver their contracted works in accordance with the granted DCO and requirements therein. Within this Outline CoCP, the term "Principal Contractor(s)" encompasses all appointed Principal Contractor(s) and their subcontractor(s).
Technical Roles	Further technical roles required to deliver specific aspects of onshore construction works will be specified in the CoCP developed post-consent. Where known at this stage, these technical roles are identified in the relevant sections of this Outline CoCP.

2.5 Health and Safety and Environmental Management Systems

20. Health, safety and environmental risks will be identified and managed in accordance with the latest relevant regulatory requirements and best practice methods and construction activities will be informed by appropriate risk assessments and undertaken with appropriate personal protective equipment (PPE) (Commitment ID CO50).

21. The Principal Contractor(s) will be British Standard (BS) EN ISO 14001 (Environmental Management System (EMS)) certified. During construction, the Principal Contractor(s) will operate an EMS based on the requirements of ISO 14001:2015 or another suitable EMS standard.

22. The EMS will describe the processes and procedures by which the Principal Contractor(s) identifies and manages environmental impacts arising from its activities. The EMS is a primary mechanism to ensure compliance with relevant environmental regulations and best practice standards and deliver continual improvement in environmental performance. The EMS will set out:

- Key environmental issues associated with the onshore construction works and how they will be managed;
- Roles and responsibilities for the implementation of the EMS;
- Staff competence and training requirements;
- Record-keeping arrangements; and
- Procedures for monitoring compliance and the effectiveness of the environmental measures included in the CoCP.

23. The Principal Contractor(s) will also provide a protocol on workforce access to occupational health, hygiene and emergency services, appropriate communicable disease prevention measures and a workforce code of conduct for the specific stage of construction works in the CoCP to minimise the use of local National Health Service (NHS) primary healthcare providers and inappropriate use of Accident and Emergency (A&E) services (Commitment ID CO68).

2.6 Training and Competence

24. The Undertaker and the Principal Contractor(s) will be required to ensure that all staff are appropriately qualified and experienced. The Principal Contractor(s) will be responsible for identifying the training needs of the workforce.

25. The Undertaker and / or Principal Contractor(s) will ensure that all staff undertaking works on the Project are made aware of their responsibilities and the environmental measures specified in the CoCP and supporting management plans.

26. All staff will be required to attend a site induction on their first visit to the site and prior to commencing work on site. The site induction will cover good construction working practices, emergency procedures, general health and safety and environmental standards and site-specific management measures relevant to day-to-day operations. The induction provided to staff should be tailored to their role and the activities being undertaken on site.

27. During construction, site briefings and toolbox talks will be provided as necessary (e.g. in response to the findings of a site inspection) to provide ongoing reinforcement and ensure staff are kept up-to-date with relevant knowledge on health, safety and environmental issues specific to their works.

28. The Principal Contractor(s) will be responsible for arranging site inductions, site briefings and toolbox talks and maintaining training records of their workforce.

2.7 Compliance Monitoring

29. To ensure ongoing compliance with the CoCP during construction works, the Undertaker and / or Principal Contractor(s) will develop a monitoring strategy for the specific stage of construction works, which will be included in the CoCP. Principal Contractor(s) will be required to adhere to the strategy for the duration of the relevant works. The monitoring strategy should align with the audit programme in the Principal Contractor(s)' EMS.

30. The monitoring strategy should include:

- A schedule of site inspections at a frequency appropriate to the works being undertaken on site;
- Roles and responsibilities for the implementation of the monitoring strategy; and
- A protocol for the reporting and recordkeeping of non-compliance and implementation of remedial actions.

2.8 Local Community Liaison

31. The Undertaker will develop a Communications Plan which establishes a local community liaison framework to ensure timely and effective communication with relevant stakeholders that may be affected by the Project's onshore construction works, such as local authorities, residents, businesses and emergency services. **Table 2-4** identifies commitments related to local community liaison.

32. The framework will identify communication channels and procedures to be implemented during the Project's onshore construction works, including an overarching procedure for dealing with complaints and enquiries and measures specific to the stage of construction works.

33. The Undertaker's designated Community Liaison Officer(s) (CLO) will be responsible for the overall management of the local community liaison framework and serve as the first contact for enquiries and / or complaints received. Local communities will be advised of the likely timetable of works through the CLO. Contact details of the CLO will be included in the CoCP.

34. The Principal Contractor(s) will implement and adhere to the Communications Plan for the specific stage of construction works included in the CoCP for the duration of the relevant works.

Table 2-4 Commitments Relevant to Local Community Liaison

Commitment ID	Proposed Commitment
CO80	A Communications Plan will be provided as part of the CoCP. The Communications Plan will be developed in accordance with the Outline CoCP and will outline how the relevant stakeholders, such as local authorities, residents, businesses and emergency services, will be notified in advance of construction works and kept informed during construction. The Communications Plan will also include measures to ensure effective and open communication and set out appropriate grievance mechanisms.

35. The Communications Plan should include:

- Site-specific key contacts;
- Procedures on how relevant stakeholders will be notified in advance of and kept informed during the construction works and the type of information to be provided; and
- A protocol for the reporting and recordkeeping of complaints / enquiries and implementation of remedial actions.

3 General Site Management

36. This section identifies general site management and environmental measures applicable to all onshore construction works. Compliance with these measures, where relevant to the works being undertaken, will be demonstrated in the CoCP.

3.1 Working Hours

37. Onshore construction works for the Project must be undertaken in accordance with the working hours commitment as identified in **Table 3-1**.

Table 3-1 Commitment Relevant to Working Hours

Commitment ID	Proposed Commitment	How the Commitment Will Be Secured
CO69	Core working hours for onshore construction activities will be 07:00 to 19:00 Monday to Saturday. Outside of these hours, including Sunday and bank holidays, no construction activities will be undertaken apart from in the following circumstances: • Where extended and continuous periods (up to 24 hours a day, seven days a week) of working are required such as trenchless installation works, concrete pouring and cable pull-in and jointing operations; • Deliveries of abnormal indivisible loads that may otherwise cause congestions on the public highway network; • Testing and commissioning of installed onshore electrical infrastructure; • Daily start-ups and shut-downs, limited to site inspections, housekeeping, briefings, toolbox talks and safety checks; • Emergency works; and • Works as otherwise agreed in writing with the relevant local authority. Vehicle movements on the public highway network and employees' arrival and departure to/from site may occur outside of the core working hours.	DCO Requirement - Onshore Construction Hours

38. Excluding emergency works and daily start-ups and shut-downs, activities outside of the core working hours will be agreed with ERYC in consultation with the relevant stakeholders prior to commencement and undertaken within the agreed time. The following details will be provided in the notification of works undertaken outside of the core working hours:

- The type, timing, duration and location of these activities;
- The number and type of vehicle movements and plant and equipment required for these activities; and
- Any proposed mitigation and monitoring measures to manage the environmental impacts of such activities.

39. In the event of emergency works, notification will be provided to ERYC as soon as reasonably practicable.

3.2 Construction Site Layout and Housekeeping

40. Temporary construction compounds will be required to support the Project's onshore construction works. These include the landfall construction compound, main and intermediate construction compounds and trenchless installation compounds serving construction of the onshore export cable infrastructure and the OCS and ESBI construction compounds, which are described in **Volume 1, Chapter 4 Project Description.**

41. Temporary accesses and haul roads will be required to enable construction vehicular access and the movement of plant and equipment and personnel within the construction site. Further details are provided in **Volume 1, Chapter 4 Project Description**, and traffic management measures and outline construction access design are set out in the **Outline Construction Traffic Management Plan** (document reference 8.15) provided with the PEIR.

42. Details on the number and type of temporary construction compound(s) required for the specific stage of construction works will be included in the CoCP, with the location and layout of the construction site provided on general arrangement drawing(s).

43. The Principal Contractor(s) will ensure that the construction site layout is designed in accordance with the commitments identified in **Table 3-2,** aiming to reduce environmental impacts as far as practicable while considering site-specific constraints. The design will consider:

- Positioning stationary plant and equipment, accesses, parking, storage areas, waste facilities, office spaces and welfare facilities away from sensitive receptors.
- Providing appropriate signage for road and PRoW users and pedestrians across the construction site.
- Implementing appropriate speed limits for construction vehicles and plant and equipment within the construction site to ensure safety.

Table 3-2 Commitments Relevant to Construction Site Layout

Commitment ID	Proposed Commitment
CO72	Temporary access points off the public highway will be installed to facilitate vehicular access from the road to temporary works areas for construction. The access points will be constructed prior to the main construction activities for each stage of construction works and in accordance with the principles established in the Outline Construction Traffic Management Plan (CTMP).
CO76	Temporary construction compounds will utilise the most suitable roads as access points and be located close to main A roads and away from population centres where practicable to minimise impacts on local communities.

44. The Principal Contractor(s) will ensure good housekeeping at the construction site for the duration of works, which will include the following measures:

- All working areas will be kept in a clean, tidy and safe condition. Access routes and emergency exits will be kept clear at all times when not in use.
- Appropriate welfare facilities will be provided at the construction site for the workforce in compliance with relevant regulatory requirements (e.g. CDM Regulations).
- Open fires and burning of rubbish will be prohibited at all times.
- Designated smoking areas equipped with containers for smoking waste will be provided at appropriate locations (where required) such as away from working areas or publicly accessible areas.
- Music shall not be played through speakers at working areas.
- Appropriate plant and equipment maintenance will be undertaken to reduce the likelihood of breakdowns. Faulty plant and equipment should be taken out of use for repair or replacement.

- All necessary measures will be undertaken to minimise fire risk and comply with the requirements of the local fire authority.
- All reasonable steps will be undertaken to minimise the risk of pest or vermin infestation. Any infestation will be dealt with in a prompt manner.
- Site waste susceptible to spreading by wind or liable to cause litter will be stored in suitable enclosed containers. Waste will be removed at frequent intervals to maintain cleanliness on site.

3.3 Site Fencing and Security

45. Adequate security will be provided at temporary construction compounds and working areas by the Principal Contractor(s) to protect construction staff and members of the public and prevent theft and unauthorised entry or exit from the site.

46. Access and egress from the construction site by staff, visitors and deliveries will be limited to designated points (with security gates where required). Access and egress from site will be monitored and recorded for security and health and safety purposes.

47. Suitable temporary construction fencing will be established around temporary construction compounds and working areas (such as along the perimeter of the construction corridor for the onshore export cable works). The type and placement of fencing will be selected to suit the location and nature of construction works being undertaken and give due regard to constraints present on site. Site fencing will be regularly inspected and repaired as necessary to ensure they remain fit for purpose for the duration of construction works.

48. Details of site security, fencing and other means of enclosure for the specific stage of construction works will be included in the CoCP, with locations identified on general arrangement drawing(s).

49. All temporary fencing and other means of closure will be removed as soon as reasonably practicable following completion of the relevant stage of construction works.

50. Further details on mitigation fencing requirements during construction for sensitive ecological and landscape features (e.g. such as protected woodlands, hedgerows and habitats) will be provided in the Outline EcoMP (Commitment ID CO81) and Outline LMP (Commitment ID CO65) respectively, which will be prepared at ES stage for the DCO application.

3.4 Site Lighting

51. Onshore construction works will typically be scheduled during daylight hours. However, temporary construction lighting may be required at temporary construction compounds and working areas in low light conditions during the core working hours (e.g. during dawn and dusk and winter months) and where extended and continuous working (e.g. trenchless installation works) is proposed.

52. Directional task lighting and portable lighting units will be provided by the Principal Contractor(s) where necessary to ensure safe working conditions and site security. Low-level, motion sensor security lighting may be required at night at temporary construction compounds.

53. Details of the location, height, design and luminance of lighting to be used during the specific stage of construction works and measures to minimise light pollution and glare will be provided in the CoCP.

Table 3-3 Commitment Relevant to Temporary Construction Lighting

Commitment ID	Proposed Commitment
CO85	Construction site lighting will only operate when required and will be positioned and directed to avoid unnecessary illumination and minimise glare to surrounding residential properties, sensitive ecological receptors, Public Rights of Way (PRoW) users and users of adjoining public highways. Details of the location, height, design and luminance of construction site lighting to be used will be provided in the Code of Construction Practice (CoCP).

54. **Table 3-3** states the commitment relevant to temporary construction lighting. In addition, temporary construction lighting will be designed and positioned to:

- Ensure adequate illumination for safe working while avoiding unnecessary light usage;
- Be directed at working areas to minimise light pollution and glare beyond the construction site;
- Minimise disturbance to nearby residents, PRoW users, passing drivers and sensitive ecological receptors such as nocturnal wildlife; and
- Comply with the latest available lighting standards and guidance as far as reasonably practicable and applicable to the construction works such as the *Bats and Artificial Lighting at Night* guidance (Bat Conservation Trust and Institute of Lighting Engineers, 2023) and *Institute of Lighting Professionals Guidance Note 1 for the Reduction of Obtrusive Light* (2020).

55. Where practicable, temporary construction lighting will be powered from mains supply, rather than portable generators, to minimise noise and air emissions.

56. All temporary construction lighting will be removed as soon as reasonably practicable following completion of the relevant stage of construction works.

57. Further details on construction lighting requirements in relation to ecology will be provided in the Outline EcoMP (Commitment ID CO81), which will be prepared at ES stage for the DCO application.

3.5 Construction and Crossing Method Statement(s)

58. Construction Method Statement(s) for the specific stage of construction works will be developed by the Principal Contractor(s) and included in the CoCP. The Construction Method Statement(s) will provide details of the construction techniques to be employed, construction parameters, plant and equipment requirements and the timing, sequence and duration of works. The Construction Method Statement(s) will be supported by Crossing Method Statement(s) where required.

59. The preparation of Crossing Method Statement(s) for the relevant obstacles crossing(s) will be identified using a risk-based approach prior to the commencement of the relevant stage of construction works and will be prepared by the Principal Contractor(s). These are likely to include works involving crossing third party assets such as highways, railway lines and utilities, main rivers, Internal Drainage Board (IDB) drains, and other environmentally sensitive crossings. Refer to **Section 4.4.2** for further requirements relating to watercourse crossings.

60. Both the Construction Method Statement(s) and the Crossing Method Statement(s) will adhere to the latest available standards and guidance applicable to the construction works and the environmental measures set out in the CoCP.

61. The Construction and Crossing Method Statement(s) will be informed by the results of pre-construction surveys undertaken during detailed design, and where relevant, agreed with relevant stakeholders (e.g. Environment Agency, ERYC and / or asset owners / operators).

62. As part of the ongoing EIA process, project design and stakeholder engagement, commitments have been made for the use of trenchless installation techniques at specific obstacle crossings at the landfall and along the onshore ECC to avoid direct interactions during construction. **Table 3-4** identifies commitments relevant to obstacle crossings.

63. The locations of obstacle crossings and the proposed installation technique for each crossing are identified in **Volume 2, Appendix 4.3 Crossing Schedule - Onshore**, provided with the PEIR. This will be updated for the DCO application.

64. The Onshore Crossing Schedule is based on available information at the time of writing. Should an unexpected obstacle be identified during detailed design post-consent or site constraints necessitate the use of a different installation technique than proposed in the Onshore Crossing Schedule submitted with the DCO application, these crossings will be confirmed in the Crossing Method Statement(s) provided with the CoCP to ensure that there are no new or materially different environmental effects than those assessed in the EIA.

65. Further details on environmental measures to be employed during obstacle crossings are provided in **Section 4**.

Table 3-4 Commitments Relevant to Obstacle Crossings

Commitment ID	Proposed Commitment
CO23	At the landfall, trenchless installation techniques will be implemented and exit pits will be located beyond Mean Low Water Springs (MLWS). Installation will be at a suitable depth below the base of the cliff to avoid potential impacts to the Withow Gap Site of Special Scientific Interest (SSSI).
CO32	Installation of cable ducts at crossings of Environment Agency Main Rivers will be undertaken using trenchless installation techniques. Installation of cable ducts at crossings of Beverley and North Holderness Internal Drainage Board (IDB) maintained drains will be undertaken using trenchless installation techniques unless agreed otherwise.
CO58	Crossings of and construction in proximity to third-party assets will be undertaken in line with the latest relevant guidance. The crossing / construction methodology will be agreed with the relevant asset owner / operator prior to the commencement of the relevant construction works. Crossing and proximity agreements with existing pipeline and cables owner / operators will be sought.
CO77	To avoid disruption to transport users of road and rail infrastructure from the installation of cable ducts during construction, trenchless installation techniques will be used for all A and B roads, the Hull-Scarborough railway line and the following local roads: Dunnington Lane, Grange Road, Frodingham Road, Hempholme Lane, Scorborough Lane, Leconfield Road, Finchcroft Lane, Little Weighton Road, Walkington Heads and Risby Lane.
CO83	To avoid direct impacts to Local Wildlife Sites (LWS) from the installation of cable ducts during construction, micro-siting or trenchless installation techniques will be used where reasonably practicable. Where direct impacts cannot be avoided, bespoke mitigation will be agreed with the relevant authorities where required.

Commitment ID	Proposed Commitment
CO104	Crossing ID WX-29 as listed within the Onshore Crossing Schedule located in the vicinity of the Hempholme Pumping Station will be installed using trenchless techniques. The crossing will be a minimum 30m from the sheet piles, located to the south of the Hempholme Pumping Station. The cables will be installed at a minimum depth of 5m below the bed level of Mickley Dike and the flood defence structures.

3.6 Emergency Response Planning

66. A Project Emergency Response Plan for the specific stage of construction works will be developed by the Principal Contractor(s) and included in the CoCP, as set out in **Table 3-5.** The plan will cover:

- Identified hazards based on site-specific risk assessments;
- Provision of on-site first aid facilities, pollution, fire containment measures and service shut-off points;
- Evacuation routes and designated assembly points;
- Roles and responsibilities in the event of emergencies and key contacts for notifying emergency services and other relevant authorities;
- Response procedures for health and safety (e.g. injuries) and environmental incidents (e.g. spillages, leakages and fires) to protect workers, plant and equipment and other assets and control the risk;
- Protocols for incident reporting, recordkeeping of emergency health and safety and environmental incidents and implementation of remedial actions; and
- A schedule for emergency response testing at appropriate intervals based on site activities.

Table 3-5 Commitment Relevant to Emergency Response Planning

Commitment ID	Proposed Commitment
CO94	An appropriate Project Emergency Response Plan or similar will be provided as part of the Project Environmental Management Plan (PEMP) and Emergency Response and Contingency Plan (ERCoP) for offshore construction works and the Code of Construction Practice (CoCP) for onshore construction works. The PEMP and CoCP will be developed in accordance with the Outline PEMP and Outline CoCP respectively. The Project Emergency Response Plan will detail protocols that would be undertaken in the event of an emergency, including occupational health and safety and environmental incidents, and set out clear roles and responsibilities, emergency contacts and reporting and escalation pathways. Protocols for extreme weather events will also be included.

67. All construction works undertaken by the Principal Contractor(s) will be in accordance with the Project Emergency Response Plan. Emergency procedures will be displayed at working areas to construction staff and visitors and included as part of site induction.

68. Further details on environmental measures to be incorporated into emergency response planning are provided in **Section 4**.

3.7 Site Reinstatement

69. Following completion of the specific stage of construction works, all temporary infrastructure, including construction compounds, accesses (unless agreed otherwise), haul roads, fencing, lighting and plant and equipment, will be removed from site.

70. All land temporarily disturbed during construction will be reinstated to pre-existing conditions as far as practicable, or an improved state, subject to landowner agreement. This excludes any land required for permanent above-ground or surface level infrastructure, including above-ground link boxes, manhole covers associated with underground link boxes, OCS, ESBI and associated features such as accesses, drainage and landscaping and other environmental mitigation / enhancement areas such as habitats creation and enhancement for Biodiversity Net Gain (BNG).

71. Reinstatement will commence as soon as practicable following completion of the relevant works in the area to minimise unnecessary disturbance of land during the Project's onshore construction works. **Table 3-6** identifies commitments relevant to site reinstatement.

Table 3-6 Commitments Relevant to Site Reinstatement

Commitment ID	Proposed Commitment
CO100	All areas of land temporarily disturbed during construction in the Onshore Development Area, including any temporary construction compounds and haul roads, will be reinstated to pre-existing conditions as far as reasonably practicable. Reinstatement will commence as soon as practicable following completion of the relevant works in the area. In areas of agricultural cropland where temporary loss or disturbance is required, soils will be reinstated within no more than 24 months, wherever practicable and unless otherwise requested by the relevant landowners.
CO101	Reinstatement of cable trenches, haul roads and other land temporarily disturbed within the onshore export cable corridor will commence as soon as reasonably practicable following the completion of duct installation works in each section. Where access is required to be retained for cable pull-in, jointing and commissioning works, land will be reinstated following the completion of all onshore export cable construction activities.

72. A reinstatement methodology for the specific stage of construction works will be developed by the Principal Contractor(s) and included in the Construction Method Statement(s). The methodology should adhere to the latest available standards and guidance applicable to the construction works and the environmental measures in the CoCP.

73. Further details on environmental measures to be incorporated into the site-specific reinstatement methodology will be / are provided in:

- Outline EcoMP (Commitment ID CO81) and Outline LMP (Commitment ID CO65) with respect to ecological and landscape features, such as hedgerows and felled trees, respectively, which will be prepared at ES stage for the DCO application;
- **Outline Construction Traffic Management Plan** (document reference 8.15) (Commitment ID CO73) with respect to roads impacted by construction works, a draft version of which is provided with the PEIR; and
- **Section 4** with respect to soil resources, watercourses and land drainage, third party assets and PRoW impacted by construction works.

4 Management of Onshore Environmental Issues

74. This section identifies specific mitigation and monitoring measures for managing environmental issues during the Project's onshore construction works, which has been informed by the ongoing EIA process. Compliance with these measures, where relevant to the works being undertaken, will be demonstrated in the CoCP.

75. In conjunction with the measures contained in this Outline CoCP, onshore construction works will also be undertaken in accordance with mitigation measures detailed in the following management plans:

- Outline Landscape Management Plan (LMP) (to be prepared at ES stage for the DCO application) – outlines measures for the retention of landscape features during construction and any landscape mitigation / compensation requirements (Commitment ID CO65);
- Outline EcoMP (to be prepared at ES stage for the DCO application) – outlines measures for the protection of ecological features prior to, during and following construction, including the control of invasive non-native species, and any ecological mitigation / compensation / enhancement requirements (Commitment ID CO81);
- Outline Onshore WSI (to be prepared at ES stage for the DCO application) – outlines approach to post-consent archaeological surveys and evaluation and measures for the protection of archaeological features prior to and during construction (Commitment ID CO62);
- **Outline Construction Traffic Management Plan** (document reference 8.15) (a draft version is provided with the PEIR and will be updated for the DCO application) – outlines measures to manage HGV and employee traffic movements during construction and approach to access design (Commitment ID CO73); and
- Outline CMP (to be prepared at ES stage for the DCO application) – outlines measures to reduce greenhouse gas emissions during detailed design, construction and operation (Commitment ID CO98).

4.1 Geology and Ground Conditions

76. This section outlines measures to be implemented during the Project's onshore construction works to manage contamination risks and impacts to groundwater and mineral resources.

4.1.1 Contaminated Land and Groundwater Protection

77. **Table 4-1** identifies commitments relevant to contaminated land and groundwater protection, which are described further in this section.

Table 4-1 Commitments Relevant to Contaminated Land and Groundwater Protection

Commitment ID	Proposed Commitment
CO41	To protect groundwater bodies, the depth of excavation works will be kept as shallow as possible in line with construction and operational requirements. The target burial depth of onshore export cables will be approximately 1.2m to the top of the installed cable ducts, except where trenchless installation techniques are used or where deeper burial depth would be required due to other restrictions such as interactions with surface and buried infrastructure and landowner requirements.
CO42	A hydrogeological risk assessment, informed by ground investigations, will be undertaken at each trenchless crossing location, where earthworks / excavations are within 50m (or 250m dependent upon volume abstracted) of private potable groundwater abstractions and / or where construction works have potential to interact with Source Protection Zone (SPZ) 1 or 2 areas. A hydrogeological risk assessment will also be required for earthworks / excavations within influencing distance of abstractions whereby construction works may interrupt flow pathways due to activities such as dewatering. The hydrogeological risk assessment will be undertaken in accordance with the Environment Agency's Approach to Groundwater Protection.
CO48	A Contaminated Land and Groundwater Scheme will be provided as part of the Code of Construction Practice (CoCP). The Contaminated Land and Groundwater Scheme will be developed in accordance with the Outline CoCP and will identify any areas of known or potential contamination and provide a protocol for the discovery of unexpected contamination. Where potentially unacceptable ground contamination risks to receptors are identified, targeted ground investigations and generic quantitative risk assessment will be undertaken to determine the presence, magnitude and extent of contaminants and to inform the development of appropriate mitigation measures. Where unacceptable risks are identified, the Contaminated Land and Groundwater Scheme will include a Remediation Strategy.

Commitment ID	Proposed Commitment
CO53	In areas identified as potential areas of contamination in the Contaminated Land and Groundwater Scheme or encountered during the construction works, perched waters within Made Ground or groundwater from dewatering activities will be collected in a tank or lagoon prior to any treatment of discharge. The wastewater will either be 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.
CO54	A piling risk assessment will be undertaken if piles are to be used for the construction of infrastructure within the Onshore Converter Station (OCS) zone and where piling is required for the entry pits of trenchless installation works. The piling risk assessment will be undertaken in line with the Environment Agency's Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention (2001) or latest relevant guidance.
CO107	Where necessary, based on risk assessment, mitigation such as the installation of ground gas protection measures will be implemented within the Onshore Converter Station (OCS) zone.

78. A Contaminated Land and Groundwater Scheme for the specific stage of construction works will be included in the CoCP. The scheme will be developed in line with the Environment Agency's *Land Contamination: Risk Management Framework* (2021) or the latest available guidance, which sets out the framework for assessing and managing risks from contaminated land.

79. The Contaminated Land and Groundwater Scheme will include an investigation and assessment report prepared by a suitably qualified geoenvironmental expert to identify any areas of known or potential contamination within the specific works area, and should an unacceptable risk be identified, a Remediation Strategy will be provided to render the land fit for its intended purpose, including long-term measures to manage any residual contaminants on site. The scheme will also include considerations of the potential creation of a contaminant linkage from the works area to an off-site location which was not previously at risk.

80. Areas of known or potential contamination should be avoided where possible. Where these areas must undergo excavation, targeted ground investigations and a generic quantitative risk assessment must be undertaken prior to the commencement of the relevant stage of construction works, and the findings will inform the site-specific measures in the Contaminated Land and Groundwater Scheme.

81. Potential management measures to avoid and minimise risks from contaminated land during construction include but are not limited to the following:

- Provision of appropriate PPE (e.g. nitrile groves or another suitable specification, protective overalls, face masks and safety goggles) and welfare facilities for construction staff designed to account for potential presence of contamination (e.g. cleaning facilities for washing or disposal of contaminated PPE, supply of new PPE);
- Collection of soil, soil leachate, groundwater and / or surface water samples as required by a suitably qualified geoenvironmental engineer / consultant for laboratory analysis to inform the risk assessment, and if required, a Remediation Strategy;
- Excavated Made Ground, topsoil and subsoil will be stored separately and cordoned off with secure fencing to prevent disturbance of contaminated material by other construction activities. Any suspected or confirmed contaminated soils will be stored separately and appropriately labelled and covered to prevent creation and inhalation of wind-blown debris;
- Site monitoring for visual and / or olfactory evidence of contamination as required;
- Ground gas monitoring may be required as part of targeted ground investigations for areas identified as potentially containing ground gas / vapour generating materials; and
- An emergency protocol for incidents involving exposure to contaminated soils by construction staff will be included in the Project Emergency Response Plan.

82. In the event that unexpected contamination is encountered during construction, the following measures will be included in the Contaminated Land and Groundwater Scheme and implemented by the Principal Contractor(s) as appropriate:

- Where visual and / or olfactory evidence of contamination (e.g. significant source of ground gas / vapour generating material) is encountered during construction, works will cease and be reported to the Principal Contractor(s). The area of suspected contamination will be cordoned with secure fencing and made as safe as reasonably possible, pending an investigation by a suitably qualified geoenvironmental expert;
- The locations of the suspected contamination will be annotated on site drawings and photographed;

- Soil, soil leachate, groundwater and / or surface water samples may be required to be collected by a suitably qualified geoenvironmental expert for laboratory analysis to verify the contamination and determine whether and what actions would be required prior to the recommencement of works;
- Re-assessment of the suitability of PPE and welfare facilities provided on site;
- Construction staff will be trained to identify potential contamination (e.g. asbestos awareness) and the protocol for the discovery of unexpected contamination during construction will form part of the site induction; and
- Consultation with the relevant local authorities (e.g. ERYC and Environment Agency) will be undertaken where required to agree plans for further site investigations and remediation.

83. In addition, the Contaminated Land and Groundwater Scheme will include site-specific mitigation and monitoring measures to protect groundwater resources, which will be informed by hydrogeological and piling risk assessments (where required) undertaken in advance of the commencement of the relevant stage of construction works. Groundwater monitoring wells may be required as part of targeted ground investigations to establish the groundwater regime and identify the presence of on-site / off-site contamination sources.

84. A hydrogeological risk assessment, informed by ground investigations, will be undertaken at each trenchless crossing location, where earthworks / excavations are within 50m (or 250m dependent upon volume abstracted) of private potable groundwater abstractions and / or where construction works have potential to interact with Source Protection Zone (SPZ) 1 or 2 areas. A hydrogeological risk assessment will also be required for earthworks / excavations within influencing distance of abstractions whereby construction works may interrupt flow pathways due to activities such as dewatering. The hydrogeological risk assessment will be undertaken in accordance with the Environment Agency's *Approach to Groundwater Protection Framework* (2018) or the latest available guidance.

85. A piling risk assessment, informed by ground investigations, will be undertaken if piles are to be used during the construction of foundations for the OCS and ESBI and where piles are required for the construction of entry pits for trenchless installation works. The piling risk assessment will be undertaken in accordance with the Environment Agency's *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention* (2001) or the latest available guidance.

86. Further details on measures to prevent and control drilling fluid breakout risks and pollution incidents are provided in **Section 4.4**.

4.1.2 Mineral Resources

87. Where construction works overlap with Mineral Safeguarding Areas (for chalk or sand and gravel) and areas of search and preferred areas in the Joint Minerals Local Plan (ERYC and Hull City Council, 2023), the following measures may be required to be included in the CoCP:

- Targeted ground investigations and a Mineral Resource Assessment (MRA) undertaken prior to the commencement of the relevant stage of construction works to determine the likely quantity, quality and accessibility of the mineral resource and the amount that may be sterilised by the construction works (see **Table 4-2**);
- If practicable, pre-construction extraction and storage of mineral resources to prevent sterilisation risks; and
- Mineral Infrastructure Impact Assessment (MIIA) undertaken prior to the commencement of the relevant stage of construction works to identify and manage potential impacts on existing mineral infrastructure.

Table 4-2 Commitment Relevant to Mineral Resources

Commitment ID	Proposed Commitment
CO106	Where construction works overlap with Mineral Safeguarding Areas (for chalk or sand and gravel), consultation will be undertaken with East Riding of Yorkshire Council (ERYC) prior to the commencement of the relevant stage of construction works. If required, a Mineral Resource Assessment supported by targeted ground investigations will be undertaken to determine the likely quantity, quality and accessibility of the mineral resource and the amount that may be sterilised by the construction works and inform appropriate mitigation measures.

4.2 Materials and Waste

88. This section outlines measures to be implemented during the Project's onshore construction works to manage construction waste and site-won materials.

4.2.1 Materials Management

89. An MMP for the specific stage of construction works will be included in the CoCP (see **Table 4-3**). The MMP will be developed in accordance with the *Contaminated Land: Application in Real Environments* (CL:AIRE) *Definition of Waste Code of Practice (DoWCoP)* (2011) or the latest available guidance.

Table 4-3 Commitment Relevant to Materials Management

Commitment ID	Proposed Commitment
CO51	A Materials Management Plan (MMP) will be provided as part of the Code of Construction Practice (CoCP). The MMP will be developed in accordance with the Outline CoCP and will set out measures to ensure the sourcing, handling, re-use and disposal of soils (in particular and may be limited to Made Ground soils) are undertaken in a sustainable manner and in line with the latest relevant guidance.

90. The MMP will provide measures which seek to maximise the reuse of site-won materials during construction where the materials are deemed to be suitable and therefore minimise the volume of materials classified as waste for off-site disposal. The MMP will contain the following information:

- Roles and responsibilities for the implementation of the MMP;
- Estimated volumes and types of site-won materials arising from the works and their estimated reuse / disposal routes;
- Criteria against which site-won / imported materials will be assessed to determine their suitability for reuse;
- Record keeping measures to provide an audit trail of the movement of site-won / imported materials from the point of origin (e.g. excavation, material import) through to their final destination; and
- Details of how the MMP will be verified by a Qualified Person registered with CL:AIRE.

4.2.2 Waste Management

91. The SWMP for the specific stage of construction works will be included in the CoCP (see **Table 4-4**). A draft version of the **Outline Site Waste Management Plan** (OSWMP) is provided in **Appendix B** of this Outline CoCP.

Table 4-4 Commitment Relevant to Waste Management

Commitment ID	Proposed Commitment
CO52	A Site Waste Management Plan (SWMP) will be provided as part of the Code of Construction Practice (CoCP). The SWMP will be developed in accordance with the Outline SWMP and will ensure compliance with the latest relevant waste management regulations and best practice for the storage, handling, treatment and disposal of wastes produced on-site during construction.

92. The SWMP will provide measures to minimise the quantity of waste produced on site through the implementation of the waste hierarchy, along with the following information:

- Roles and responsibilities for the implementation of the SWMP;
- Estimated volumes and types of construction waste and their end-of-life approaches (e.g. reuse, recycling, recovery or landfill disposal);
- Provision of appropriate waste facilities on site appropriate to the works being undertaken;
- Procedures for the storage, handling, treatment and disposal of wastes compliant with waste management regulations and best practice standards (e.g. Defra's *Waste Duty of Care Code of Practice* (2018)); and
- Record keeping measures to provide an audit trail of the movement of waste from site through to their final destination.

4.3 Air Quality and Dust

93. This section outlines measures to be implemented during the Project's onshore construction works to manage construction dust and emissions to air.

94. An AQMP for the specific stage of construction works will be included in the CoCP (see **Table 4-5**). The AQMP will be developed in accordance with the IAQM's *Guidance on the Assessment of Dust from Demolition and Construction* (2024) or the latest available guidance. The AQMP will set out site-specific mitigation and monitoring measures for dust and non-road mobile machinery (NRMM) emissions, as detailed in the sections below.

Table 4-5 Commitment Relevant to Air Quality and Dust

Commitment ID	Proposed Commitment
CO55	An Air Quality Management Plan (AQMP) will be provided as part of the Code of Construction Practice (CoCP). The AQMP will be developed in accordance with the Outline CoCP and will be in line with the latest relevant available Institute of Air Quality Management (IAQM) guidance and, where appropriate and practicable and will set out site-specific mitigation and monitoring measures for dust and other air emissions during the construction works.

4.3.1 Dust Emissions

95. During construction, the following mitigation measures will be implemented as recommended by the IAQM's Guidance on the Assessment of Dust from Demolition and Construction (2024) for high-risk sites to control dust and particulate matter emissions to suitable levels:

- Communications:
  - Develop and implement a Communications Plan (see **Section 2.8**) that includes community engagement prior to the commencement of works on site;
  - Display key contact details for person(s) accountable for air quality and dust issues on the construction site boundary; and
  - Display the contact details for the head or regional office of the Principal Contractor(s) on the construction site boundary.
- Site Management:
  - Record all air quality and dust complaints, identify cause(s), take appropriate remedial measures to reduce emissions in a timely manner and record the measures taken;
  - Make the complaints log available to ERYC if requested;
  - Record any exceptional incidents that cause dust and / or air emissions from the Project's construction activities, either on-site or off-site and ensure prompt remedial action is taken to resolve the situation; and
  - Hold regular liaison meetings with other high risk (as defined by IAQM, 2024) construction sites within 500m of the construction site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. Considerations should be given to cumulative interactions with respect to off-site transport / deliveries using the same strategic road network routes should be considered where relevant.
- Monitoring:
  - Undertake daily on-site and off-site visual dust inspections, in line with relevant guidance, where receptors (including roads) are nearby, to monitor compliance with the AQMP and dust levels and record the observations in a log which shall be made available to ERYC if requested. 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;
  - Increase the frequency of site inspections during activities with a high potential to produce dust and during prolonged dry or windy conditions; and

  - Agree dust deposition monitoring locations with EYRC prior to the commencement of the relevant construction works. Where required and practicable, commence baseline monitoring at least three months before the relevant works commence on site.

- Preparing and Maintaining the Site:
  - Design the construction site layout so that plant and equipment and dust-generating activities are located as far away from sensitive receptors as practicable;
  - Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any soil stockpiles on site;
  - Cover, seed or fence soil stockpiles to prevent wind whipping;
  - Fully enclose the site or specific activities where there is a high potential for dust creation and the site / activity is active for an extensive period;
  - Avoid site run-off of water or mud;
  - Keep site fencing, barriers and scaffolding clean; and
  - Remove materials that have a potential to produce dust from site as soon as practicable, unless the materials are to be re-used on site. If they are being re-used, provide appropriate covering.
- Operating Vehicles / Plant and Equipment and Sustainable Travel:
  - Ensure all vehicles switch off engines when stationary – no idling vehicles;
  - Avoid the use of diesel- or petrol-powered generators and use mains electricity supply or battery-powered equipment where practicable;
  - Produce a construction logistic plan or equivalent (see draft **Outline Construction Traffic Management Plan** (document reference 8.15) to manage the sustainable delivery of goods and materials;
  - Support and encourage sustainable travel (see draft **Outline Construction Traffic Management Plan** (document reference 8.15); and
  - 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).

- General Works at the Site:
  - 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 is provided on site for effective dust / particulate matter suppression / mitigation, using non-potable water where practicable and appropriate;
  - Use enclosed chutes and conveyors and covered skips, where appropriate;
  - Minimise drop heights from loading shovels, hoppers and other loading or 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 soon as reasonably practicable after the event using wet cleaning methods; and
  - Avoid bonfires and burning of materials and waste materials.
- Measures Specific to Earthworks:
  - Re-vegetate or cover exposed areas of earthworks / soil stockpiles to stabilise surfaces as soon as practicable;
  - Use hessian, mulches, or tackifiers where it is not practicable to re-vegetate or cover with topsoil as soon as practicable; and
  - Only remove the cover in small areas during earthworks and not all at once.
- Measures Specific to Construction:
  - Avoid scabbling (roughening of concrete surfaces) if possible;
  - Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place; and
  - 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.
- Measures Specific to Trackout:
  - Use water-assisted dust sweeper(s) on the construction accesses and surrounding roads, to remove, as necessary, any material tracked out of the site. This may require regular use of the sweeper(s) and consider the following measures;
  - Avoid dry sweeping of large areas;

- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul roads for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul roads and any remedial action;
- Install hard surfaced haul roads, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned;
- Implement a wheel washing system with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable;
- 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; and
- Access gates to be located at least 10m from receptors where practicable.

4.3.2 Non-Road Mobile Machinery Emissions

96. During construction, the following mitigation measures will be implemented as relevant to control NRMM emissions to suitable levels:

- All NRMM should be well-maintained. If any emissions of dark smoke occur, then the relevant plant / equipment should cease works immediately, and any problem should be rectified through maintenance or replacement;
- 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;
- Where practicable, NRMM would be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load / duty cycle permitting);
- Fuel conservation measures should be implemented, including instructions to:
  - Throttle down or switch off idle construction equipment;
  - Switch off the engines of vehicles while they are waiting to access the site and while they are being loaded or unloaded;
  - Ensure plant / equipment is properly maintained to ensure efficient fuel consumption; and

- Consideration should also be given to the siting of NRMM within the working area. Where practicable, locating generators and other plant / equipment at the greatest distance from sensitive receptors.

4.4 Water Resources and Flood Risk

97. This section outlines measures to be implemented during the Project's onshore construction works to manage pollution incidents, watercourse crossings, surface water drainage and flood risk.

4.4.1 Pollution Prevention

98. A PPP for the specific stage of construction works will be included in the CoCP (see **Table 4-6**). The PPP will be developed in accordance with the Environment Agency's Pollution Prevention Guidance (PPG) notes (including PPG01, PPG05, PPG06, PPG08, PPG21, PPG22) (although these have been revoked in England, they still provide a useful guide for best practice measures), CIRIA's C532 Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (2001), Defra's Pollution Prevention for Businesses (2016), CIRIA's C648 Control of Water Pollution from Linear Construction Projects (2006) and other latest available guidance.

Table 4-6 Commitment Relevant to Pollution Prevention

Commitment ID	Proposed Commitment
CO40	A Pollution Prevention Plan (PPP) will be provided as part of the Code of Construction Practice (CoCP). The PPP will incorporate the latest relevant Environment Agency best practice guidelines for pollution prevention and detail how ground and surface waters will be protected from construction-related pollution. The PPP will include appropriate control measures for the use and storage of any fuels, oils and other chemicals during construction works.

99. The PPP will include the following measures to minimise the risk of on-site pollution incidents on ground and surface waters during construction. The PPP should be implemented in conjunction with the pollution incident reporting and containment measures in the Project Emergency Response Plan:

- Concrete and cement mixing and washing areas will be located at least 10m away from the nearest watercourse. These areas will incorporate settlement and recirculation systems to allow water to be re-used. All washing out of equipment will 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 capacity of 110% of the capacity of the largest storage vessel located within the bund or 25% of the total capacity of the tanks in the bund (whichever is greatest), with any damaged containers being removed from site;
- Siting of storage bunds within the working area will take into consideration site security, location of sensitive receptors such as boreholes, wells, drains and watercourses and potential pollution pathways and flood risk;
- The walls for the storage bunds will be of sufficient height and structural soundness to withstand flood water ingress;
- Storage bunds will be locked and made secure when not in use;
- Refuelling will take place in a dedicated impermeable area, using a bunded bowser, located at least 10m away from the nearest water body;
- Biodegradable oils are to be used where practicable;
- Ensuring that spill kits are available on site at all times as well as sandbags and stop logs for deployment on the outlets from the site drainage system in case of emergency spillages;
- Potential contaminants will be stored under cover to prevent rainwater carrying pollutants away;
- Temporary construction compounds will comprise hardstanding areas of permeable material, such as gravel aggregates, matting / timber, or similar, underlain by geotextile or another suitable material to a minimum of 50% of the exposed area;
- Potential contaminants will be stored in a safe place away from vehicles to prevent collisions;
- Fuels, oils, lubricants and other chemicals will be clearly labelled, and the site should retain an up-to-date Control of Substances Hazardous to Health (COSHH) inventory;
- All reasonable steps will be undertaken to ensure that mud, silty water and other loose sediments do not enter the local road network and surface water drains. Should these materials encroach onto the local road network, steps will be undertaken to ensure its clean-up;
- Wheel washing facilities will be cleaned frequently;
- Plant and equipment not in use will be placed away from watercourses and surface water drains with suitable interceptor drip tray protection or plant nappies utilised;
- Activities involving the handling of large quantities of hazardous materials (e.g. deliveries and refuelling activities) will be undertaken by designated and trained construction staff;

- Measures to intercept sediment run-off at source in the drainage system using suitable filters will be implemented to remove sediment from water discharged to the surface drainage network;
- Dewatering from cable trenches and excavations and surface water run-offs will be collected in lagoons / settlement tanks to allow suspended solids to settle before discharge;
- Storage bunds and drainage systems will be inspected regularly (e.g. weekly) for signs of spillage, leaks and damage and silt depositions;
- Inspection of all construction plant and equipment for fuel leaks to be undertaken before being mobilised to the working area;
- Buffer strips of vegetation adjacent to water bodies will be retained where practicable to intercept any contaminated run-off;
- The soil stockpiles will be set back at least 10m from watercourses; and
- Geotextile silt fencing will be used. where required, at the toe of stockpile slopes, to reduce the movement of silt – this should be installed before soil stripping has begun and vehicles start tracking over the site.

4.4.1.1 Drilling Fluid Breakout Management

100. Where the construction works involve trenchless installation techniques with the use of drilling fluid (i.e. bentonite or other inert clay-based material), a Drilling Fluid Breakout Management Plan will be included in the CoCP for the relevant stage of construction works (see **Table 4-7**).

Table 4-7 Commitment Relevant to Drilling Fluid Breakout Management

Commitment ID	Proposed Commitment
CO38	A Drilling Fluid Breakout Management Plan will be provided as part of the Code of Construction Practice (CoCP). The Drilling Fluid Breakout Management Plan will be developed in accordance with the Outline CoCP and will detail mitigation measures to reduce the risk of fluid breakouts during trenchless installation works and a response plan should a fluid breakout occur.

101. The Drilling Fluid Breakout Management Plan will be informed by site-specific ground investigations and the specific installation technique and design of each trenchless crossing. The plan will include the following information:

- Site-specific risk assessment and design measures (e.g. hydro-fracturing modelling, depth of installation) to minimise the risk of breakouts;
- Provision of drilling fluid management system appropriate to the trenchless installation works being undertaken;

- Monitoring of drilling fluid properties, volume / flow and pressure during the works to quickly identify any losses should a breakout occur;
- A protocol for the reporting of potential breakout and stopping works; and
- Measures to contain and clean up the breakout (e.g. sandbags, pumps, lost circulation additive materials).

4.4.2 Watercourse Crossings

102. **Table 4-8** identifies commitments relevant to watercourse crossings.

Table 4-8 Commitments Relevant to Watercourse Crossings

Commitment ID	Proposed Commitment
CO33	At trenchless crossings of Environment Agency Main Rivers, crossing entry and exit points will be located at least 20m from the bank of the Main River or the nearest landward toe of any associated flood defence structure. At trenchless crossings of Internal Drainage Board maintained drains and where trenchless techniques are proposed for other ordinary watercourses, crossing entry and exit points will be located at least 9m from the bank of the drain or watercourse.
CO34	A pre- and post-construction survey will be undertaken at each crossing of an Environment Agency Main River and any associated flood defence structure to ensure there is no adverse effect due to trenchless crossing activities. The scope and methodology of the survey will be agreed with the relevant authorities through the Watercourse Crossing Method Statement (WCMS) prior to the commencement of the relevant stage of construction works.
CO35	A Watercourse Crossing Method Statement (WCMS) will be provided as part of the Code of Construction Practice (CoCP). The WCMS will be developed in accordance with the Outline CoCP and will include details of the crossing technique and construction methodology to be undertaken at each crossing and associated environmental mitigation measures. Where open cut trenching is proposed for ordinary watercourses, temporary measures to maintain the flow of water and mitigate adverse effects on the watercourse and flood risk will be implemented during construction. Where the Environment Agency's Main Rivers are to be crossed by temporary haul roads, bailey or similar clear span bridges will be used. For other watercourses, temporary culverts with an overlying haul road will be used where existing access is not available and where temporary bridges are not practicable. Temporary culverts will be adequately sized to avoid impounding flows (including appropriate climate change allowances), and the invert set below the bed level to allow bedload transport.

Commitment ID	Proposed Commitment
CO36	Onshore export cables will be installed at a minimum depth of 2m (to the top of the duct / cable or otherwise) below the channel bed of watercourses, including the landward toe of any associated flood defences. The final depth at each watercourse crossing will be dependent on local geology and geomorphology risks and will take into consideration anticipated climate change-related changes in fluvial flows and erosion that may occur over time. Crossing-specific vertical clearance depth will be agreed with the relevant authorities through the Watercourse Crossing Method Statement (WCMS).
CO38	With the exception of watercourse crossings, onshore export cable installation works will be located at a minimum of 6m from the outside edge of any pipe which is forming a culverted Internal Drainage Board (IDB) maintained drain where practicable. Where works are required within 6m, this will be agreed with the Beverley and North Holderness IDB prior to the commencement of the relevant works to ensure access to the IDB's assets is maintained during construction.

103. Where the construction works involve watercourse crossing(s), a Watercourse Crossing Method Statement(s) will be included in the CoCP for the relevant stage of construction works. The method statement will be provided for each crossing and include the following information:

- Site-specific results of pre-construction watercourse survey(s) undertaken for the works;
- The type of duct installation technique and any requirement for haul road crossing;
- The location and design of the cable crossing and haul road crossing (if required); and
- Proposed construction methodology and environmental mitigation measures to minimise impacts on surface and ground waters with respect to their quality, flow and associated flood risk.

104. Where a watercourse is crossed using trenched installation techniques or during the installation of temporary culverts for haul road crossings, temporary measures will be implemented to maintain the flow of water along the watercourse and included in the Watercourse Crossing Method Statement. These measures would include the following:

- The duration that temporary dams are in place will be kept to a minimum.
- Flumes, pumps or diversion channels will be adequately sized to ensure that flows downstream are maintained whilst minimising upstream impoundment, accounting for climate change allowances.

- A sediment / siltation trap will be installed upstream of any temporary dams. Excess sediment will be moved before or as the temporary dams are removed to stop mobilisation downstream once works are complete.
- A sediment / siltation trap will also be installed downstream of the temporary dam to capture any sediment that is overpumped. For lower flows, hay bales or similar may be used.
- Weather forecasts and any flood alerts / warnings will be reviewed to ensure works are not undertaken during flood events. Works during very wet weather conditions will be avoided.
- Scour protection measures will be implemented to protect the riverbed 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 from entering the watercourse.
- Vegetation will not be removed from the banks, unless necessary to undertake the works, in which case removal will be restricted to the smallest practicable footprint.
- Channel bed and banks will be appropriately reinstated (e.g. by replacing resectioned banks with more natural profiles that are typical of the natural geomorphology of the watercourse).
- A fish rescue will be required to be undertaken prior to dewatering the area between the temporary dams.
- Pumps will be fitted with a mesh of suitable size to prevent fish access.

105. In addition, where a haul road crossing of a watercourse is required, the following measures will be implemented and included in the Watercourse Crossing Method Statement:

- Where temporary culverts are used, they will be adequately sized to maintain flow patterns and sediment conveyance, accounting for climate change allowances, and avoid unnecessary changes to the hydromorphology of the watercourse.
- Temporary culverted sections of watercourses will be designed to be long enough to protect the section of watercourse being crossed to ensure no release of mud / silt run-off into watercourses from vehicular use of the overlying haul road.

- In sensitive locations where a temporary culvert or bridge is considered to be unsuitable to maintain access over the watercourse (e.g. due to the presence of sensitive ecological receptors or where the watercourse is too wide), a stop end to the haul road will be implemented whereby the haul road will stop and continue on the other side of the watercourse. Access to the opposite side of the watercourse will be taken from the existing road network or an alternative route.
- Regular clearing of debris from culverts will be undertaken as required to ensure no blockages to flow are present during construction. Notification to the relevant authorities will be made in advance of debris clearing to ensure no consents / permits are required.
- Following the completion of the relevant construction works, temporary culverts or bridges (and their abutments) will be removed, and the bed and banks of the watercourse will be reinstated to their pre-construction conditions as far as practicable.

106. Where watercourse crossings are required, the appropriate permits and consents will be sought from the relevant authorities as required prior to the commencement of the relevant construction works.

107. Details of the locations and work undertaken on any Main River or associated flood defences, including any reports or records, will be submitted to the Environment Agency upon completion of construction works. Details of the location and work undertaken on any IDB-maintained drain or ordinary watercourse will be submitted to the Beverley and North Holderness IDB or ERYC as appropriate upon completion of construction works.

4.4.3 Construction Surface Water Drainage

108. A Construction Surface Water Drainage Plan for the specific stage of construction works will be included in the CoCP (see **Table 4-9**). The plan will provide the following information:

- Site-specific results of land drainage survey(s) undertaken for the works;
- Locations and design of the pre-construction and post-construction land drainage and other temporary surface water drainage requirements;
- Control measures to minimise accumulation of surface water within the working area, ensure ongoing drainage of surrounding land and manage surface water run-offs during construction;
- Maintenance requirements for the installed drainage during construction; and
- Reinstatement requirements for existing land drainage impacted by the works following the completion of construction.

Table 4-9 Commitment Relevant to Construction Surface Water Drainage

Commitment ID	Proposed Commitment
CO43	A Construction Surface Water Drainage Plan will be provided as part of the Code of Construction Practice (CoCP) and will be developed in accordance with the Outline CoCP. The Construction Surface Water Drainage Plan will detail measures to minimise water within the temporary works area, to ensure the required ongoing drainage of surrounding land (including appropriate climate change allowances) and that the existing land drainage system is not adversely compromised by construction works. Site-specific construction drainage measures and post-construction drainage reinstatement and maintenance requirements will be detailed in the Construction Surface Water Drainage Plan based on land drainage survey undertaken by a suitably qualified expert prior to construction and in consultation with landowners.

109. Land drainage survey(s) will be undertaken by a suitably qualified drainage expert prior to the commencement of the relevant construction works to establish the existing drainage system and record the locations and conditions of field drains and ditches in the working area. Site-specific survey findings will be used to inform the design of pre-construction and post-construction land drainage and any other temporary surface water drainage requirements included in the Construction Surface Water Drainage Plan.

110. In addition, the drainage design will include appropriate climate change allowances and appropriate pollution prevention measures (e.g. hydrocarbon / silt interceptors) and control measures to ensure surface water discharge to the surrounding drainage network occurs at a controlled rate (e.g. attenuation ponds, soakaways).

111. Land drainage channels will be installed within the working area by the Principal Contractor(s) to intercept existing field drains and ditches and maintain the integrity of the existing drainage system during construction. New land drainage channels will not be installed into areas where they are not currently present, unless otherwise agreed with the relevant landowner, occupier and / or their land agents. Land drainage systems will be maintained during construction and reinstated on completion of construction works.

112. Foul drainage from construction welfare facilities will be collected through mains connection to an existing mains sewer (if such a connection is available) or in a septic tank located within the working area to be taken for off-site disposal at a licenced facility.

113. Further details on measures to manage impacts to agricultural land drainage are provided in **Section 4.5.1.2**.

4.4.4 Flood Risk Management

114. A Flood Warning and Evacuation Plan will be developed by the Principal Contractor(s) and included in the Project Emergency Response Plan to ensure the monitoring of flood hazards during construction and establish a site-specific protocol to be undertaken in the event of flooding to protect construction staff, plant and equipment, materials and other assets.

115. **Table 4-10** identifies commitments relevant to the management of flood risks, which are described further in this section.

Table 4-10 Commitments Relevant to Flood Risk Management

Commitment ID	Proposed Commitment
CO45	Where reasonably practicable, topsoil and subsoil stockpiling within a floodplain (defined as areas of Flood Zones 2 or 3, as identified in the Environment Agency's Flood Map for Planning) of any main river will be avoided. Where soil storage in Flood Zones 2 and 3 is unavoidable, storage areas will be located such that they minimise impact to existing surface water flow paths.
CO108	A site-specific Flood Warning and Evacuation Plan will be included in the Project Emergency Response Plan provided as part of the Code of Construction Practice (CoCP). The Flood Warning and Evacuation Plan will be developed in accordance with the Outline CoCP and will include a series of actions to be adopted should adverse weather or flooding be forecast.

116. The Flood Warning and Evacuation Plan will include the following measures:

- Construction staff will be required to monitor local weather forecasts and flood alert / warning services such as the Environment Agency's Flood Line or other approved providers in rural areas not covered by the Environment Agency's services. Independent checks will be undertaken to account for risk of flooding beyond those identified by flood alert / warning services such as heavy rainfall or accumulation of surface water on site.
- All construction staff should be made aware of any areas, including access routes, located within Flood Zones 2 or 3 and any flood alert / warning issued for those areas. Where a flood alert / warning is issued, construction works in the affected area will cease where deemed necessary, and the affected area should be cleared of all personnel, and where practicable, plant and equipment and materials.
- Include key contacts, including Flood Line, emergency services, utilities companies and insurance providers.
- Clearly identify areas at risk of flooding on construction site layout plans.

- Ensure that there is safe access and egress from the site to allow timely evacuation in the event of a tidal, fluvial or surface water flood event.
- Identify plant and equipment, materials and other assets that could be left in-situ without risk of damage or causing pollution and critical assets that require removal or additional protection.
- Undertake visual checks on flood defences, watercourses and drainage culverts prior to and during the commencement of the relevant construction works following a flood event or significant adverse weather event. Any signs of degradation or damage will be reported to the relevant authorities (i.e. Environment Agency) immediately.
- Debris from construction activities will be safely contained to reduce the risk of large items entering the flood flow.
- Where practicable, soil stockpiles within a floodplain will be avoided. Where soil storage in Flood Zones 2 and 3 is unavoidable, storage areas will be located such that they do not block or divert existing surface water flow paths.
- Plant and equipment and materials will be stored in areas of hardstanding, preferably away from flood waters, and where not practicable, these will be sufficiently secured to prevent them being from washed away.
- Soil stockpiles will be stored with gaps in between them to enable flow conveyance.
- The construction works in the affected area would commence once the working conditions are deemed safe.

4.5 Soils and Land Use

117. This section outlines measures to be implemented during the Project's onshore construction works to protect the quality and integrity of soil resources and manage impacts to agricultural operations, PRoW and third-party assets.

4.5.1 Soil Resources and Agriculture

118. **Table 4-11** identifies commitments relevant to soil resources and agriculture, which are described further in this section.

Table 4-11 Commitments Relevant to Soil Resources and Agriculture

Commitment ID	Proposed Commitment
CO46	A Soil Management Plan (SMP) will be provided as part of the Code of Construction Practice (CoCP). The SMP will be developed in accordance with the Outline CoCP and will detail the soil stripping, excavation, storage, reinstatement, cropping and aftercare measures to safeguard soil resources and drainage during the construction works. The SMP will be informed by Agricultural Land Classification (ALC) and soil condition surveys which will be undertaken post-consent and prior to construction.
CO47	Made ground, topsoil and subsoil will be stored in separate stockpiles, and any suspected or confirmed contaminated soils will be appropriately separated, contained and tested before removal (if required). The stockpile area will be cordoned off, if required, with secure fencing to prevent any disturbance or contamination by other construction activities. The stockpiled material will be sealed to prevent water ingress and erosion / wash out of the material into the surrounding environment. Where the soil is to be stockpiled for more than six months, the surface of the stockpiles will be seeded with grass / clover mix or covered to minimise erosion. This will be done in accordance with the Soil Management Plan (SMP).
CO103	Wherever practicable, access to severed land for farm vehicles will be maintained subject to individual agreements with the relevant landowners, occupiers and / or their land agents. Where necessary, crossing points will be agreed prior to the commencement of the relevant stage of construction works.

4.5.1.1 Soil Management

119. Prior to the commencement of the relevant construction works, ALC and soil condition survey(s) of the works area will be undertaken by a suitably qualified soil expert. The survey(s) will be undertaken at a standard density of 100m intervals, and intrusive soil pits will be undertaken at appropriate locations. The ALC and soil condition survey(s) will provide the following information on the soil characteristics:

- ALC grade of the affected land;
- Soil depths for topsoil and subsoil horizons;
- Soil textures of all horizons;
- Soil colour;
- Soil analysis to identify existing soil nutrients and contaminants;
- Level of compaction; and
- Stone contents.

120. An SMP for the specific stage of construction works will be included in the CoCP. The SMP will be developed in accordance with the results of the ALC and soil condition survey(s) and Defra's *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites* (2009), IES' *Sustainable, Health and Resilient: Practice-Based Approaches to Land and Soil Management* (2020) and other latest available guidance.

121. The SMP will provide site-specific results of ALC and soil condition survey(s) undertaken for the works and the proposed methodology for soil stripping, excavation, storage and reinstatement and appropriate management and monitoring measures to protect and conserve soil resources during construction. The SMP will also set out cropping and aftercare measures to retain soil function after reinstatement through an appropriate scheme of management.

122. The SMP will include the following measures:

- Adherence to the soil handling, storage and reinstatement measures outlined in Defra's *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites* (2009);
- Storing soils appropriately by:
  - Storing topsoil adjacent to where it is stripped, wherever practicable;
  - Storing excavated subsoil separately from topsoil, with sufficient separation to ensure segregation;
  - Cordoning off stockpile areas, if required, with secure fencing to prevent any disturbance or contamination by other construction activities;
  - Seal soil stockpiles to prevent water ingress and erosion / washout of materials into the surrounding environment;
  - If the soils are to be stockpiled for more than six months, the surface of the stockpiles will be seeded with grass / clover mix or covered to minimise soil loss and fix nutrients;
  - Minimising the duration of soil storage in stockpiles where practicable;
- Monitoring weather conditions on site and undertake works as and when appropriate for the soil type (e.g. not working in an area of poorly draining soils following a period of heavy rain, limited mechanised soil handling in areas where soils are highly vulnerable to compaction during wet weather);
- Soils should be handled in the driest conditions as practicable;
- Handling of soils according to their characteristics;
- Undertaking field testing of soil moisture and consistency prior to the commencement of works to ensure suitability for handling where required;

- Restricting movements of heavy plant and equipment and vehicles to specified routes to avoid compaction and damage to the soil resource;
- Minimising the footprint of excavation works as much as reasonably practicable;
- Implementing appropriate working practices to limit the risk for the spread of animal and plant diseases (further details on the control of invasive non-native species and biosecurity measures will be provided in the Outline EcoMP (Commitment ID CO81) to be prepared at ES stage for the DCO application);
- Installation of temporary land drainage channels in the working area to reduce the potential for wet areas to form during construction, thereby reducing adverse effects on soil structure and fertility;
- Ensuring effective land drainage systems are used during construction; and
- Implementing appropriate soil reinstatement methodology.

4.5.1.2 Agricultural Land Drainage, Irrigation and Operations

123. The Agricultural Liaison Officer(s) (ALO) and Land Drainage Expert(s) (LDE) appointed by the Undertaker will be responsible for ongoing engagement with each individual landowner, occupier and / or their land agents. The ALO and LDE will gather relevant site-specific information on agricultural operations and requirements to inform the detailed design, where practicable. In addition, the ALO will provide information on the Project's construction and serve as a point of contact for complaints and queries regarding the Project's impacts.

124. The ALO will be contactable to landowners, occupiers and / or their agents during the Project's core working hours, and an out-of-hours contact will be provided for use in the event of emergencies. Contact details of the ALO will be included in the CoCP.

125. During construction, the ALO will undertake site inspections to monitor working practices (e.g. soil handling activities) adopted by the Principal Contractor(s) and ensure that reasonable requirements from relevant landowners and / or occupiers are fulfilled as agreed. The ALO will also oversee the reinstatement of agricultural land and any aftercare requirements post-construction.

126. Wherever practicable, disruption to agricultural operations will be mitigated as early as possible in the construction planning process by providing sufficient time between serving notice of entry and the commencement of construction works and allowing landowners and / or occupiers time to adapt their operations in anticipation of the works.

127. Prior to the commencement of the relevant construction works, the ALO and LDE will gather details on each land holding which may be affected by the works to inform the management of agricultural land drainage and operations during construction. The information to be collected by the ALO and LDE will include the following:

- Location and details of agricultural operations such as crop regimes, livestock and timing of agricultural activities;
- Soil and land conditions;
- Location and condition of farm accesses and field boundaries;
- Location of boreholes and private water supplies used by each farmer;
- Irrigation or impoundment licence granted by the Environment Agency; and
- The type of irrigation system used and the location of irrigation network for each field.

128. Landowners, occupiers and / or their land agents will be consulted and informed of the design of any construction land drainage works required for the site. The information to be provided by the ALO and LDE will include the pipe layout, falls, outfalls (if required) and their dimensions.

129. Land drainage impacted by the works will be reinstated by the Principal Contractor(s) following the completion of relevant construction works to the previous condition, taking into account site-specific conditions, best practice on field drainage installations and the requirements of landowners, occupiers and / or their land agents.

130. As-built records of any construction land drainage installed will be maintained by the Undertaker with copies provided to the relevant landowners, occupiers and / or their land agents following the completion of relevant construction works.

131. In relation to temporary land take requirements, the Undertaker will seek to liaise with the relevant landowners, occupiers and / or their land agents to agree commercial terms with affected parties, including any loss of ongoing payments or penalties relating to environmental / countryside stewardship and other land management schemes.

132. Where practicable, farm accesses across individual fields will be maintained during construction or diverted using alternative routes as agreed with the relevant parties. Where required by the relevant landowners and / or occupiers and deemed safe, crossing points for livestock and farm vehicles will be installed at suitable locations along the working width of the onshore ECC to maintain access to land-locked or severed fields.

133. The measures described in this section will inform the site-specific approach to managing impacts to agricultural land drainage and soils and their reinstatement as outlined in the Construction Surface Water Drainage Plan (see **Section 4.4.3**) and the SMP (see **Section 4.5.1.1**) respectively.

4.5.2 Public Rights of Way

134. The PRoW Management Plan for the specific stage of construction works will be included in the CoCP (see **Table 4-12**). A draft version of the **Outline Public Rights of Way Management Plan** is provided in **Appendix A** of this Outline CoCP.

Table 4-12 Commitment Relevant to Public Rights of Way

Commitment ID	Proposed Commitment
CO57	Where reasonably practicable, Public Rights of Way (PRoW) and cycle route closures during construction will be avoided. Where temporary closures cannot be avoided, disturbance will be minimised, and the affected routes will be reinstated as soon as reasonably practicable. Where permanent closure is required for construction within the Onshore Converter Station (OCS) zone, a suitable permanent diversion will be provided. A PRoW Management Plan will be provided as part of the Code of Construction Practice (CoCP) and developed in accordance with the Outline PRoW Management Plan. The PRoW Management Plan will include details of temporary and permanent closures and diversions and will set out measures to minimise disturbance and ensure equivalent access where possible to PRoW and cycle route users. Diversions will be advertised in advance, and appropriate way finding information will be provided to recreational users and the local community such as signposting. Pre-construction and post-construction PRoW surveys will be undertaken by a suitably qualified expert to record conditions and inform the reinstatement of routes temporarily affected by construction.

135. The PRoW Management Plan will include the following information:

- Locations and characteristics of PRoW and cycle routes temporarily affected by the works, informed by site-specific surveys where relevant;
- Temporary measures (e.g. temporary closure, manned / unmanned crossings, temporary diversion, no management required) proposed for each affected PRoW / cycle route to manage disturbance during construction and ensure their reinstatement post-construction;
- Measures to ensure maintenance of appropriate safety standards during construction through provision of appropriate signage, fencing and gating; and

- Any requirements for permanent closures and / or diversions (and the proposed design and signage for diverted routes).

4.5.3 Third Party Assets

136. In addition to the requirement for a Crossing Method Statement to be prepared for each crossing of a third party asset (see **Section 3.5**), where construction works are in close proximity to or have potential to affect existing third party assets (e.g. pipelines, cables, drains, sewers or chambers), relevant asset owner or operator will be consulted, as required, prior to the commencement of the relevant construction works.

137. Construction works will be undertaken in line HSE's *Guidance Note GS6: Avoidance of Danger from Overhead Lines* (2013), *Guidance Note HSG47: Avoiding Danger from Underground Services* (2014) and other latest available guidance.

138. **Table 4-13** identifies the commitment specific to infrastructure in the OCS zone, given the sensitivity of the ESBI with respect to major accidents and disasters.

Table 4-13 Commitment Relevant to Working Near Third Party Assets

Commitment ID	Proposed Commitment
CO105	Prior to detailed design and commencement of the construction works within the Onshore Converter Station (OCS) zone, consultation with the appropriate stakeholders such as National Grid Gas, the operator of the Central Area Transmission Systems (CATS) Pipeline, the Environment Agency and Health and Safety Executive, will be undertaken to manage interfaces and define appropriate control measures when working close to live pipelines. Safety buffer zones, agreed with relevant stakeholders, will be created and clearly delineated that prohibits work from occurring in proximity to these receptors.

4.6 Noise and Vibration

139. This section outlines measures to be implemented during the Project's onshore construction works to manage construction noise and vibration levels and minimise disturbance to sensitive receptors.

140. A CNVMP for the specific stage of construction works will be included in the CoCP (see **Table 4-14**). The CNVMP will contain embedded best practicable means for controlling construction noise and vibration levels during the onshore construction works, including site-specific mitigation and monitoring measures where required. Where monitoring is required in the CNVMP, this will include details of the monitoring locations in relation to sensitive receptors, duration of monitoring and the frequency of reporting.

141. The CNVMP will include a noise and / or vibration assessment based on the construction programme and list of plant and equipment for the specific works confirmed by the Principal Contractor(s). Where any exceedance of noise and / or vibration threshold(s) of significance is identified post-consent, appropriate mitigation measures will be implemented to ensure residual effects are no worse than those assessed in the EIA.

Table 4-14 Commitment Relevant to Construction Noise and Vibration

Commitment ID	Proposed Commitment
CO70	A Construction Noise and Vibration Management Plan (CNVMP) will be provided as part of the Code of Construction Practice (CoCP). The CNVMP will be developed in accordance with the Outline CoCP and will set out the relevant noise and vibration management measures, including embedded best practicable means and site-specific mitigation and monitoring measures, to be adopted during construction. Where any exceedance of noise and vibration thresholds of significance is identified during post-consent modelling or monitoring, appropriate additional mitigation measures will be identified and implemented to avoid significant construction noise and vibration effects.

142. Onshore construction works will be undertaken in accordance with best practicable means (as defined in Section 72 of the Control of Pollution Act 1974), regulatory requirements with respect to the control of construction noise and vibration and best practice recommendations in *BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise and Part 2: Vibration* or the latest available guidance.

143. Best practicable means to be adopted by the Principal Contractor(s) include but are not limited to the following:

- All onshore construction works will adhere to the core working hours or alternative agreed working hours for other activities such as continuous and emergency activities (see **Section 3.1**);
- Where practicable, locating temporary plant and equipment so that it is screened from receptors by on-site structures such as site cabins;
- Locating construction accesses as far away from sensitive receptors as practicable to manage noise from construction traffic movements;
- Locating or operating high vibration-generating / noisy plant and equipment as far away from sensitive receptors as practicable;
- Specifying modern, quiet plant and equipment for the works during procurement stage;

- Ensuring that plant and equipment are properly maintained and operated by trained staff;
- Ensuring that there are no loose body fittings or exhausts on mobile plant and equipment to avoid rattling and vibration;
- Applying temporary screening and / or enclosures to particularly noisy plant and equipment where practicable;
- Avoiding unnecessary revving of engines;
- Designing construction site layout to avoid or minimise reversing of vehicles where practicable;
- Vehicles should be fitted low noise reversing warnings where practicable;
- Reporting any defective plant and equipment as soon as practicable so that they can be taken out of use pending corrective maintenance or replacement;
- Ensuring plant and equipment are turned off when not in use;
- Establishing a community engagement process through the Communications Plan (see **Section 2.8**), including informing local residents, businesses and emergency services about the construction works, detailing the timing and duration of any particularly noisy activities, and providing a contact telephone number for complaints and enquiries;
- Planning the construction programme to minimise adverse effects where practicable by:
    - Interspersing noisy works between quieter works to provide periods of respite;
    - Sequencing works so that vibration-causing activities do not occur simultaneously;
    - Sequencing works to ensure that the noisiest / most vibration-generating operations are performed during the least sensitive times;
    - Minimising the duration of works wherever practicable. However, if higher noise levels may result in a significant reduction in the overall duration of the works, this should be considered;
- Choosing alternative construction methods wherever practicable with lower noise / vibration impacts; and
- Isolating vibration-generating plant and equipment on resilient mounts.

144. Where core working hours would need to be extended for continuous activities, alternative working hours will be agreed with ERYC prior to commencement of the relevant works. A Section 61 consent (under the Control of Pollution Act 1974) would be obtained from ERYC as required.

145. Following the application of embedded best practicable means, should residual effects identified in the CNVMP exceed the relevant noise and / or vibration threshold(s) of significance, additional mitigation measures will be proposed to reduce the effects to non-significant levels. Potential additional mitigation options may include the following but will vary depending on the site and nature of works:

- Increasing separation distance between works and sensitive receptors, including micro-siting onshore export cables and trenchless crossings to locate entry pits as far away as practicable from sensitive receptors;
- Selection of alternative plant, equipment and construction methods with lower noise / vibration impacts;
- Use of additional exhaust noise attenuators on noisy plant and equipment;
- Reduced numbers / on-time operations of plant and equipment during sensitive periods of the working day such as in the early mornings;
- Reviewing the construction programme to:
    - Schedule noisiest activities to the least sensitive times (and vice versa);
    - Minimise the duration of works at the closest approach to sensitive receptors where practicable;
    - Schedule works to avoid high noise levels at sensitive receptors for more than ten days in any 15 consecutive days, or 40 days in any six consecutive months; and
    - Installation of additional temporary screening and / or enclosures around plant and equipment or at works boundary.

4.7 Climate Change Resilience

146. This section outlines climate change resilience measures (see **Table 4-15**) to be implemented during the Project's onshore construction works to minimise impacts of climate change on construction staff, plant and equipment and other assets.

Table 4-15 Commitment Relevant to Climate Change Resilience

Commitment ID	Proposed Commitment
CO93	Climate change resilience measures to ensure occupational health and safety standards are maintained under future climate conditions during construction will be included in the Project Environmental Management Plan (PEMP) for offshore construction works and the Code of Construction Practice (CoCP) for onshore construction works. The PEMP and CoCP will be developed in accordance with the Outline PEMP and Outline CoCP respectively. Risk assessments, health and safety protocols and guidelines on safety working practices for the works will take into consideration site-specific weather and metocean conditions and potential for relevant extreme weather events at the time of construction to ensure appropriate preparation and response measures are in place.

147. As part of health and safety planning, the Principal Contractor(s) will include provisions for the monitoring of site weather conditions and severe weather alert services such as The Met Office's extreme weather warnings and the Environment Agency's flood alert / warning services. Construction activities will be scheduled considering seasonality and short to medium range weather forecasts from the Met Office and other approved providers. Impacts of extreme weather events on construction activities will be included in risk assessments prepared by the Principal Contractor(s).

148. A severe weather protocol will be developed by the Principal Contractor(s) for relevant extreme weather events at the time of works and included in the Project Emergency Response Plan. Potential management measures include but are not limited to the following, which will vary depending on the site and nature of works:

- Adjusting the construction programme to delay affected activities until working conditions are deemed safe and / or in response to extreme weather forecasts;
- Incorporating severe weather considerations into site safety bulletins, toolbox talks and PPE specifications;
- Altering shift patterns within the core working hours to cooler times during the day and providing additional rest breaks during heatwaves;
- Inspecting construction plant and equipment for physical damage regularly and following extreme weather events;
- Adhering to the Flood Warning and Evacuation Plan included in the Project Emergency Response Plan;

- Implementing permissible thresholds above which construction activities would be halted until site conditions are determined to be safe, e.g. halting working at height when wind speeds exceed the safe threshold;
- Securing stored equipment and materials and delaying crane operations during high wind events;
- Limiting operations requiring the use of fresh water during periods of drought; and
- Specifying use of de-icing equipment during cold spells.

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List of Acronyms

Acronym	Definition
ALO	Agricultural Liaison Officer
ALC	Agricultural Land Classification
AQMP	Air Quality Management Plan
BNG	Biodiversity Net Gain
BPM	Best Practicable Means
BS	British Standard
CATS	Central Area Transmission Systems
CDM	Construction (Design and Management)
CL:AIRE	Contaminated Land: Application in Real Environments
CLO	Community Liaison Officer
CMP	Carbon Management Plan
CNVMP	Construction Noise (and Vibration) Management Plan
CTMP	Outline Construction Traffic Management Plan
CoCP	Code of Construction Practice
COSHH	Control of Substances Hazardous to Health
DBD	Dogger Bank D Project
DCO	Development Consent Order
dML	Deemed Marine Licence
DoWCoP	Definition of Waste Code of Practice
DPF	Diesel Particulate Filters
ECC	Export Cable Corridor
EcoMP	Outline Ecological Management Plan
EIA	Environmental Impact Assessment
EMS	Environmental Management System

Acronym	Definition
ERYC	East Riding Yorkshire Council
ES	Environmental Statement
ESBI	Energy Storage and Balancing Infrastructure
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicle
HVDC	High Voltage Direct Current
HVAC	High Voltage Alternative Current
IAQM	Institute of Air Quality Management
IDB	Internal Drainage Board
LDE	Land Drainage Expert
LMP	Landscape Management Plan
LWS	Local Wildlife Sites
MIIA	Mineral Infrastructure Impact Assessment
MLWS	Mean Low Water Springs
MMP	Materials Management Plan
MRA	Mineral Resource Assessment
NHS	National Health Service
NRMM	Non-Road Mobile Machinery
NSIP	Nationally Significant Infrastructure Projects
OCS	Onshore Converter Station
OSWMP	Outline Site Waste Management Plan
PEIR	Preliminary Environmental Information Report
PEMP	Project Environmental Management Plan
PPE	Personal Protective Equipment
PPG	Pollutions Prevention Guidelines

Acronym	Definition
PPP	Pollution Prevention Plan
PRoW	Public Rights of Way
SMP	Soil Management Plan
SPZ	Source Protection Zone
SSSI	Special Scientific Interest
SWMP	Site Waste Management Plan
TJB	Transition Joint Bays
TMco	Construction Traffic Management Coordinator
UKHPI	UK Habitats of Principal Importance
WCMS	Watercourse Crossing Method Statement
WSI	Written Scheme of Investigation