



Preliminary Environmental Information Report Volume 2

Appendix 2.1 Outline Onshore Code of Construction Practice

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1 Introduction

1.1 Background

- 1.1.1 LionLink is a proposed electricity interconnector between Great Britain and the Netherlands that will supply up to 2.0 gigawatts (GW) of electricity and will connect to Dutch offshore wind via an offshore converter platform in Dutch waters (hereafter ‘the Project’).
- 1.1.2 The Great Britain portion of the Project, termed ‘the Proposed Scheme’, comprises the following key components:
- a. Kiln Lane Substation located to the north of Friston;
 - b. proposed Underground High Voltage Alternating Current (HVAC) Cables between the proposed Converter Station in Suffolk and Substation north of Friston;
 - c. proposed Converter Station in Suffolk, east of Saxmundham;
 - d. proposed Underground High Voltage Direct Current (HVDC) Cables between the proposed Converter Station in Suffolk, and a proposed Landfall Site at Walberswick; and
 - e. Submarine electricity cables from a proposed Landfall Site at Walberswick at the UK coast to the edge of the UK Exclusive Economic Zone (EEZ).
- 1.1.3 This document is the Outline Onshore Code of Construction Practice (CoCP) for the onshore components of the Proposed Scheme (hereafter referred to as the ‘Proposed Onshore Scheme’).
- 1.1.4 The Outline Onshore CoCP contains control measures and standards to be implemented throughout the Proposed Onshore Scheme and are based on the preliminary findings of the Preliminary Environmental Information Report (PEIR). The PEIR presents a preliminary assessment of the potential effects of the Proposed Onshore Scheme and identifies mitigation measures to mitigate impacts on the environment during construction. These proposed construction mitigation measures are detailed in this document.
- 1.1.5 The Outline Onshore CoCP submitted as part of the PEIR will be updated in response to engagement with the Local Authority and statutory bodies and as the Environmental Impact Assessment (EIA) progresses to reflect the mitigation measures reported in the final Environmental Statement (ES) that will accompany the application for a Development Consent Order (DCO). The Outline Onshore CoCP will be used to inform the final version of the Onshore CoCP as agreed by the lead contractor with the Local Authority as a Requirement of the DCO.
- 1.1.6 Whilst multiple construction works would run concurrently throughout the Proposed Onshore Scheme, the Onshore CoCP would act as the overarching document for all onshore construction related activity. The Onshore CoCP would

present a consistent approach to the environmental management of construction activities for the duration of construction of the Proposed Onshore Scheme.

- 1.1.7 'The Applicant' refers to National Grid LionLink Limited or a suitably qualified delegate and the 'lead contractor' refers to the contractor(s) appointed by the Applicant to control the construction phase of the Proposed Onshore Scheme.

1.2 Structure of the document

- 1.2.1 This document comprises the following sections of this document:

- a. Purpose of the Outline Onshore CoCP (**Section 2**);
- b. Implementation (**Section 3**);
- c. Community relations and stakeholder engagement (**Section 4**);
- d. General requirements (**Section 5**);
- e. Accident and incident prevention and control (**Section 6**);
- f. Requirements by environmental topics (**Sections 7 to 19**): an outline of the measures that will be employed to reduce disturbance from construction activities, as far as reasonably practicable, including:
 - i. agriculture and soil;
 - ii. air quality;
 - iii. ecology and biodiversity;
 - iv. geology and contamination;
 - v. health and wellbeing;
 - vi. historic environment;
 - vii. hydrology, hydrogeology and drainage;
 - viii. landscape and visual;
 - ix. material assets and waste;
 - x. noise and vibration;
 - xi. socio-economics, recreation and tourism;
 - xii. traffic and transport; and
 - xiii. climate change.

2 Purpose and development of the Outline Onshore Code of Construction Practice

2.1 Purpose of the Outline Onshore CoCP

2.1.1 This Outline Onshore CoCP outlines the environmental management, mitigation and monitoring requirements to be implemented by the Applicant and the lead contractor throughout the construction period for the delivery of the Proposed Onshore Scheme, as identified at this pre-application stage.

2.1.2 The purpose of this document is to:

- outline effective planning, management, and governance mechanisms throughout the construction period to manage potential impacts upon individuals, businesses and the natural and historic environment; and
- outline processes to engage with the local community and their representatives.

2.1.3 The construction of the Proposed Onshore Scheme would be compliant with all relevant legislation, consents and permits. The statutory requirements listed in the Outline Onshore CoCP and industry best practice guidance are not to be viewed as exhaustive.

2.2 Development of the Outline Onshore CoCP

2.2.1 The Outline Onshore CoCP is one of a suite of documents to be submitted to the Planning Inspectorate as part of the application for development consent for the Proposed Onshore Scheme.

2.2.2 This Outline Onshore CoCP submitted as part of the PEIR will be subject to engagement with the Local Authority and statutory bodies prior to submission of the application for development consent. The Outline Onshore CoCP may therefore be refined where necessary as the design and construction approaches develop.

2.2.3 This Outline Onshore CoCP will be further developed until submission as part of the application for development consent. Compliance with the Outline Onshore CoCP will be secured by way of a requirement in the DCO.

3 Implementation

3.1 Legislative, consent and licence compliance

- 3.1.1 The Applicant and the lead contractor will adhere to all legislative requirements, including the provisions of the DCO. For this reason, the appropriate statutory requirements are not repeated within this Outline Onshore CoCP. In addition, the Applicant and the lead contractor will obtain all necessary consents and licenses for the construction works in accordance with relevant legislation.

3.2 Environmental Management System

- 3.2.1 The lead contractor will have an Environmental Management System (EMS) that is certified to British Standard BS EN ISO:14001. The management systems will set out processes, practices, and plans that enable the lead contractor to manage environmental impacts and increase their operating efficiency.
- 3.2.2 As part of the EMS, the lead contractor will include measures to manage environmental effects and ensure that they are integrated into the construction methods. To support this, contractor's method statements for construction operations will be prepared.
- 3.2.3 The lead contractor's EMS will establish:
- a. the primary environmental aspects of the construction work and how these will be managed;
 - b. staff competence, training and awareness requirements and how these are achieved and maintained;
 - c. processes for managing auditing and management reviews;
 - d. record-keeping arrangements; and
 - e. the procedures to be implemented to monitor and report requirements and the effectiveness of the measures outlined within this Outline Onshore CoCP.
- 3.2.4 One of the key aims of an EMS is to continually improve performance. The lead contractor will therefore ensure that relevant aspects of the EMS, are regularly reviewed, audited and updated.

3.3 Enforcement

- 3.3.1 Compliance with the Outline Onshore CoCP will be a requirement of the DCO. The Applicant will impose the requirements of the Outline Onshore CoCP through the works contracts which will incorporate both general and environmental topic requirements.
- 3.3.2 The lead contractor will be required to comply with the requirements of the Outline Onshore CoCP and the Applicant will take appropriate action where required to ensure compliance.

3.4 Contractors' Method Statements

- 3.4.1 The lead contractor will establish the processes to be followed for construction operations in method statements which will seek to address health, safety, site security and the wider environmental issues associated with all construction works.
- 3.4.2 As a minimum, method statements will be prepared for site preparation, construction operations and reinstatement of land and/or infrastructure post-completion of the primary construction operations.
- 3.4.3 Contractor's method statements will define any specific environmental control measures to be implemented in accordance with the requirements of the Outline Onshore CoCP. Method statements will be informed by risk assessments.
- 3.4.4 The Applicant will review and agree the lead contractor's approach to developing methods statements.

3.5 Supervision

- 3.5.1 To supervise the construction operations, suitably qualified and experienced personnel will be employed. This will include professionally qualified environmental management staff, with relevant experience in the environmental topics covered in the ES and the Outline Onshore CoCP. They will be present on-site during construction, as appropriate, to advise the lead contractor. The staff will further supervise and report on the implementation of appropriate environmental mitigation measures and safeguarding processes.

3.6 Contact person

- 3.6.1 For all construction operations, a point of contact will be identified for communication with the regulatory authorities. The lead contractor will provide the regulatory authorities with the details of the contact person(s) prior to the commencement of the construction works.

3.7 Training and competence

- 3.7.1 The Applicant will require the lead contractor to appoint an appropriately qualified, competent, and suitably experienced workforce.
- 3.7.2 The lead contractor will hold responsibility for the identification of training requirements of their personnel. The identification of training requirements will enable appropriate training to be provided, and suitably qualified and experienced professionals will be engaged for this purpose.
- 3.7.3 The training programmes will prepare relevant staff with the appropriate level of knowledge on health and safety regulations, community relations and wellbeing, and environmental topics, in addition to the ability to adhere to environmental

control measures and advise employees of changing circumstances throughout the construction operations.

- 3.7.4 A suitably qualified and experienced Environmental Manager will be appointed by the lead contractor for the construction works to advise, supervise and report on the delivery of the mitigation methods and controls outlined in the Outline Onshore CoCP.

3.8 Considerate Constructors Scheme

- 3.8.1 The lead contractor will be required to sign up and adhere to the Considerate Constructors Scheme¹.

3.9 Interface management between adjacent construction sites

- 3.9.1 The lead contractor will be required to implement measures to manage the environmental aspects of interfaces between adjacent construction sites. The construction sites will include the boundaries between sites under the responsibility of different contractors or, where reasonably practicable, other third-party contractors working on construction projects adjacent to, but which are unrelated to the Proposed Onshore Scheme.

3.10 Monitoring and reporting

- 3.10.1 The Environmental Manager will monitor and report the compliance with the requirements of the Outline Onshore CoCP and other relevant environmental requirements of the DCO. Monitoring undertaken will be to evaluate the effectiveness of mitigation measures and identify potential impacts of construction activities associated with the Proposed Onshore Scheme, to identify additional actions that may be necessary to enable compliance.
- 3.10.2 Appropriate environmental specialists (for example ecologists, arboriculturists, ground contamination professionals) will be used in support of the Environmental Manager where necessary.

¹ The Considerate Constructors Scheme is a not-for-profit, independent organisation founded to raise standards in the construction industry. The Code of Considerate Practice commits construction sites, companies, and suppliers registered with the Proposed Onshore Scheme to care about appearance, respect the community, protect the environment, care about safety and value their workforce. <https://www.ccscheme.org.uk/>

4 Community relations and stakeholder engagement

4.1 Community engagement

- 4.1.1 The Applicant will prepare a community engagement plan that will provide the overall approach to community engagement (including but not limited to parties such as local residents, businesses, landowners, community resources and protected groups²) during construction and a detailed guide to the enquiries and complaints procedure.
- 4.1.2 The plan will include procedures to:
- maintain effective community engagement throughout construction to further develop existing relationships with the communities alongside the Proposed Onshore Scheme;
 - communicate with affected communities prior to the commencement of the relevant construction activities about how the effects will be managed and, where appropriate, mitigated;
 - communicate to affected communities prior to the commencement of relevant construction activities regarding the programme of the construction operations; and
 - present information on the enquiry and complaints procedures and how these are managed and operated.
- 4.1.3 The lead contractor will provide appropriately experienced community relations personnel to implement the plan, to provide appropriate information and to be the first point of contact to resolve community issues.

4.2 Communications

- 4.2.1 During construction, a programme of relevant and ongoing communications will be prepared and implemented. This will include, but is not limited to, the following:
- Digital media: a website for the construction activities relating to the Proposed Onshore Scheme including the project objectives, activities descriptions, partner profiles, key personnel introductions, timelines, commitments, information on standards and mechanism for residents/stakeholders to sign up to electronic newsletters. The website will be maintained to provide up-to-date information on the progress of the construction works, areas affected by construction, mitigation in place to reduce adverse effects, information regarding planned construction works (including any proposed works outside normal hours, diversion routes) and works recently completed.
 - Social media: project-specific social media channels for the construction works relating to the Proposed Onshore Scheme including a mechanism for monitoring and responding to social media enquiries.

² as defined by the Equality Act 2010

- c. Printed media: printed-media and materials and advertising will be provided where appropriate to inform the affected communities. This will include a newsletter, on the Proposed Onshore Scheme's progress and planned construction operations that is accessible and easy to read.
- d. Helpline and dedicated email address: a helpline (including an out of hours messaging service) and an email address will be available 24 hours a day, seven days a week, to handle enquiries during the construction period.
- e. Stakeholder database: an existing stakeholder database will be used and regularly updated to ensure information about construction is conveyed to those who have expressed an interest in receiving it.
- f. Noticeboards: noticeboards will be used to provide information at appropriate public sites.
- g. Community events: where appropriate, community events will be set up to engage with local communities and maintain ongoing communication relating to detailed design, implementation and establishment of the Proposed Onshore Scheme.

4.2.2 Wherever practicable the lead contractor will notify occupiers of nearby or affected properties, businesses, adjacent or affected parish councils, and other elected representatives four weeks in advance, and again two weeks in advance, of the nature and anticipated duration of planned construction works that may affect them. This includes notification to residents that may be affected by potential disruptive activities, for example night-time working.

4.2.3 As a minimum, the lead contractor will take steps including direct correspondence, as well as providing information in publicly accessible places close to construction works. The notification will also provide the enquiries and complaints contact details. Information included in the notifications will include, as appropriate:

- a. the location of the planned works;
- b. the activities to be carried out;
- c. the duration of the planned works and the periods within which works will be undertaken (i.e., whether during normal working hours, during the evening or overnight);
- d. the anticipated effects of the planned works;
- e. the measures to be implemented in line with the ES and the Onshore CoCP to mitigate the impact of the planned works; and
- f. the enquiries and complaints procedure.

4.3 Enquiries and complaints procedure

4.3.1 The Applicant will use a procedure to manage enquiries and communication from the public which will be implemented by the lead contractor. The complaints procedure for logging an enquiry or a complaint will be outlined within the community engagement plan. Noise complaints will be managed in line with the procedure set out in **Section 16 Noise and vibration** of this document.

- 4.3.2 The relevant contact number, email and website addresses for the Proposed Onshore Scheme will be displayed on signs around the construction sites. Residents will be provided with a point of contact for the community relations personnel for any queries or complaints.

5 General requirements

5.1 Working hours

- 5.1.1 The construction working hours, unless otherwise approved by the Local Authority, are proposed as:
- Monday – Friday 07:00hrs–19:00hrs.
 - Saturday, Sundays and Bank Holidays: 07:00hrs–17:00hrs.
- 5.1.2 The construction working hours exclude start up and close down activities up to one hour either side of the construction working hours. These activities include staff arrival, briefings, checking plant, loading equipment, compound general maintenance activities, debriefing, storing equipment and plant, and staff leaving site.
- 5.1.3 The Applicant is continuing to work to reduce working hours in engagement with third parties and the Local Authority, and where practicable, works would be scheduled to minimise impacts to the local community. This may include but not limited to:
- No percussive piling would be undertaken on Sundays or Bank Holidays.
 - No Heavy Goods Vehicle (HGV) deliveries to be undertaken on Sundays or Bank Holidays (other than those necessary to undertake the operations listed in the exclusions in **Paragraph 5.1.4**).
 - Special considerations around landfall working and school holidays.
- 5.1.4 Exceptions to the above include but are not limited to:
- Continuous periods of operation such as concrete pouring (transition joint bay, joint bays and proposed Converter Station), dewatering, cable pulling, cable jointing, drilling during the operation of a trenchless technique (for example horizontal directional drilling (HDD)), and installation and removal of conductors, pilot wires and associated protective netting across highways or public footpaths for overhead line works.
 - Internal fitting-out works within buildings associated with the proposed Kiln Lane Substation and Converter Station.
 - Delivery to the worksite of abnormal loads that may cause congestion on the local road network (for example transformer delivery vehicles for the proposed Converter Station, Cable Drum delivery) or any other highway works requested by the highway authority to be undertaken on a Saturday, Sunday or Bank Holiday outside of core working hours.
 - Testing or commissioning.
 - Completion of construction activities commenced during the approved working hours which cannot safely be stopped.
 - Activities necessary in the instance of an emergency where there is a risk to persons, delivery of electricity or property.
 - Intrusive or Non-Intrusive Survey works (for example habitat or environmental).

Emergency overruns

- 5.1.5 Certain activities may be required to extend beyond core working hours due to unforeseen events during the working day. Such activities will only be permitted to continue where robust engineering or safety reasons dictate.
- 5.1.6 The lead contractor and Environmental Manager will notify the Local Authority Environmental Health Officer via phone or email. The communication will detail the activity that will extend beyond normal working hours, reasons for continuing work and contact details for the on-site supervisor.

5.2 Construction site layout and housekeeping

- 5.2.1 Emergency numbers and the name and contact details for the Proposed Onshore Scheme will be displayed at all construction compound entrances.
- 5.2.2 To reduce the likelihood of environmental incidents occurring, the following measures will be implemented (note this list is not exhaustive):
- a. maintaining cleanliness of site and along the perimeters;
 - b. increasing recyclability by segregating construction waste to be re-used and recycled where reasonably practicable;
 - c. implementing waste management processes, including inspecting and collecting waste found on site;
 - d. provision of staff facilities;
 - e. preventative pest and vermin control and prompt treatment of any pest or vermin infestation;
 - f. no discharges to watercourses from site without agreement from the relevant authority;
 - g. switching vehicles and plant off when not in use and ensuring construction vehicles conform to current European Union (EU) emissions standards
 - h. implementing appropriate containment measures (for example wheel washing);
 - i. use of less intrusive noise alarms to meet the safety requirements onsite;
 - j. avoidance of the use of loudspeaker or loudhailer devices;
 - k. implementing appropriate security measures (for example closed-circuit television (CCTV));
 - l. containing and limiting visual intrusion of the construction site (as far as practicably reasonable). This includes locating site offices and facilities in areas as to limit overlooking residential properties;
 - m. locating smoking/vaping areas in areas away from residential properties to avoid causing a nuisance to neighbours;
 - n. managing staff and vehicles entering and leaving the site, especially at the start and end of the working day;
 - o. implementation of a Construction Worker Travel Plan which will be produced as part of the application for development consent to encourage workers to use sustainable transport including car sharing (to minimise single car occupancy), public transport, walking and cycling;
managing staff, visitor and off-site contractor parking; and

- p. construction site areas will avoid areas of flood risk and not increase flooding to other receptors.

5.2.3 Where reasonably practicable, inclusive access (including for people with reduced mobility) will be maintained to services and buildings where they have been temporarily disrupted during the works. Where a need is identified (for example through stakeholder engagement with relevant local organisations or community liaison processes), the lead contractor will review access and routes. These reviews will indicate where additional measures or reasonable adjustments may be required for the purposes of ensuring accessibility by disabled or mobility-impaired people. Where the normal means of access has to be diverted or blocked off, alternative safe routes for persons with restricted mobility will be identified, taking into account existing hazards and obstructions such as pavement kerbs and street lighting standards.

5.3 Worksite security

- 5.3.1 The Applicant has a statutory duty to prevent unauthorised access to the site. The lead contractor will carry out site-specific assessments of the security and trespass risk at each site and implement appropriate control measures.
- 5.3.2 The following measures will be used by the lead contractor, where appropriate, to prevent unauthorised access to the site:
- a. use of high perimeter fencing or hoarding with appropriate deterrent mechanisms to prevent illegal and unsafe entry, as appropriate for site security and public safety, and placed so that Public Rights of Way (PRoW) are maintained or appropriately diverted;
 - b. site lighting at site perimeters;
 - c. adequate security guards and patrols;
 - d. CCTV and infrared surveillance and alarm systems where required;
 - e. consultation with neighbours on site security matters;
 - f. consultation with local crime prevention officers on security proposals for each site with regular liaison to review security effectiveness and response to incidents; and
 - g. immobilisation of plant out of hours, removing or securing hazardous materials from site, securing fuel storage containers and preventing unauthorised use of scaffolding to gain access to restricted areas and neighbouring properties.
- 5.3.3 The lead contractor will agree the security measures with the Applicant.

5.4 Hoardings, fencing and screening

- 5.4.1 The lead contractor will be responsible for the appropriate provision of high quality, effectively designed and sustained high perimeter security hoardings, fencing and screening where appropriate. These features will be designed to respond to local landscape character and visual amenity in each location and act as noise control. The features will further enhance site security and public safety

and must be situated so that there is no intrusion to PRow and other identified routes.

5.4.2 The following measures will be applied where appropriate:

- a. maintenance of adequate screening, fencing and hoardings to an acceptable condition to prevent unwanted access to the construction site, to provide noise attenuation, screening and site security where required;
- b. maintenance of protective fencing and/or specialist fencing (for example reptile fencing) to protect environmentally sensitive features during construction operations;
- c. maintenance of existing walls, fences, hedges and earth banks for the purpose of screening as far as reasonably practicable;
- d. adoption of different types of fencing, including hoardings used for noise control and acoustic screening;
- e. consideration for the impact on local landscape character and visual amenity of hoardings facing away from the site;
- f. provision of site information boards with contact details including out of hours contact details, the community helpline and details of the construction programme, at key locations;
- g. display of notices on site boundaries to warn of hazards on site, such as deep excavations and construction access;
- h. display of notices to confirm that businesses whose access or view may be impacted upon by construction operations remain open, including details of access;
- i. provision of signage to indicate re-routed pedestrian/cycle paths; and
- j. provision of information on routes to alternative community facilities.

5.4.3 Hoarding and fencing in areas at risk of flooding will be permeable to floodwater, unless otherwise agreed with the Environment Agency, to ensure flood risk is not increased to sensitive receptors and that the fluvial floodplain and areas liable to other sources of flooding continue to function effectively for storage and conveyance of floodwater.

5.5 Site lighting

5.5.1 To enable the safety and security of the construction sites, site lighting and signage will be provided. The site lighting will provide the minimum illumination levels required to enable safe and secure construction sites.

5.5.2 Where necessary, and for security, health and safety, lighting to site boundaries, on-site construction routes, construction access routes and public diversion routes will be provided with sufficient illumination levels to provide a safe route for the construction workforce and pedestrians. Measures will be adopted to enhance feelings of safety and security within and around the construction sites. Where reasonably practicable, casting shadows from the site on surrounding footpaths, walkways, roads and amenity areas will be avoided. Lighting will be combined with smart-technology where reasonably practicable, such as lighting

activated with motion sensors to avoid unnecessary usage and act to as a security method.

5.5.3 Task-based lighting will be provided for specific tasks.

5.5.4 Proposed lighting will comply with the following guidance documents:

- a. The Institute of Lighting Professionals, Guidance notes for the reduction of obtrusive light GN01:2021 (Ref 1).
- b. The Institution of Lighting Professionals, Maintenance factor determination and its impacts on the performance and overall efficiency of LED luminaires GN11:2020 (Ref 2).
- c. The Institution of Lighting Professionals, Guidance note 8: Bats and artificial lighting GN08:2023 (Ref 3).
- d. The Institution of Lighting Professionals, The brightness of illuminated advertisements, PLG05:2014 (Ref 4).
- e. The International Commission on Illumination (CIE), Guidelines for minimizing sky glow CIE 126:1997 (Ref 5).
- f. CIE, Guide on the limitation of the effects of obtrusive light from outdoor lighting installations, CIE 150:2017 (Ref 6).
- g. BS EN 12464-2 (Lighting of workplaces – Outdoor) (2014) (Ref 7).
- h. BS 5489-1 (Code of practice for the design of road lighting) (2020) (Ref 8)

5.5.5 Lighting will also be designed, positioned and directed to account for aesthetic and environmental conditions. As such, lighting will seek to avoid intrusion on adjacent buildings, sensitive receptors, ecological receptors and structures used by other protected species, and additional land uses to prevent unnecessary disturbance. The identified aesthetic and environmental measures will be most applicable to sites where night working will be undertaken.

5.5.6 Site lighting will be located and directed so that it will not cause undue interference with railway operations and highway users.

5.5.7 Particular attention will be paid to the likelihood of sky glow and light intrusion beyond the construction site. Lighting will be visually checked from the perspective of sensitive receptors (for example nearby residential properties) and any necessary adjustments made.

5.5.8 The lead contractor will keep a record of lighting installed on the construction site. The record will be available on request to show that all lighting fixtures comply with the requirements of this Outline Onshore CoCP. Where requirements have not been met, the record will explain why and detail why and what alternative approaches have been implemented.

5.6 Welfare facilities

5.6.1 Welfare facilities will be provided for construction workers.

5.6.2 The welfare facilities will be subject to the same environmental control measures as outlined within the Outline Onshore CoCP for other construction works.

5.7 Worker Code of Conduct

- 5.7.1 The Applicant will require the lead contractor to sign up to and adhere to a Worker Code of Conduct, to be cascaded through the workforce.
- 5.7.2 The Worker Code of Conduct will cover general behaviour expected of those involved in construction activities, including their interaction with local communities, in line with the Applicant's values.

6 Accident and incident prevention and control

6.1 Emergency preparedness

- 6.1.1 The lead contractor will be responsible for the development of the emergency procedures for each site. As far as reasonably practicable, the procedures will be standardised across the various work sites and will account for the anticipated hazards relevant to the site-specific layout. The emergency procedures will contain phone numbers for the emergency services and the principal staff of the lead contractor, in addition to the method for notifying statutory authorities.
- 6.1.2 The emergency procedures will be developed in consultation with the emergency services and other relevant third parties where appropriate, including but not limited to Sizewell Nuclear Power Station³.
- 6.1.3 The lead contractor will liaise with emergency services and key stakeholders to ensure that emergency access routes, muster points, and parking for emergency services vehicles are appropriately considered and maintained during construction.
- 6.1.4 For the provision of site access points, the lead contractor will ensure that the reasonable requirements of the relevant emergency services will be adopted. The lead contractor must ensure that the access points are suitably designed and developed and account for the types of emergencies that could occur, and the extent and severity of their effects. The design and development should further account for the alteration of site access points throughout the duration of construction operations and will therefore be updated as appropriate.
- 6.1.5 The lead contractor will implement emergency procedures in accordance with an Emergency Plan. The objectives of the Emergency Plan will be to:
- avoid, contain and control any major accidents/disaster hazards;
 - implement the measures necessary to protect persons and the environment;
 - set out protocols for communicating with the public, emergency services and authorities concerned in the area in the event of a major accident/disaster; and
 - provide for the restoration and clean-up following a major accident.
- 6.1.6 The emergency procedures will consider major accidents to people and to the environment, and will include the following as appropriate:
- the strategy for responding to major accidents/disasters both off and on-site;
 - roles and responsibilities of the lead appropriately qualified and experienced personnel;

³ Due to the Proposed Scheme's location within the Extended Emergency Planning Zone (15km).

- c. identification and provision of facilities required to enable effective response, including alternatives where the effects of a major accident could render them inaccessible or unusable;
- d. identification and provision of suitable equipment and materials required to respond to an emergency, including a system of inspection and maintenance to ensure that they can be deployed effectively when required; and
- e. consideration of potential adverse effects resulting from emergency actions.

6.1.7 The lead contractor will be responsible for preparing the Emergency Plan, which will set out emergency procedures and relevant guidance required to execute the Plan effectively. The Plan will set out a requirement for suitable drills and practice at appropriate intervals, and/or whenever a significant change to the arrangements is made.

6.1.8 The Emergency Plan will include, but is not limited to, procedures for:

- a. activating the Emergency Plan;
- b. mobilising internal and external resources;
- c. accounting for people on-site;
- d. enacting emergency action;
- e. communicating with relevant off-site authorities and other third parties; and
- f. maintaining an incident log and preservation of the scene.

6.2 Major accidents and disasters

6.2.1 The lead contractor will identify relevant major accidents and disasters that could arise during construction and eliminate/reduce the risk as far as reasonably practicable. Where this is not reasonably practicable, the lead contractor will implement measures to reduce, control and mitigate the effects of the major accident/disaster on people, the built environment and the natural environment.

6.3 Pollution incident control

6.3.1 The lead contractor will develop and implement appropriate measures to control the risk of pollution resulting from construction operations. This will include a pollution incident control plan, produced as part of the contractors' EMS. The pollution incident control plan will recognise the risk of pollution from construction operations and will present proactive management practices to ensure that any pollution incident that may occur is controlled, reported to relevant parties and remediated. The plan will define the criteria for implementing the relevant measures.

6.3.2 The lead contractor will prepare a pollution incident control plan including the following measures as appropriate to manage the risk of pollution incidents:

- a. a statement of appropriate information to be provided to the Applicant, and the relevant Local Authority and the Environmental Agency, as appropriate, in the event of any incident such as a spillage or release of a potentially hazardous material;

- b. notification of appropriate emergency services, authorities and personnel on the construction site;
- c. notification of relevant statutory bodies, environmental regulatory bodies, Local Authority and local water and sewer providers of pollution incidents, where required;
- d. provision of maps showing the locations, together with address and contact details, of local emergency services facilities (for example police stations, fire authorities, medical facilities and other relevant authorities);
- e. ensure that site drainage plans and flood risk management plans are available on site and are kept up to date;
- f. ensure that pollution shut-off valves are used in compounds with formal drainage;
- g. ensure staff competence and awareness in implementing plans and using pollution response kit;
- h. provision of contact details for the relevant authorities, such as the Environment Agency, and the persons responsible on the construction site and within the contractors' organisation for pollution incident response; and
- i. provision of contacts with a competent spill response company which can be contacted at short notice for an immediate response, where appropriate.

6.3.3 In the preparation of the pollution incident response measures, as outlined within the pollution incident control plan the lead contractor will consult with the relevant statutory bodies and other relevant third parties.

6.3.4 The lead contractor will put in place arrangements to investigate and provide reports on any potential or actual significant pollution incidents, including, as appropriate:

- a. a description of the pollution incident, including its location (and Ordnance Survey (OS) grid reference), the type and quantity of contaminant and the likely receptor(s);
- b. contributory causes;
- c. adverse effects;
- d. measures implemented to mitigate adverse effects; and
- e. any recommendations to reduce the risk of similar incidents occurring.

6.4 Fire prevention and control

6.4.1 All construction sites and welfare facilities will have in place appropriate plans and management controls to prevent fires. A Fire Risk Assessment will be completed and implemented to manage risk throughout construction, including emergency plans and procedures and measures for the safe storage and handling of fuel. Any hot work operations will be completed under a Hot Work Permit.

6.5 Unexploded ordnance

6.5.1 The lead contractor will raise awareness of the risks associated with unexploded ordnance (UXO) through site induction processes and toolbox talks.

- 6.5.2 The lead contractor will keep a watching brief in areas identified as having the potential for UXO.
- 6.5.3 Where UXO is discovered, the lead contractor will implement an emergency response procedure, including the notifications to the relevant Local Authority and relevant services. The emergency response procedures will be prepared in accordance with Unexploded ordnance, A guide for the construction industry CIRIA C681 (Ref 9), or the appropriate equivalent guidance at the time of construction should this be superseded.

6.6 Extreme weather events

- 6.6.1 The lead contractor will use a short to medium-range weather forecasting service from the Met Office or other approved meteorological data and weather forecast provider to inform short to medium-term programme management, environmental control and impact mitigation measures.
- 6.6.2 The lead contractor will register with the Environment Agency's Floodline Warnings Direct service in areas of flood risk.
- 6.6.3 The lead contractor will ensure appropriate measures within this Outline Onshore CoCP are implemented and, as appropriate, additional measures to ensure the resilience of the proposed mitigation of impacts during extreme weather events
- 6.6.4 Site personnel should receive appropriate training for extreme weather events.

6.7 Control of infectious disease

- 6.7.1 Relevant Government guidance on working safely during epidemics/pandemics will be implemented to prevent the spread of infectious disease during construction.

7 Agriculture and soils

7.1 Control measures to reduce impacts

- 7.1.1 Appropriate measures will be implemented, in accordance with Department for Environment, Food and Rural Affairs' (Defra) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref 10), in relation to undertaking works on or adjacent to agricultural and forestry land.
- 7.1.2 Controls will be implemented to mitigate potential avoidable impacts on soils, farms and farm-based businesses, including maintaining access, and for this purpose the lead contractor will:
- identify the farms and farm types adjacent to the construction site;
 - identify watercourses, field drainage layouts and outfalls into watercourses or ditches, fixed irrigation pipes and sources of irrigation water and fixed water supplies for livestock;
 - maintain details of the landowners, occupiers, and agents for land adjacent to the construction site; and
 - maintain details of the farming associated with the areas of land adjacent to the construction site.
- 7.1.3 Soil management measures will be provided within an Outline Soil Resources Management Plan (OSRMP) to be produced by the Applicant for the ES. Measures will include but not be limited to:
- soil type and resources present;
 - methods to how topsoil and subsoils will be stripped and stockpiled;
 - how soil should be handled and what conditions soil should be handled in;
 - recommendations for soil storage locations (taking into account conditions of the site and type of soil);
 - specific measures for managing sensitive soils, such as peaty soils;
 - suitable protective surfacing where soil stripping can be avoided, based on sensitivity of the environment and construction works;
 - approaches and methods to reinstate compacted soil; and
 - measures and methods required for soil restoration.
- 7.1.4 Access to and from residential, community, commercial and agricultural land uses will be maintained throughout the construction period or as agreed through the landowner discussions. This may involve:
- signposted diversions; and
 - temporary periods of restrictions to access.
- 7.1.5 Changes to means of access will be communicated to affected stakeholders prior to construction. Any changes to access during construction will be communicated to affected stakeholders in advance of the change being implemented.

- 7.1.6 Control methods will be prepared by the lead contractor and implemented in the event of encountering animal burial pits. Government guidance will be adhered to including the provisions of Article 16 of the Animals (Miscellaneous Provisions) Order 1927 including a licence or the permission in writing of an Inspector employed by Animal and Plant Health Agency.
- 7.1.7 All movement of plant and vehicles between fields will cease in the event of a notification by the Defra of a disease outbreak in the vicinity of the site that requires the cessation of activities. Advice will be sought from Defra in order to develop suitable working methods required to reduce the biosecurity risk associated with the continuation of works.
- 7.1.8 Before construction, existing water supplies for livestock will be identified. In cases where supplies will be lost or access compromised by construction activities, temporary alternative water supplies will be provided. Water supplies will be reinstated following construction.

7.2 Monitoring

- 7.2.1 Monitoring will be undertaken in line with **Section 3.10 Monitoring and reporting** of this document.

8 Air quality

8.1 Best practice control measures

- 8.1.1 Contractors will control and limit dust, air pollution, odour and exhaust emission during the construction works as far as reasonably practicable and in accordance with BPM), including those referenced below.
- 8.1.2 Currently available standards for Non-Road Mobile Machinery: Greater London Authority (Ref 15), which includes:
- All NRMM above 56kW to be EU stage IV as a minimum.
 - Emission standards for engines smaller than 56kW have not been directly defined, but in most cases must meet stage V.
 - Constant speed engines, such as generators, must meet stage V.
- 8.1.3 Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance: Institute of Air Quality Management, January 2024, (Ref 12) sets out a hierarchical approach to emissions magnitude, which includes:
- Avoidance: Designing out pollution activities where practicable.
 - Substitution: Using cleaner technologies such as Electric Vehicles or zero-emissions machinery.
 - Control: Implementing best practice measures to reduce emissions from necessary activities.
- 8.1.4 Additional control measures for all sites where receptors are located within 100m of construction activities, additional site management practices will be implemented where required. These are from professional input. For example:
- Locating site equipment away from the nearest receptors and maximising the distance between the equipment and receptors.
 - Prioritising use of electric or low emissions equipment at these compound areas.
 - Prioritising early engagement for provision of electrical supply to these compound areas.
 - Consideration of load management software to minimise emissions.
 - Consideration of hoarding to provide a physical barrier to emissions.
 - Minimising equipment use through planning or prefabrication.
 - Installing additional flues to increase the release height of emission to aid dispersion if required.

8.2 Control measures to reduce impacts

Site wide

- 8.2.1 The lead contractor will control and limit dust, air pollution, odour and exhaust emissions during the construction works as far as reasonably practicable and in accordance with best practicable means (BPM), including:
- Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management (IAQM) 2024 (Ref 12);
 - Guidance on Monitoring in the Vicinity of Demolition and Construction Sites, IAQM 2018 (Ref 13);
 - Guidance on the Assessment of Mineral Dust Impacts for Planning IAQM 2016 (Ref 14).
- 8.2.2 Measures will be implemented to limit emissions from construction plant and vehicles, which will include the following:
- Construction plant will be operated in accordance with the manufacturer's written recommendations.
 - Vehicles and plant will not idle, and will be secured, when not in use.
 - Construction vehicles will conform to the current emissions standards.
 - Vehicle and construction plant exhausts will be directed away from the ground and positioned at a height to facilitate appropriate dispersal of exhaust emissions.
 - Movement of construction traffic around the construction site will be kept to the minimum reasonable for effective and efficient operation.
 - Site access points will be designed to minimise queuing traffic adjacent to access points.
 - The use of diesel or petrol-powered generators will be reduced by using mains electricity or battery-powered equipment where reasonably practicable.

Mitigation for construction dust

- 8.2.3 High risk mitigation measures are listed below, which have been identified as being required through the construction dust assessment (Ref 12). Details of standard mitigation are detailed below and will include the implementation of an Outline Dust Management Plan. The Outline Dust Management Plan will be drafted by the Applicant and shall be followed by the lead contractor.
- 8.2.4 Communication will be managed in line with the procedure set out in **Section 4.2 Communications** of this document.
- 8.2.5 As part of the mitigation measures for construction dust, site Management will aim to (where appropriate):
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken.
 - Make the complaints log available to the Local Authority when asked.

- c. Record any exceptional incidents that cause dust and/or air emissions, either on or off-site and the action taken to resolve the situation in the logbook.
- d. Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are coordinated and dust and particulate matter emissions are minimised.

8.2.6 With regards to plan site layout, where practicable site management will aim to:

- a. Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible.
- b. Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site (where appropriate and practical).
- c. Adopt site specific operations where there is a high potential for dust production and the site is active for an extensive period (where noted in the Outline Dust Management Plan and appropriate and practical).
- d. Avoid site runoff of water or mud.
- e. Keep site fencing, barriers and scaffolding clean using wet methods where appropriate.
- f. Remove materials that have potential to produce dust from site as soon as practicable, unless being re-used on site.
- g. Cover, seed or fence stockpiles to prevent wind whipping (where needed and depending on duration).

8.2.7 As for operating vehicle/machinery and sustainable travel associated with the construction of the Proposed Onshore Scheme, site management will aim to:

- a. Ensure all on-road vehicles comply with non-road mobile machinery (NRMM) requirements.
- b. Ensure all vehicles switch off engines when stationary – no idling vehicles where practicable.
- c. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- d. Impose and signpost a maximum-speed-limit on haul roads and work areas.
- e. Implement a Construction Workers Travel Plan to minimise single occupancy car trips to/from the site and encourage workers to use sustainable transport including car sharing, public transport, walking and cycling.

8.2.8 Where practicable, construction operations will aim to:

- a. Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques, such as water sprays or local extraction.
- b. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where practicable and appropriate.
- c. Use enclosed chutes and conveyors and covered skips where reasonably practicable.
- d. Minimise drop heights from conveyors, loading shovels, hoppers and other as loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

- e. 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.

8.2.9 Waste Management:

- a. Bonfires and burning of waste materials will be prohibited.

8.2.10 Demolition activities will aim to:

- a. Avoid explosive blasting, use appropriate manual or mechanical alternatives where reasonably practicable.
- b. Bag and remove any biological debris or damp down such material before demolition.

8.2.11 Earthworks activities will aim to:

- a. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable – where appropriate.

8.2.12 Construction activities will aim to:

- a. Avoid scabbling (roughening of concrete surfaces) if practicable.
- b. Ensure sand and other aggregates are stored in bundled 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.
- c. 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.
- d. For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.

8.2.13 Trackout activities will aim to:

- a. Regularly use water-assisted dust sweeper(s) on the access and local roads, to remove, as soon as practicable any material tracked out of the site.
- b. Avoid dry sweeping of large areas.
- c. Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport.
- d. Inspect on-site haul roads for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- e. Record all inspections of haul roads and any subsequent action in a site log book.
- f. Install hard surfaced haul roads, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned so far as is reasonably practicable.
- g. Access gates to be located at least 10m from receptors where practicable.

8.3 Monitoring of air quality

- 8.3.1 Following consultation with the Local Authority, monitoring of dust and particulate matter during construction, if required, would be undertaken following the current best practice guidance (Ref 13).

- 8.3.2 If determined to be required as a result of the air quality assessment undertaken and reported in the ES, inspection and monitoring procedures will be identified and implemented to assess the effectiveness of measures to prevent dust and air pollutant emissions. The Local Authority will be consulted on the monitoring procedures to be implemented, which will include the following measures, as appropriate:
- a. Undertake regular on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Local Authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.
 - b. Inspection procedures for receptors adjacent to the construction site to visually assess any dust which may be generated, using a daily log.
 - c. Carry out regular site inspections to monitor compliance with the Outline Dust Management Plan to be prepared for the application for development consent, record inspection results and make an inspection log available to the Local Authority, when asked.
 - d. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- a. plans for undertaking continuous automatic monitoring of airborne dust and setting a relevant construction site action level (defined as a measurement threshold above which investigation will be required).
 - b. reference to inspection and maintenance schedules for construction vehicles, plant and machinery.
 - c. inspection procedures relating to the level of traffic movements, use and condition of haul routes.

9 Ecology and biodiversity

9.1 Control measures to avoid impacts

Habitats

- 9.1.1 Where cable sections installed by trenchless techniques have been identified to avoid valuable ecological features, no construction activities (including storage of materials) will occur unless it can be confirmed by an Ecological Clerk of Works (ECoW) that such works would avoid those features and an appropriate buffer.
- 9.1.2 Where habitats of ecological value within the Draft Order Limits are to be retained, but are not avoided by trenchless techniques, installation of suitable fencing will be used to implement buffer zones and areas of no deviation to protect retained habitats. No construction activities (including storage of materials) will be permitted within any Root Protection Area (RPA) of a retained tree or buffer zone during construction. Suitable minimum buffers are likely to include:
- a. Veteran tree buffer (tree specific) following Arboricultural advice and Natural England Guidelines.
 - b. Retained trees – canopy and RPA tree specific following arboricultural advice.
 - c. 2m buffer along retained hedgerows to maintain a grass strip.
 - d. 15m to sensitive habitats such as priority habitats.
 - e. 5m buffer to ponds and waterbodies.
 - f. 30m buffer from badger setts.
 - g. Schedule 1 breeding bird nests - species and context dependent, following ornithological advice and published best practice where available.

Protected/notable species

- 9.1.3 Clearance of vegetation will be supervised by an ECoW, with appropriate consideration given to protected and/or notable species with potential for harm or disturbance based on the location and/or timing of clearance. Vegetation with the potential to support breeding birds, including ground nesting species, will not be removed during the breeding bird season (March to August inclusive) wherever practicable. If any works are necessary during this period, works will be supervised by an ECoW with appropriate protection measures put in place should active nests be found. This includes a species and location specific exclusion zone around active nests until chicks fledge or nests become inactive as determined by monitoring. No netting of vegetation to be used to deter birds from suitable habitat due to the risk of entrapment this poses to a range of wildlife.
- 9.1.4 'Check, Clean, Dry' (Ref 16) biosecurity will be implemented to mitigate any potential mobilisation of invasive aquatic plant species, and chytrid fungus which affects amphibians. Supervision to be undertaken by a suitably experienced

ecologist. Additional biosecurity measures such as the use of suitable Defra approved disinfectants may also be required.

- 9.1.5 Temporary fencing will be installed prior to construction works to exclude fauna from working areas, including compounds. Temporary fencing should be of a suitable specification to exclude all species at risk of ingress in specific locations and may be phased as the Proposed Onshore Scheme progresses. Where excavations have been left uncovered or there is a risk of animal entrapment, a means of escape (for example ramp) will be left in open excavations overnight.
- 9.1.6 As previously outlined, wherever practicable, mature trees (where the majority of bat roosts are likely to be located) will be avoided and retained.
- 9.1.7 Work during hours of darkness will be avoided as far as practicable in proximity to sensitive nocturnal ecological features. Where lighting is essential, proposals would be developed to manage impacts to sensitive nocturnal ecological features, through measures such as:
- Temporary lighting used for construction will be switched-off when not in use and positioned so as not to spill on to adjacent land, watercourses, sensitive receptors or key bat flight lines within the area surrounding the works.
 - Lighting levels around construction compounds will be kept to the minimum necessary for security and safety by the contractor, including use of directional lighting and/or shielding to avoid ecological receptors where necessary.
 - Dark conditions (i.e. absence of artificial illumination) will be maintained within proximity of sensitive features (location specific) such as bat roosts or barn owl nest sites.
- 9.1.8 In areas where construction of the Proposed Onshore Scheme may cause disturbance impacts to ecological receptors in adjacent retained land, such as breeding and/or wintering birds, efforts will first be made to avoid impacts through timing of works outside of sensitive periods as far as reasonably practicable.

9.2 Control measures to reduce impacts

Habitats

- 9.2.1 The lead contractor will manage impacts from construction on ecological resources, through employing good-practice construction measures to:
- manage dust, air pollution and exhaust emission during construction including appropriate dust suppression;
 - employ standard pollution prevention measures – keep closures during construction to avoid pollution of the general water environment;
 - construction drainage design following Sustainable Drainage System principles to manage quality and quantity of construction stage drainage; and
 - control construction noise, vibration and lighting pollution.

- 9.2.2 The lead contractor will manage impacts from construction on groundwater dependant ecosystems, through employing good-practice construction measures, including:
- drainage designed not to increase flood risk on third party land, including ecological sites;
 - dewatering activities undertaken in line with appropriate licences and permits;
 - groundwater control operations to be non-consumptive with water maintained in water environment, where feasible;
 - specific mitigation at designated and non-designated Groundwater Dependent Terrestrial Ecosystems (such as discharge/recharge arrangements) to be informed by hydrogeological impact assessment; and
 - developing a water monitoring plan as part of the lead contractor's EMS.
- 9.2.3 The lead contractor will reduce the risk and impacts, of frac-out of drilling fluid during trenchless cable installation to reduce impacts to ecological features (including European sites), through employing best-practice construction measures to:
- ensure rapid detection of frac-out and immediate cessation of drilling operations;
 - contain drilling fluid spills; and
 - in the worst-case scenario of a frac-out (considered to constitute 25m² of inert clay-based drilling fluid deposited), clean up spills ensuring minimal environmental impact.
- 9.2.4 For all trenchless cable sections within boundaries of the Minsmere-Walberswick designated sites (Special Area of Conservation, Special Protection Area, Ramsar site and Site of Special Scientific Interest) the control measures for frac-out will be agreed with East Suffolk Council, following consultation with Natural England.
- 9.2.5 Reduced working widths at sensitive crossing points (that have not been avoided by embedded design measures outlined in **Chapter 8 Ecology and Biodiversity** of this PEIR), such as hedgerow field boundaries, will be assessed on a case-by-case basis but typically be reduced to the widths in the table below:
- HVDC trench – 19.5m (no stockpiles);
 - HVAC trench - 27m (no stockpiles); and
 - HVAC trench with another project (for example SeaLink) – 52m (no stockpiles).
- 9.2.6 In locations where the construction corridor crosses boundary features such as hedgerows and lines of trees, the construction corridor will target available gaps between mature trees within these linear features.
- 9.2.7 Where vegetation loss or reduction is required to facilitate construction accesses, including at bell mouths to provide sufficient visibility splays for construction traffic, assessment will be made on a case-by case basis for the potential for alternative methods to reduce the extent of vegetation loss, such as the use of suitable traffic management. This will particularly focus on ensuring

the retention of valuable ecological features which are not feasible to reinstate, such as mature trees.

- 9.2.8 Where sections of hedgerow are removed, and are ecologically worth preserving, they should be removed in sections, retaining intact root balls for reinstatement where practicable. This will speed up the restoration process.
- 9.2.9 Where land is not required for construction, for example for habitat compensation purposes or Biodiversity Net Gain, early habitat creation or enhancement, will be undertaken in the first 12 months of the programme, in accordance with details set out in the Environmental Masterplan and Outline Landscape and Ecology Management Plan (LEMP).

Protected/notable species

- 9.2.10 Where removal of sections of hedgerow that provide key wildlife corridors are necessary (for example for bat commuting), 'dead hedging' should be used, where practicable, in the interim periods to retain connectivity during and immediately following construction. Dead hedging can comprise vegetation arisings or artificial provision, such as willow screening panels or Heras fencing covered in camouflage netting.
- 9.2.11 The lead contractor will comply with relevant protected species legislation. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys. All applicable works will be undertaken in accordance with the relevant requirements and conditions set out in those licences. Key licensable works are outlined below.
- 9.2.12 Where badger setts are identified within the land required for construction, the sett will require closure prior to the commencement of construction. This will require the installation of one-way gates and surrounding mesh to secure the full sett area. Following a minimum 21-day continuous monitoring period without re-entry, the gates and mesh will be removed, and the sett destroyed through the careful excavation of each tunnel. Where main setts require closure, a suitable artificial sett must be provisioned and demonstrably utilised by badgers prior to closure. Setts to be retained but subject to significant disturbance during the construction period may be temporarily closed for the period of disturbance.
- 9.2.13 Where trees identified as bat roosts are unavoidably lost, considered only likely to constitute lower value roosts for individual bats, a suitable capture and exclusion exercise for the specific roost would be undertaken. The tree would then be soft felled under ecological supervision. Following pre-construction surveys, any trees where the potential for roosting bats could not be ruled out after survey would be soft-felled. Existing tree roosting features would be salvaged, wherever practicable, through careful section-felling and strapped onto nearby trees of the same species and at a similar height and orientation to that of the original tree roost.

- 9.2.14 Where habitats supporting water vole are unavoidably lost, considered only likely to constitute ditches, a suitable displacement exercise would be undertaken, gradually manipulating the habitats to encourage water voles to disperse to retained areas of adjacent suitable habitat. Where a displacement exercise is unsuitable, either due to the large extent of habitat lost or lack of/poor quality adjacent habitat, a trapping and soft-release exercise would be undertaken, with water vole exclusion fencing, trapping, destructive search and soft-release using best-practice methods.
- 9.2.15 Where habitats supporting widespread reptile species are unavoidably lost, a translocation exercise is likely to be required. The exception would be where the only potential reptile habitat to be impacted was a narrow corridor of field boundary habitat, connected to more extensive suitable habitat off-site. In this scenario an ecologist would assess whether mitigation in the form of habitat manipulation using two-staged vegetation reduction to displace reptiles to adjacent retained habitat would be appropriate. Two-stage habitat manipulation that would take place between mid-March and mid-October. Firstly, vegetation will be cut to approximately 150mm (with the arisings removed) under the supervision of an ECoW and the site left for a minimum of two days to allow reptiles to naturally disperse from the area. Secondly, vegetation would be cleared down to ground level under the supervision of an ECoW. Vegetation would be cleared using appropriate equipment based on the type of vegetation to be removed, the area affected, and the risk of mortality or injuring reptiles. Construction works could commence immediately after completion of the second stage.
- 9.2.16 Potential reptile and amphibian hibernacula will be retained and protected during construction where practicable. If unavoidable, the removal of vegetation and groundworks at potential hibernacula will be timed to avoid the hibernation season (late October to early March). Replacement hibernacula and refugia will be provided.
- 9.2.17 In areas where construction of the Proposed Onshore Scheme may cause disturbance impacts to ecological receptors in adjacent retained land, such as breeding and/or wintering birds, which cannot be avoided through timing of the works, suitable noise and/or visual barriers will be put in place. The position, size and type of barriers will be dictated by the specific ecological receptors impacted and the nature of works occurring. This will include the use of barriers to minimise impacts to bird species using European sites.

Invasive non-native species

- 9.2.18 Appropriate measures for the treatment and control of invasive non-native species will be implemented as per the Wildlife and Countryside Act 1981 (Ref 17). Best practice measures will be followed, such as:

- a. Any plant or machinery that has been used in areas infested with invasive species (both terrestrial and aquatic), such as Japanese knotweed and Himalayan balsam, will be thoroughly cleaned, checked and dried.
- b. Water used to clean vehicles will be controlled to prevent the spread of the plant (through seeds, rhizomes, fragments). This area will be cordoned off to prevent any inadvertent spreading.
- c. Construction staff and visitors to site will undergo the appropriate invasive species training.
- d. Best practice biosecurity measures during construction within aquatic environments will prevent the spread of invasive non-native species (INNS) in these environments.

Habitat reinstatement

- 9.2.19 All enhancement planting will be delivered as shown on the Environmental Masterplan and delivered and managed as detailed in the LEMP. Where feasible, planting will utilise material harvested from local sources of high biodiversity value (for example green hay for grasslands). Where not feasible, planting of remaining habitats will comprise species of local provenance to maintain or enhance existing biodiversity features.
- 9.2.20 Where linear habitat features require removal for cable construction and/or haul roads, the features will be reinstated afterwards to maintain landscape-scale ecological connectivity across the proposed Underground Cable Corridor which will intersect with many linear habitat features. The proposed Underground Cables will require a permanent easement which will place a restriction on the planting of trees within approximately 7.5m from the centreline of the outermost trench. However, the planting of shallow rooted shrubs and hedgerows will be permitted within the easement and continuous hedgerows can therefore be reinstated, with tree spacing to respect the easement requirements.
- 9.2.21 Where semi-mature and mature trees are lost as part of boundary crossings, planting of compensatory trees generally of the same species will occur within the same boundary feature wherever feasible, outside of cable easement, i.e. within or adjacent to retained sections of hedgerow that occur within the Limits of Deviation.

Pre-construction surveys

- 9.2.22 The above measures will apply to known ecological features and any new or changed features that may arise before construction, for example excavation of a new badger sett or further damage to a tree that increases its roosting potential for bats. Control measures to avoid damage to future ecological features that may arise include undertaking further ecological surveys prior to construction.
- 9.2.23 Pre-construction surveys will be undertaken for species at risk of impacts to identify any changes to baseline conditions prior to the setting out of construction areas and associated clearance of vegetation or groundworks. Pre-

construction surveys will be undertaken in suitable species-specific locations and time periods in advance of works commencing to allow for suitable mitigation measures and/or appropriate licences to be obtained.

- 9.2.24 Pre-construction surveys will be undertaken for invasive non-native species (including aquatic species) to identify any areas where such species occur within the Draft Order Limits prior to the setting out of construction areas and associated clearance of vegetation or groundworks. Pre-construction surveys will be undertaken in suitable species-specific locations and time periods in advance of works commencing to allow for suitable management strategy to be developed and implemented.

9.3 Monitoring

- 9.3.1 The lead contractor will undertake appropriate monitoring of the consequences of construction works on ecological resources and of the effectiveness of the management measures designed to control ecological effects, associated with works that may affect protected or notable species, statutory designated or non-statutory sites of ecological interest and notable or priority habitats.
- 9.3.2 Monitoring of mitigation measures will follow the specific actions and timeframes set out for individual locations as specified in the Outline LEMP, including any remedial measures for where mitigation measures have failed.

10 Geology and contamination

10.1 Control measures to reduce impacts

- 10.1.1 Intrusive ground investigations and assessment will be undertaken by the lead contractor prior to construction activities which will inform appropriate geotechnical design. Ground investigations and risk assessments based on this information will be in accordance with:
- a. the requirements of the National Planning Policy Framework (NPPF) (Ref 18);
 - b. BS 10175:2011+A2:2017 Investigation of potentially contaminated sites. Code of practice (Ref 19);
 - c. BS 5930:2015+A1:2020 Code of practice for site investigations (Ref 20);
 - d. BS 8576:2013 Guidance on investigations for ground gas – Permanent gases and volatile organic compounds (VOCs) (Ref 21);
 - e. Association of Geotechnical and Geoenvironmental Specialists, Guidance on dealing with contamination during an intrusive investigation 2012 (Ref 22);
 - f. relevant Environment Agency and Defra guidance, including Land Contamination: Risk Management (LC:RM) (Ref 23); and
 - g. relevant new/replacement guidance or legislation published prior to construction.
- 10.1.2 The lead contractor will ensure appropriate occupational health and safety measures and statutory health and safety measures will be implemented at the construction site to minimise the risks associated with anticipated and/or unexpected contamination. This will be based on risk assessments informed by site specific information.
- 10.1.3 The lead contractor will ensure protocols will be in place for encountering and dealing with unexpected contamination during construction. Workers at the construction site will be trained on the risks, handling and use of potentially hazardous substances.
- 10.1.4 All use and storage of chemicals will be undertaken by the lead contractor in accordance with Environment Agency Guidance for Pollution Prevention (GPP) documents, and controlled and monitored under Onshore CoCP and general construction site good environmental and waste management procedures.
- 10.1.5 A Pollution Incident Control Plan will be developed as part of the lead contractor's EMS prior to construction and implemented during construction.
- 10.1.6 The control of earthworks or materials movement (including any re-use of materials) will be carried out under appropriate Environmental Permits, exemptions to the Environmental Permitting system or by use of the Contaminated Land: Applications in Real Environments (CL:AIRE) 'The definition of Waste: The development industry Code of Practice' (Ref 24).

- 10.1.7 Trenchless installation techniques are to be used to install the cable at the proposed Landfall Site (and at additional locations as set out in **Chapter 2 Description of the Proposed Scheme** of this PEIR). Drilling depths will reach up to 25m to ensure sufficient depth below features such as cliffs or seawalls. By utilising trenchless techniques, the coastal environment remains intact, allowing the drilling process to avoid interference with natural erosion or accretion rates at the shoreline.
- 10.1.8 Trenchless techniques shall use lubricants which do not pose a risk to groundwater or surface water quality. The aim of this mitigation measure is to ensure the construction phase does not introduce contamination.
- 10.1.9 The risks associated with encountering UXO will be managed during construction by the lead contractor. A Preliminary UXO Risk Assessment will be completed for the Proposed Onshore Scheme, together with a Detailed UXO Risk Assessment where the Preliminary assessment indicates there may be a risk of encountering UXO. The measures recommended by the risk assessment(s) will be adopted during construction. See **Section 6.5 Unexploded ordnance** of this document for further details on UXO.

10.2 Monitoring

- 10.2.1 The lead contractor will require a gas monitoring procedure to be implemented as appropriate due to the presence of areas of landfill, made ground, industry sites, infilled ground and naturally occurring gassing strata.
- 10.2.2 See **Section 6 Accident and incident prevention and control** of this document for information relating to accident and incident prevention and control, including the requirements for a Pollution Incident Control Plan.
- 10.2.3 Monitoring of the effects of construction activities with the potential to impact on geology and contamination are set out in the following sections of this document:
- Section 8 Air quality;** and
 - Section 13 Hydrology, hydrogeology and drainage.**

11 Health and wellbeing

11.1 Control measures to reduce impacts

- 11.1.1 All works will be carried out in accordance with the measures set out in this Outline Onshore CoCP to ensure that the effects of construction activities and traffic on environmental amenity and community facilities are reduced as far as practicable.
- 11.1.2 An Environmental Manager will be appointed during the construction phase to advise, supervise and report on the delivery of the mitigation methods and controls outlined in the Outline Onshore CoCP.
- 11.1.3 Those potentially affected by the construction works (for example residents, occupiers, businesses, Local Authority and parish councils) will be informed in advance of works taking place in accordance with the procedure outlined in **Section 4 Community relations and stakeholder engagement** of this document.
- 11.1.4 Appropriate controls will be put in place to protect the health and wellbeing of local communities and residents on the site from the effects of construction activities where reasonably practicable. This will include measures as indicated in **Section 4 Community relations and stakeholders, Section 5 General requirements, Section 8 Air quality, Section 9 Ecology and biodiversity, Section 14 Landscape and visual, Section 16 Noise and vibration, Section 17 Socio-economics, recreation and tourism, and Section 18 Traffic and transport** of this document. Further details of measures relating to the management of community health, wellbeing and safety will be provided in the Outline Construction Traffic Management Plan (CTMP) to be produced as part of the application for development consent.

11.2 Monitoring

- 11.2.1 Monitoring of the effects of construction activities with the potential to impact on health and wellbeing are set out in the following sections of this document:
- Section 8 Air quality;**
 - Section 14 Landscape and visual;**
 - Section 16 Noise and vibration;** and
 - Section 18 Traffic and transport.**
- 11.2.2 Community relations personnel will monitor complaints about effects on health and wellbeing and identify any recurring issues, particularly if these affect vulnerable or protected groups. Where any such issues are identified, consideration will be given to potential additional mitigation.

12 Historic environment

12.1 Control measures to reduce impacts

- 12.1.1 The lead contractor will manage the impact of construction works on cultural heritage assets, including:
- designated assets: scheduled monuments; listed buildings, registered park and gardens; conservation areas and registered historic battlefields; and
 - non-designated assets: archaeological and palaeo-environmental remains including geological deposits that may contain evidence of the human past, historic landscapes and historic buildings and the built environment and locally designated assets.
- 12.1.2 During construction, the lead contractor will manage disturbance to heritage assets in accordance with standards and guidance by the Chartered Institute for Archaeologists and, where disturbance cannot reasonably be avoided, is controlled and limited as far as practicable.
- 12.1.3 An Outline Written Scheme of Investigation (OWSI)/Detailed Archaeological Mitigation Strategy (DAMS) detailing an agreed works methodology and relevant standards and guidance will be produced by the Applicant in advance of each phase of archaeological works and approved by the relevant Local Authority and, where appropriate, relevant statutory bodies (including Historic England). This will include requirements around artefacts that could be considered treasure, if located during construction works.
- 12.1.4 The Applicant will develop a burial grounds, human remains and monuments procedure to comply with legal obligations under current legislation. The lead contractor will comply with this procedure.
- 12.1.5 Should human remains be discovered during construction, either during archaeological works or as part of construction activity, the lead contractor will comply with all relevant legislative and project-specific requirements.
- 12.1.6 During the course of construction, if artefacts are located that are deemed by their material content or context to be treasure, as defined by the Treasure Act 1996 (Ref 25), then all necessary measures to comply with the requirements of the Act and any project-specific requirements will be implemented.
- 12.1.7 Locations of archaeological value and interest will be signposted and/or fenced off to avoid damage. Where appropriate, a buffer will be agreed with the Local Authority and, if required, Historic England, to ensure that no physical impacts are incurred.
- 12.1.8 Locations where archaeological work is planned will be signposted and/or fenced off to avoid damage. Additional mitigation measures may include toolbox talks to educate the workforce on the heritage potential of the works areas, and on-site traffic management.

- 12.1.9 During trial trenching, where a previously unknown heritage asset is discovered, or a known heritage asset proves to be more significant than previously thought, the Applicant will inform the Local Authority and will agree a solution that protects the significance of the new discovery, so far as practicable.

12.2 Monitoring

- 12.2.1 Monitoring of works may, if necessary, be carried out by an Archaeological Clerk of Works employed by the Applicant to ensure accurate discharge of the DAMS, any DCO requirements and site specific WSIs.

13 Hydrology, hydrogeology and drainage

13.1 Control measures to reduce impacts

- 13.1.1 All works within or proximity to main rivers or Ordinary Watercourses will be undertaken in accordance with a method approved by the relevant authority, or the protective provisions of the DCO. Appropriate flood risk activity environmental permits or land drainage consents will be obtained.
- 13.1.2 The lead contractor will require site activities and working methods to be managed to protect the quality of surface water and groundwater resources from other adverse effects, including changes to the hydrological regime through controls to manage the rate and volume of runoff. Where required, the lead contractor will include arrangements to obtain appropriate approval for works from the relevant regulatory body or statutory undertaker that could affect any surface water or groundwater resource.
- 13.1.3 The lead contractor will subscribe to the Environment Agency's Floodline service (as per **Paragraph 6.6.2**), the Met Office's Weather Warnings email alerts system and any other relevant flood warning information.
- 13.1.4 The lead contractor will implement a suitable flood risk action plan, which will include appropriate evacuation procedures should a flood occur or be forecast.
- 13.1.5 Where practicable, riverbank and in-channel vegetation will be retained.
- 13.1.6 Active licensed abstractions and private water supplies will be identified with landowners and appropriate measures will be considered during construction. In the event of a landowner or tenant reporting that installation activities have affected their water supplies, an initial response will be provided within 24 hours. Where the installation works have affected a private water supply, an alternative water supply will be provided, as appropriate.
- 13.1.7 In the event of a large spill during construction, all relevant landowners/tenants, within 250m of the spill, will be contacted within 24 hours. When located within Source Protection Zone (SPZ) 3, the Environment Agency and relevant water supply owner will be contacted immediately. It will be determined if any licensed abstractions or private water supplies might be affected. An assessment of the likelihood of groundwater contamination reaching identified licenced abstractions and private water supplies will be undertaken, and where a private water supply is likely to have been affected, an alternative water supply will be provided, as appropriate.
- 13.1.8 For open cut minor watercourse crossings and installation of vehicle crossing points, good practice measures will be implemented, including:
- reducing the working width for open cut crossings of a watercourse whilst still providing safe working;
 - installation of a pollution boom downstream of open cut works;

- c. the use and maintenance of temporary lagoons, tanks, bunds, silt fences or silt screens as required;
- d. have spill kits and straw bales readily available at all crossing points for downstream emergency use in the event of a pollution incident. Staff will be trained on their use;
- e. the use of all static plant such as pumps in appropriately sized spill trays;
- f. Stationary plant will be used with secondary containment measures such as plant nappies to retain any leakage of oil or fuel, which will be emptied at regular intervals to prevent overflow.
- g. prevent refuelling of any plant or vehicle within 15m of a watercourse;
- h. prevent storing of soil stockpiles within 15m of a main river;
- i. inspect all plant prior to work adjacent to watercourses for leaks of fuel or hydraulic fluids; and
- j. reinstating the riparian vegetation and natural bed of the watercourse, using the material removed when appropriate, on completion of the works and compacting as necessary. If additional material is required, appropriately sized material of similar composition will be used.

13.1.9 Watercourse crossings will utilise appropriate construction techniques which will be selected based on watercourse dimensions, flow conditions and environmental sensitivity. To prevent potential deterioration, all main rivers will be crossed by trenchless techniques to avoid physical changes and impacts on flow and sediment transport regimes and hydromorphology. All trenchless crossings will utilise methodologies which exclude groundwater.

13.1.10 Where a main river is crossed by a trenchless crossing, cables are to be laid with sufficient cover to minimise the risks of future erosion exposing the cables or fluid loss during construction. Marker posts will be positioned on each bank of the river to indicate the location of the under-crossing and the nature of the works.

13.1.11 The contractors will, as far as reasonably practicable, ensure that flood risk is managed safely throughout the construction and implementation period and consider flooding when planning sites and storing materials. A risk based precautionary approach using the source – pathway – receptor' concept will be applied to temporary and permanent works. Designers and contractors will be required to prepare construction proposals that are safe and ensure that flood risk (including that to third parties and the proposed works) is managed appropriately. Where necessary this will include the provision of evidence that appropriate flood warning and emergency management measures are established and that detailed designs are supported by provision for long term management and maintenance. Where practicable, contractors should avoid locating temporary structures, such as accommodation and stockpiles, and placing construction equipment within Flood Zone 3 areas or areas at significant risk of flooding from other sources.

13.1.12 Sustainable Drainage System (SuDS) techniques will be utilised at permanent above ground installations to manage rainfall runoff in terms of both quality and quantity, as well as within construction compounds and along the proposed

Underground Cable Corridor during construction. Techniques will be selected based on the ground conditions, and with reference to the hierarchy outlined in the National Planning Policy Guidance (NPPG) for Flood Risk and Coastal Change (Ref 26). Surface water management will achieve sufficient attenuation and treatment of surface water runoff to avoid increases in flood risk and pollution of the water environment.

- 13.1.13 All land drainage will be reinstated on completion of the relevant phase of works.
- 13.1.14 Any abstractions required for the works will be temporary in nature (for example construction dewatering) with no permanent abstractions proposed or required.
- 13.1.15 Where new or additional surfacing is required within access tracks and compound areas, it will be permeable surfaces where ground conditions allow.
- 13.1.16 Temporary haul routes within Flood Zone 2 or 3 and areas of high and medium risk of flooding from surface water will be removed at the end of construction and the ground surface will be reinstated to pre-construction levels.
- 13.1.17 Appropriate construction methods will be employed to minimise the risk of mixing aquifer bodies.
- 13.1.18 Any temporary dewatering activities during construction will be undertaken in accordance with Environment Agency guidance and, if required, relevant abstraction licence and environmental permits obtained. Activities will be limited to the depth and time required to facilitate construction activities.
- 13.1.19 Where the cable trench is installed below the water table, the trench backfill will include clay stanks at set intervals (informed by the detailed design) to prevent the trench acting as a preferential pathway and altering local groundwater flow paths/levels.
- 13.1.20 The lead contractor will produce the following management plans/risk assessments as part of the EMS prior to commencement of works:
 - a. Water Management Plan, including measures to reduce potable demand;
 - b. A Fluid Breakout/Frac-Out Management Plan; and
 - c. Foundation Works Risk Assessment.
- 13.1.21 The lead contractor will manage impacts from construction on groundwater dependant ecosystems, through employing best-practice construction measures, including:
 - a. drainage designed not to increase flood risk on third party land, including ecological sites;
 - b. dewatering activities undertaken in line with appropriate licences and permits;
 - c. groundwater control operations to be non-consumptive with water maintained in water environment, where feasible;
 - d. specific mitigation at designated and non-designated Groundwater Dependent Terrestrial Ecosystems (such as discharge/recharge arrangements) to be informed by hydrogeological impact assessment; and
 - e. developing a water monitoring plan as part of the lead contractor's EMS.

13.2 Monitoring

- 13.2.1 The lead contractor will consult the Environment Agency regarding water quality, flow and level monitoring to be undertaken for watercourses and groundwater that will be affected by construction works or discharge of surface water runoff, which will include the following, as appropriate:
- a. pre-construction monitoring to establish baseline water quality conditions for watercourses and groundwater;
 - b. monitoring during construction works to enable the effectiveness of mitigation measures to limit pollution risk to be monitored and any pollution incidents to be identified; and
 - c. monitoring of watercourses or groundwater receiving surface water runoff during construction to enable effective treatment and other sustainable drainage systems measures to be determined and to ensure that an unacceptable rise in groundwater levels does not occur.
- 13.2.2 Any monitoring and groundwater control installations will be appropriately capped and secured during monitoring and decommissioned in line with best practice guidance on completion.

14 Landscape and visual

14.1 Control measures to reduce impacts

- 14.1.1 Appropriate controls will be put in place to avoid or minimise impacts on landscape and visual receptors from construction activities. This includes:
- a. use of appropriate, well-maintained hoardings or fencing;
 - b. use of appropriate lighting;
 - c. protecting existing vegetation to be retained.
 - d. measures to ensure good soil health is maintained by appropriate storage and preventing compaction;
 - e. selective removal of lower branches of trees where necessary to reduce the risk of damage by construction plant and vehicles;
 - f. standard guidance for working within root protection zones; and
 - g. monitoring of the effectiveness of the tree protection measures throughout the construction period by an appropriately qualified professional.
- 14.1.2 Where vegetation and trees are removed, tree and shrub planting, approved by the Applicant will be used as a replacement. This will be in accordance with the outline vegetation reinstatement plans included within the Outline LEMP.
- 14.1.3 The lead contractor will apply the relevant protective principles set out in British Standard 5837:2012: Trees in relation to design, demolition and construction (Ref 27). This will be applied to trees within the Draft Order Limits which will be preserved through the construction phase, and to trees outside of the Draft Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction.
- 14.1.4 All tree works will be undertaken or supervised by an appropriately qualified arboriculturist.

14.2 Monitoring

- 14.2.1 The lead contractor will require its contractors to implement appropriate inspection, monitoring and maintenance of landscaping and planting and seeding works throughout the construction period.
- 14.2.2 Details regarding the management of vegetation post planting will be detailed in the Outline LEMP.

15 Material assets and waste

15.1 Control measures to reduce impacts

Material assets

- 15.1.1 An Outline Materials Management Plan (MMP) will be developed by the lead contractor in accordance with the protocols within the CL:AIRE Definition of Waste: Development Industry Code of Practice (DoW CoP) (Ref 24).
- 15.1.2 The Proposed Onshore Scheme will source sustainable construction materials with a high recycled content and supporting a circular economy. Materials will be sourced from local quarries where practicable, optimising the use of recycled content, or otherwise from the nearest available source. Haul roads and compounds will utilise recycled aggregates from either demolition materials on-site or off-site. Haul roads and compounds will be shared where practicable, with other developments in the area.
- 15.1.3 The lead contractor will investigate the potential for off-site construction of certain elements of the Proposed Onshore Scheme. Off-site construction can drive improvements in the products or processes employed in construction, ranging from innovative products through to precast components manufactured off-site.
- 15.1.4 The lead contractor will investigate and identify how materials can be designed to be more flexibly adapted over an asset lifetime. The lead contractor will also consider how the deconstruction of elements can be maximised at the end of their first life.
- 15.1.5 All concrete elements of the Proposed Onshore Scheme have the ability to be crushed and graded to form recycled crushed aggregates. These aggregates can be used in new concrete batching or as earthworks layers, depending on the specification of the future scheme.
- 15.1.6 The lead contractor will identify and specify materials that can be acquired responsibly, in accordance with a recognised industry standard.
- 15.1.7 The Underground Cable Corridors will require a cut/fill resulting in materials and waste generation. The design will seek to achieve a balance of cut and fill, where feasible. Where excavated material cannot be re-used as part of the Proposed Onshore Scheme, the lead contractor will fully investigate opportunities to use excess materials at local restoration sites, where practicable in line with the DoW CoP.
- 15.1.8 The location of material storage areas will be determined by the lead contractor following detailed design and detailed construction phase planning, when storage requirements are finalised. Potential effects from the storage and processing of materials and waste will be minimised, ensuring that construction site compounds

and on-site storage, stockpiling and processing areas are designed to minimise impacts to any designated sites and sensitive environmental receptors during construction.

- 15.1.9 For topsoil storage, a maximum stockpile height of 2m will be implemented if the topsoil material is going to be retained for future reuse on the Proposed Onshore Scheme. The requirement to re-use topsoil will be set out in the soil management plan as part of the MMP.
- 15.1.10 For cut material, a maximum stockpile height of 5m (2m for topsoil) unless the material has suitable properties and does not present any slope failure concerns. In addition, there may be other relevant factors that will influence the locations of storage areas such as topography or ecology which will be determined by the lead contractor.

Waste

- 15.1.11 All waste will be managed in accordance with the waste hierarchy (prevention, preparing for re-use, recycling, other recovery and disposal) as set out in the Waste (England and Wales) Regulations 2011 (Ref 28).
- 15.1.12 The Proposed Onshore Scheme will adopt Designing out Waste principles including aspects such as designing for re-use and recovery, materials optimisation, offsite construction, future (deconstruction and flexibility), and waste efficient procurement.
- 15.1.13 The lead contractor will investigate opportunities to introduce standardisation across the Proposed Onshore Scheme to ensure waste inherent in the design is reduced. Site accommodation within the main construction compounds can also be standardised across the Proposed Onshore Scheme allowing for efficiency in ordering required materials and equipment, and also providing clarity for workers who are then familiar with the site layout whichever compound they access (including operation and location of waste separation facilities). Any temporary site accommodation within the construction compounds will also be designed for deconstruction and re-use.
- 15.1.14 Construction cannot start until a Site Waste Management Plan (SWMP) is developed. A SWMP is used to plan, implement, monitor and review waste minimisation and management on construction sites. The SWMP is also used to record how waste is prevented, minimised, re-used, recycled and disposed of on a construction site. The lead contractor will capture information and data on site arisings recovered or diverted from landfill and waste sent to landfill and specify management requirements for construction materials, site arisings and waste.
- 15.1.15 Reduction of waste should remain a high priority, where feasible waste produced shall be segregated for recycling. The lead contractor will establish waste storage and recycling areas for the safe storage and processing of separated waste streams to ensure that opportunities for re-use are maximised. The Proposed Onshore Scheme will strive to implement industry best practice with

regard to the Segregation of waste by adopting the Considerate Constructors Scheme (Ref 29) colour coding system on waste skips. The colour coding scheme is a simple system with colour labels waste skips indicating the types of waste that can be placed in them. Where no other waste management option is found to be feasible, wastes shall be sent to an appropriately permitted waste management facility in accordance with UK legislation.

- 15.1.16 The waste management facilities, where feasible, will be as close to the construction site as practicable, in line with the proximity principle for waste treatment and disposal. The proximity principle is the requirement to treat and/or dispose of wastes in reasonable proximity to their point of generation.
- 15.1.17 For any non-hazardous, hazardous or inert waste taken off-site, the Waste duty of care: code of practice (Defra, 2018) (Ref 30) must be complied with, including the use of registered waste carriers and appropriately permitted sites.
- 15.1.18 Waste arisings of made ground, soils and sub soil should be classified as per Environment Agency Waste Management 3 (WM3) (2021) (Ref 31) guidelines for waste classification. The lead contractor will develop a testing and classification regime for these materials to ensure the correct waste sentencing or possibility of re-use. Any excess or unsuitable material will need to be classified in accordance with WM3 guidelines prior to its removal from site.
- 15.1.19 Hazardous waste shall be correctly labelled and will not be mixed with non-hazardous waste. It will be securely contained and disposed of at an appropriately permitted facility via a registered waste carrier.

15.2 Monitoring

- 15.2.1 Procedures adopted by the lead contractor during construction have the potential to control the use of materials and reduce the impact. The lead contractor shall refer to BES 6001 Framework Standard for Responsible Sourcing (Ref 32) and maintain a record of the sourcing and processing of materials used during construction
- 15.2.2 Monitoring and measurement of waste will be undertaken on a regular basis by the lead contractor, with regular interpretations to identify trends and rectify wasteful practices. The results of monitoring will be included in regular site meetings including the Project Manager and designated Materials and Waste Representative.
- 15.2.3 The lead contractor will also update the Applicant with the progress of the SWMP on a regular basis.
- 15.2.4 There will be audits to promote the compliance with Duty of Care requirements for waste during construction. This is to ensure that any surplus/waste materials are stored, transported, treated and disposed of without endangering human health or harming the environment. Ensuring that waste carrier registrations, environmental permits, mobile plant permit/deployments and/or waste

exemptions for the storage, sorting, treatment, use, disposal and/or transportation of waste during construction are in place.

16 Noise and vibration

16.1 Control measures to reduce impacts

- 16.1.1 BPM defined in Section 72 of the Control of Pollution Act 1974 (Ref 33) and Section 79 of the Environmental Protection Act 1990 (Ref 34), will be applied during construction works to minimise noise and vibration at neighbouring residential properties and other sensitive receptors arising from construction activities.
- 16.1.2 BPM measures, based upon BS 5228-1 (Ref 35), include:
- a. Careful selection of plant and construction methods. Only plant conforming to relevant national, EU or international standards, directives and recommendations on noise and vibration emissions should be used.
 - b. Design and use of site enclosures, housing and temporary stockpiles, where practicable and necessary, to provide acoustic screening at the earliest opportunity.
 - c. Where practicable, doors and gates should not be located opposite occupied noise sensitive buildings. The mechanisms and procedures for opening doors or gates will minimise noise, as far as reasonably practicable;
 - d. When considering the choice of routes, construction traffic noise and vibration impacts will be considered.
 - e. Careful programming so that activities are planned with regard to local occupants and sensitive receptors. Where possible, programme works to avoid having noisy activities close to receptors during sensitive times.
 - f. All vehicles and mechanical plant shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order and operated to minimise noise emission.
 - g. All compressors and generators shall be 'sound reduced' models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use (examples presented in BS5228-1). All pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.
 - h. All machines in intermittent use shall be shut down in the intervening periods between works or throttled down to a minimum. Lorry engines will be switched off, as soon as practicable, when vehicles are stationary.
 - i. Noise emitting equipment which is required to run continuously shall be housed in a suitable acoustic enclosure, when required (see BS5228-1, Figures B.1, B.2 and B.3).
 - j. Temporary noise barriers will be used to reduce noise levels where appropriate and practicable, to provide at least partial screening to nearby sensitive receptors. For receptors represented by references ALID_74, ALID_75 and ALID_76 (identified in **Chapter 15 Noise and Vibration** of this PEIR), which are representative of residential receptors in Walberswick, noise barriers should aim to achieve full screening. This may require barriers of approximately 5m, although the detailed geometry will be developed for the ES when more information about night-time works at proposed Landfall are

developed. Barriers should be located as close to the plant as practicable to provide maximum attenuation, should have a mass per unit area of at least 12kg/m².

- k. Plant and equipment liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors and away from walls reflecting towards sensitive receptors.
- l. Materials for night-time working shall be delivered, where practicable, during normal hours of working and be placed as close as practicable to the work area for which they are required.
- m. Where reasonably practicable, fixed items of construction plant shall be electrically powered in preference to combustion engine driven.
- n. To minimise potential vibration impacts, where necessary, compaction can be achieved without using a vibratory system, however there may be a resulting increase in the duration of the compaction works.

16.2 Noise and Vibration Management Plan

16.2.1 This section sets out the Noise and Vibration Management Plan for the Proposed Onshore Scheme. It describes the approach to identifying sensitive receptors, engaging with the community, and managing potential noise and vibration impacts during construction. The plan includes measures for communication and complaints handling, agreed working hours, and a monitoring framework to ensure compliance with relevant standards and commitments.

Noise and vibration sensitive receptors

16.2.2 There are a number of sensitive residential and non-residential receptors around the construction sites and the anticipated construction traffic routes of the Proposed Onshore Scheme.

16.2.3 **Chapter 15 Noise and Vibration** of this PEIR presents the sensitive receptors with the potential to be impacted by construction works. The accompanying figures of the PEIR present the location of such sensitive receptors relative to the Draft Order Limits.

16.2.4 The assessment locations for construction noise and vibration will be agreed with the relevant Local Authority.

Community engagement strategy: notification of activities with the potential to cause nuisance

16.2.5 The community relations personnel will be responsible for the notification to residents that may be affected by potential disruptive activities, for example night-time working.

16.2.6 Before and during the construction, appropriate mechanisms to communicate with local residents will be set up to highlight potential periods of disruption for both noise and vibration.

- 16.2.7 Further information about the Proposed Onshore Scheme's community relations and stakeholder engagement are presented in **Section 4 Community relations and stakeholder engagement** of this document.

Communication engagement strategy: complaints

- 16.2.8 Residents will be provided with a point of contact for the community relations personnel for any queries or complaints. The extent of the action taken will depend on the nature of the complaint.
- 16.2.9 Any noise and vibration complaints will be investigated and appropriate action taken as required. The complainant and the relevant local planning authority will be provided with a response outlining the results of the investigation and any action taken.
- 16.2.10 The relevant local planning authority will be invited to visit the site to view and validate the success or otherwise of the remedial action. Should further mitigation be appropriate to prevent a re-occurrence, this will be discussed with the relevant local planning authority and implemented accordingly.

Working hours

- 16.2.11 The proposed construction core working hours are presented in **Section 5.1 Working hours** of this document.

16.3 Monitoring

- 16.3.1 Noise and vibration monitoring will include observational checks by the lead contractor and Environmental Manager and the construction team. These will be supplemented by physical measurements. The locations will need to be agreed with the relevant Local Authority. These locations may vary dependant on phasing and type of construction activity.
- 16.3.2 Prior to construction works commencing, baseline sound level monitoring will be undertaken at locations agreed with the Local Authority.
- 16.3.3 During the construction works, monitoring will be undertaken on a regular basis where necessary and as agreed with the Local Authority or by the lead contractor and Environmental Manager and will depend on location and type of work being carried out.
- 16.3.4 Noise will be monitored in line with BS 5228-1 and BS 7445-1 (Ref 36). Where practicable, measurements should be undertaken in free-field which means there should be no reflective surface within 3m of the microphone other than ground. The following should be also considered:
- a. The sound level meter shall be class 1 following the specification in International Electrotechnical Commission (IEC) 61672-1 (Ref 37).
 - b. The microphone will be positioned at least 1.5m from ground level.

- c. The monitoring period will be a minimum of 15 minutes. This period may be extended to an hour or beyond, as required.
 - d. The sound level meter will be field calibrated before and after use.
- 16.3.5 The following aspects will be recorded at the time of attended monitoring:
 - a. Weather conditions; including approximate wind direction and speed, temperature.
 - b. Ground conditions; wet or dry.
 - c. Description of activities nearby, including distance and direction of the monitoring point, that will contribute to the noise level recorded.
 - d. A description as to whether the activity is a dominant noise source, clearly audible or barely audible.
- 16.3.6 Weather conditions will be taken into account before attended monitoring commences, for example the monitoring will not be carried out during periods of precipitation.
- 16.3.7 Noise monitoring equipment will be calibrated in accordance with the manufacturer's instructions and evidence of calibration will be available on request.
- 16.3.8 The noise monitoring results will be recorded and made available to the Local Authority, upon request.
- 16.3.9 Results of noise and vibration monitoring will be compared against predictions in the ES. Any readings that are significantly greater than predicted levels or noise levels stipulated will cause a review of the construction process and implementation of remedial action. The level will be reported to the Local Authority Environmental Health Officer and the relevant prediction calculations reviewed if exceedance levels are significant.
- 16.3.10 All noise and vibration monitoring records will be managed in accordance with the Control of Records requirements of EMS.
- 16.3.11 The lead contractor will require its contractors to undertake and report such monitoring, including real-time noise and vibration monitoring, as is necessary to ensure and demonstrate compliance with all noise and vibration commitments and the requirements of this Outline Onshore CoCP.

17 Socio-economics, recreation and tourism

17.1 Control measures to reduce impacts

- 17.1.1 Access to residential amenities, community facilities and local businesses will be maintained at all times during the construction programme, details of which will be included within an Outline CTMP to be submitted with the application for development consent.
- 17.1.2 Construction work will be undertaken within the agreed working hours set out within the DCO unless the works are under an exception to the set working hours in which case they will be carried out in a manner that minimises noise and vibration at all times.
- 17.1.3 Land used temporarily will be reinstated where practicable to its pre-construction condition and use or better. Hedgerows, fences, and walls (including associated earthworks and boundary features) will be reinstated to a similar style and quality to those that were removed, in consultation with the landowner.

Public Rights of Way

- 17.1.4 All PRoWs within the Draft Order Limits will be physically separated from construction routes and activities.
- 17.1.5 The works which would be required where the Proposed Onshore Scheme would cross the existing PRoW network will be classified into four categories. These are:
- Provisions – at these locations a diversion would not be required. However, safety measures would be put in place to maintain access during the construction period. The installation of safety measures is likely to require short term closures or the control of users using stop go boards or similar, to allow for the installation of fences, gates or overhead netting as required.
 - Long-term temporary diversion – at these locations a diversion route would be provided for the duration of the construction works.
 - Short-term temporary diversion – at these locations, the impact on the PRoW is caused by isolated construction activities, so a diversion would only be required for a reduced period of time. These diversions would be implemented within the Draft Order Limits locally to the PRoW affected. For example, during the installation of haul roads or ducts across the PRoW, the route would be temporarily diverted 50-100 m along the alignment of the Draft Order Limits to cross a section already installed or an area not yet reached by the works.
 - Permanent diversion – at these locations the route of the existing PRoW would be impacted by the permanent assets. A permanent diversion route would therefore be required.

17.2 Monitoring

- 17.2.1 Details of monitoring to be undertaken to ensure continued access to socio-economic and recreational facilities will be detailed within the Outline CTMP.

18 Traffic and transport

18.1 Control measures to reduce impacts

- 18.1.1 An Outline CTMP will be produced to maintain the safe and efficient operation of the road network and assist in minimising the impacts of construction on traffic and transport users. The Outline CTMP will be produced and submitted for the application for development consent.
- 18.1.2 Impacts (including parking, vehicle movement, access restrictions) from construction traffic on the local community (including all local residents and businesses and their customers, visitors to the area, and users of the surrounding transport network) will be minimised by its lead contractor where practicable. This will be outlined in the Outline CTMP.
- 18.1.3 Where practicable, appropriate measures will be implemented to ensure the local community, economy and transport networks can continue to operate effectively. Where this is not practicable, alternative mitigation measures will be identified to maintain continual public access. This will be set out within the Outline CTMP.
- 18.1.4 All designated PRow will be identified, and any potential temporary closures applied for and explained in the application for development consent. All designated PRow crossing the construction site will be managed, access will only be diverted whilst construction works take place. Temporary diversions of PRow will be clearly marked at both ends with signage explaining the diversion, the duration of the diversion and contact numbers for any concerns.
- 18.1.5 The standard approach to managing PRow during the cable installation phase is to seek to maintain access via a localised short-term temporary diversion of the PRow to permit the construction to be undertaken and to be reinstated to the original alignment. Where PRow closures are required, the period of the closure would be kept to a minimum, and a diversion provided where necessary and practicable.
- 18.1.6 Appropriate site layout and good practice measures will be implemented by the lead contractor at all construction sites. This will include but not be limited to:
- a. managing staff/vehicles entering or leaving the construction site, especially at the beginning and end of the working day; and
 - b. managing potential off-site contractor and visitor parking.
- 18.1.7 All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so and will conform to relevant applicable standards for the vehicle type. Vehicles will be maintained and operated in accordance with the manufacturers recommendations and in a responsible manner.
- 18.1.8 Journey mileage and routes will be reduced where practicable via measures set out in the Outline CTMP. Access and egress to the public highway will be controlled, as well maintenance and upkeep of the public highway as required.

The Outline CTMP will also identify access for emergency vehicles and set out measures to reduce safety risks through construction vehicle and driver quality standards.

- 18.1.9 In addition to the above, construction vehicles will be managed at any road/rail/pedestrian/cycle/bridleway crossing points and further details will be provided within the Outline CTMP.

18.2 Monitoring

- 18.2.1 The monitoring and reporting system implemented by the contractor will include:
- a. Global Positioning System (GPS) tracking system to be fitted to HGVs to check for compliance with authorised construction routes; and
 - b. monitor the number of construction vehicles between the construction site and the strategic road network.
- 18.2.2 Deviations from the authorised routes or changes to traffic levels that are higher than the CTMP assumptions will require discussion of the need for additional mitigation measures with highways authorities.

19 Climate change

19.1 Control measures to reduce impacts

- 19.1.1 The lead contractor will increase climate resilience of the Proposed Scheme and ensure risks to construction workers are not exacerbated by climate change, whilst also reducing greenhouse gases (GHG) with general construction practices and those listed below.

Climate Change Resilience

- 19.1.2 Measures to mitigate against the impacts of climate change during the construction of the Proposed Scheme will include measures to protect the following elements from the impacts of climate change (including variations in temperature and precipitation and extreme weather events):

- a. material specification, use and storage;
- b. material delivery;
- c. drainage systems;
- d. plant and equipment;
- e. maintenance regimes;
- f. workforce health and safety;
- g. design of the Proposed Scheme including site compounds;
- h. traffic management; and
- i. weather forecasting and emergency procedures.

Greenhouse Gases

- 19.1.3 Measures to minimise GHG emissions during construction will include:
- a. Identifying low carbon and/or reduced resource consumption solutions (including technologies, materials and products) to minimise resource consumption during the construction, operation and at end of life.
 - b. Where appropriate, identifying, assessing and integrating measures to further reduce carbon through on or off-site sequestration.
 - c. Using materials with the highest recycled content, where this leads to lower whole life carbon emissions.
 - d. Material recovered from the site shall be used to profile the new vertical and horizontal geometry. Alternatively, near-site sources of material will be identified to minimise transportation and ground treatment emissions.
 - e. Use of surplus material will be prioritised on neighbouring schemes to reduce off site haulage and associated emissions.

19.2 Monitoring

- 19.2.1 Any monitoring requirements will be identified in the ES.

Topic Abbreviations

Acronym/Phrase/Abbreviation	Definition
BPM	Best practicable means
CCTV	Closed-circuit television
CoCP	Code of Construction Practice
CL:AIRE	Contaminated Land: Applications in Real Environments
CTMP	Construction Traffic Management Plan
DoW:CoP	Definition of Waste: Development Industry Code of Practice
DAMS	Detailed Archaeological Mitigation Strategy
Defra	Department for Environment, Food and Rural Affairs
DAMS	Detailed Archaeological Mitigation Strategy
DCO	Development Consent Order
ECow	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMP	Environmental Management Plans
EMS	Environmental Management System
ES	Environmental Statement
EU	European Union
SSZ	Exclusive Economic Zone
gW	Gigawatts
GPS	Global Positioning System
GHG	Greenhouse gas
GPP	Guidance for Pollution Prevention
HGV	Heavy Goods Vehicle
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
HDD	Horizontal directional drilling
IAQM	Institute of Air Quality Management
IEC	International Electrotechnical Commission
kg/m ²	kilogram metre squared
LEMP	Landscape and Ecology Management Plan
MMP	Materials Management Plan
m	metres
mm	millimetres

Acronym/Phrase/Abbreviation	Definition
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
OSRMP	Outline Soil Resources Management Plan
OWSI	Outline Written Scheme of Investigation
PEIR	Preliminary Environmental Information Report
PRoW	Public Rights of Way
RPA	Root Protection Area
SWMP	Site Waste Management Plan
SPZ	Source Protection Zone
CIE	The International Commission on Illumination
UXO	Unexploded ordnance
VOC	Volatile organic compounds
WM3	Waste Management 3

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