

DOGGER BANK D WIND FARM

Outline Code of Construction Practice

Appendix B Outline Site Waste Management Plan

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APPENDIX B - OUTLINE SITE WASTE MANAGEMENT PLAN

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Glossary

Term	Definition
Birkhill Wood Substation	The onshore grid connection point for DBD identified through the Holistic Network Design process. Birkhill Wood Substation which is being developed by National Grid Electricity Transmission and does not form part of the Project.
Commitment	<p>Refers to any embedded mitigation and additional mitigation, enhancement or monitoring measures identified through the EIA process and those identified outside the EIA process such as through stakeholder engagement and design evolution.</p> <p>All commitments adopted by the Project are provided in the Commitments Register.</p>
Design	All of the decisions that shape a development throughout its design and pre-construction, construction / commissioning, operation and, where relevant, decommissioning phases.
Development Consent Order (DCO)	A consent required under Section 37 of the Planning Act 2008 to authorise the development of a Nationally Significant Infrastructure Project, which is granted by the relevant Secretary of State following an application to the Planning Inspectorate.
Energy Storage and Balancing Infrastructure (ESBI)	A range of technologies such as battery banks to be co-located with the Onshore Converter Station, which provide valuable services to the electrical grid such as storing energy to meet periods of peak demand and improving overall reliability.
Environmental Impact Assessment (EIA)	A process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information and includes the publication of an Environmental Statement.
Environmental Statement (ES)	A document reporting the findings of the EIA which describes the measures proposed to mitigate any likely significant effects.
Haul Roads	Temporary tracks set aside to facilitate transport access during onshore construction works.
Jointing Bays	Underground structures constructed at regular intervals along the onshore export cable corridor to facilitate the joining of discrete lengths of the installation of cables.
Landfall	The area on the coastline, south-east of Skipsea, at which the offshore export cables are brought ashore, connecting to the onshore export cables at the transition joint bay above Mean High Water Springs.
Link Boxes	Structures housing electrical equipment located alongside the jointing bays in the onshore export cable corridor and the transition joint bay at the landfall, which could be located above or below ground.

Term	Definition
Onshore Development Area	The area in which all onshore infrastructure associated with the Project will be located, including any temporary works area required during construction and permanent land required for mitigation and enhancement areas, which extends landward of Mean Low Water Springs. There is an overlap with the Offshore Development Area in the intertidal zone.
Onshore Converter Station (OCS)	A compound containing electrical equipment required to stabilise and convert electricity generated by the wind turbines and transmitted by the export cables into a more suitable voltage for grid connection into Birkhill Wood Substation.
Onshore Converter Station (OCS) Zone	The area within which the Onshore Converter Station and Energy Storage and Balancing Infrastructure will be located in vicinity of Birkhill Wood Substation.
Onshore Export Cable Corridor (ECC)	The area within which the onshore export cables will be located, extending from the landfall to the Onshore Converter Station zone and onwards to Birkhill Wood Substation.
Onshore Export Cables	Cables which bring electricity from the transition joint bay at landfall to the Onshore Converter Station zone (HVDC cables) and from the Onshore Converter Station zone onwards to Birkhill Wood Substation (HVAC cables).
Preliminary Environmental Information Report (PEIR)	The PEIR provides a draft environmental assessment and information to support and inform the statutory consultation process in the pre-application phase. The PEIR will be updated to produce the Project's ES that will accompany the DCO application.
Principal Contractor(s)	Contractor(s) appointed by the Undertaker to plan, manage, monitor and coordinate the construction of the Project. The Principal Contractor may oversee several subcontractors within their supply chain.
Temporary Construction Compounds	Areas set aside to facilitate the construction works for the onshore infrastructure, which include the landfall construction compound, main and intermediate construction compounds for onshore export cable works and OCS and ESBI construction compounds.
The Applicant	SSE Renewables and Equinor acting through 'Doggerbank Offshore Wind Farm Project 4 Projco Limited'
The Project	Dogger Bank D Offshore Wind Farm Project, also referred at as DBD in the PEIR.
The Undertaker	Doggerbank Offshore Wind Farm Project 4 Projco Limited.
Transition Joint Bay (TJB)	An underground structure at the landfall that houses the joints between the offshore and onshore export cables.
Trenching	Open cut method for cable or duct installation.
Trenchless Techniques	Trenchless cable or duct installation methods used to bring offshore export cables ashore at landfall, facilitate crossing major onshore obstacles such as roads, railways and watercourses and where trenching may not be suitable.

Term	Definition
	Trenchless techniques included in the Project Design Envelope include Horizontal Directional Drilling (HDD), auger boring, micro-tunnelling, pipe jacking / ramming and Direct Pipe.

1 Introduction

1.1 Overview

1. This Outline Site Waste Management Plan (SWMP) for the Dogger Bank D Offshore Wind Farm Project (hereafter 'the Project' or 'DBD') forms an appendix to the Outline Code of Construction Practice (CoCP) and has been prepared to provide the general approach to the management of waste streams likely to be generated by the Project.
2. This Outline SWMP covers the onshore construction activities associated with the Project, a full description of which is provided in **Volume 1, Chapter 4 Project Description** of the Preliminary Environmental Information Report (PEIR).
3. The production of an SWMP is regarded as best practice in achieving accountable and transparent delivery of waste management requirements on construction projects.
4. This document is provided alongside the PEIR to support statutory consultation. This Outline SWMP will be updated in consideration of further design refinement and consultation feedback post-PEIR and submitted with the Development Consent Order (DCO) application and will inform the SWMP developed as part of the CoCP post-consent (see **Volume 2, Appendix 6.3 Commitments Register**, Commitment ID CO52).

1.2 Scope

5. The scope of the Outline SWMP is the onshore construction works above Mean Low Water Springs (MLWS) and covers all locations where wastes will be generated, including the following components:
 - Landfall – trenchless techniques, construction of the transition joint bay (TJB) and associated link box and a temporary construction compound and access;
 - Onshore export cable corridor (ECC) – open cut trenching and trenchless techniques for cable duct installation works, cable laying, construction of jointing bays and associated link boxes, temporary construction compounds and accesses;
 - Onshore Converter Station (OCS) zone – construction of the Onshore Converter Station (OCS) and Energy Storage and Balancing Infrastructure (ESBI) and temporary construction compounds and accesses.
6. Onshore site preparation works will be undertaken prior to the commencement of construction. These are likely to include topsoil stripping, fencing and vegetation clearance, where required (see **Volume 1, Chapter 4 Project Description**).

7. The SWMP will be in general accordance with the principles established in the Outline SWMP and will be agreed with the relevant authorities prior to commencement of the relevant stage of onshore construction works (see **Section 2.2** of the Outline CoCP for further information on construction stages). For the purpose of this Plan, the term “construction works” covers all physical activities required to construct the onshore elements of the Project but excluding “pre-construction works”.

1.3 Definition of Waste

8. For the purpose of this Outline SWMP, the definition of ‘waste’ is taken from Article 3(1) of the revised European Waste Framework Directive (2008/98/EC) (see **Section 2**), which states that waste is:

‘...any substance or object which the holder discards or intends or is required to discard.’

9. Excavated material will only be classified as waste if it is surplus to the design requirements of the Project. Further details of the specific types of non-hazardous and hazardous wastes that are likely to be generated from project activities are detailed in **Section 6**.

2 Legislation, Policy, Strategy and Guidance

10. The legislative framework and policy for the management of wastes from construction works comprises the following, with further detail provided in the **Section 2.1** and **Section 2.2**:
 - Environmental Protection Act 1990;
 - Environment Act 1995 (as amended);
 - Hazardous Waste (England and Wales) Regulations 2005;
 - Revised Waste Framework Directive (2008/98/EC);
 - Landfill Directive (1999/31/EC);
 - Environmental Permitting (England and Wales) Regulations 2016 (as amended);
 - Waste Management (England and Wales) Regulations 2006;
 - Waste (England and Wales) Regulations 2011;
 - Planning Act 2008; and
 - Overarching National Policy Statement for Energy (EN-1).

2.1 Legislation

11. The design, construction and operation of the Project will lead to the generation of a range of solid wastes. In England and Wales, waste producers are legally required, under the Waste (England and Wales) Regulations 2011, to apply the waste hierarchy to decisions concerning the management of wastes (further details provided in **Section 5**).
12. Part II of the Environment Protection Act 1990 contains a prohibition on the unauthorised deposit of waste on land, a duty of care in relation to the transfer of waste, and defines, for the purpose of the Act, construction and demolition and commercial and industrial wastes.
13. The framework of waste management legislation in the UK is currently shaped by the Waste (England and Wales) Regulations 2011 (as amended). These regulations require all businesses and organisations that produce waste to take all reasonable measures to prevent waste, to apply the waste hierarchy (see **Section 5** of this document) when transferring waste using the definitions in Article 3 of the Waste Framework Directive 2008/98/EC and include a declaration on their waste transfer notes or consignment notes to that effect. List of Waste (LoW) codes indicating the type of waste and classification of the waste generated by the producer must also be provided in the waste transfer note (Environment Agency, 2021). The LoW code is sometimes referred to as the European Waste Catalogue (EWC) code.
14. The Waste Regulations 2011 (as amended) require that any organisation which collects waste paper, metal, plastic or glass must do so using separate collections to facilitate or improve recovery of these materials, where it is technically, environmentally and economically practicable.
15. The Environment Act 2021 provides a legal framework for environmental governance and makes specific provision for the improvement of the environment. Part 3 makes provisions for managing waste and producer responsibility including a revised extended producer responsibility scheme and powers to regulate resource efficiency information across a wider range of products.
16. The Hazardous Waste (England and Wales) Regulations 2005 set out the requirements for controlling and tracking the movement of hazardous waste and bans the mixing of different types of waste. Under the Regulations 'mixing' includes mixing of different categories of hazardous waste, non-hazardous wastes or any other substance or material. If construction activities are anticipated to generate more than 500kg of hazardous waste within a 12-month period, the Environment Agency must be notified.

17. The Waste (Circular Economy) (Amendment) Regulations 2020 amends legislation that transposed waste-related EU Directives (including the Waste Framework Directive 2008/98/EU) and makes the legislative changes required to transpose the 2020 Circular Economy Package (CEP) measures. The CEP identifies steps for the reduction of waste and establishes a long-term plan for waste management and recycling.

2.2 Policy, Strategy and Guidance

18. Further information on the waste strategy and guidance can be found in the following key documents:
 - Our Waste, Our Resources: A Strategy for England (Defra, 2018a);
 - Technical Guidance MW3: Waste Classification – Guidance on the Classification and Assessment of Waste (Environment Agency, 2021);
 - Waste Duty of Care: Code of Practice (Defra, 2018b); and
 - Joint Sustainable Waste Management Strategy (East Riding of Yorkshire Council and Hull City Council, 2012).
19. This list of key waste documents will be reviewed and updated when superseded by new versions or revised government or regulatory requirements.
20. This Outline SWMP also takes into account the definition of waste by Contaminated Land: Applications in Real Environments (CL:AIRE) 'Definition of Waste: Development Industry Code of Practice (CoP) (CL:AIRE, 2011). CL:AIRE is an independent body that promotes the sustainable remediation of contaminated land. The CoP provides a consistent and transparent process which enables the reuse of excavated materials on-site or their movement between sites. It sets out good practice for the development industry to use when:

'Assessing on a site-specific basis whether excavated materials are classified as waste or not; and Determining on a site-specific basis when excavated waste can cease to be waste for a particular use.'
21. A CL:AIRE Materials Management Plan (MMP) is prepared where required to demonstrate that material will not harm human health or the environment; the requirement for a MMP in accordance with CL:AIRE CoP is described further in **Section 4.2.1** of the Outline CoCP. An MMP will be provided as part of the CoCP submitted post-consent as described in Commitment ID CO51 of **Volume 2, Appendix 6.3 Commitments Register**.

3 Implementation of the Site Waste Management Plan

3.1 Roles and Responsibilities

22. The key roles and associated responsibilities with regard to this Outline SWMP are detailed below, noting that the Principal Contractor(s) have not been appointed at the time of writing.
23. The Construction (Design and Management) Regulations 2015 also identify the legal duties, responsibilities and obligations of all the major roles within the construction team.

3.1.1 The Undertaker

24. The Undertaker will be responsible for the following:
- Appointing the Principal Contractor(s) and including requirements to produce a SWMP based on the Outline SWMP;
 - Ensuring that the SWMP is implemented effectively; and
 - Reviewing, revising and refining the SWMP (where necessary) in conjunction with the Principal Contractor(s).
25. The Undertaker will be responsible for reducing the quantity of waste likely to arise from the development through the design process. The Undertaker will consider the Waste Hierarchy, to optimise reuse, recycling and recovery opportunities for the purpose of minimising waste as far as possible in line with good practice (see **Section 5**).

3.1.2 Principal Contractor(s)

26. The Principal Contractor(s) will be responsible for the detail design and construction activities. As part of the design process, the Waste Hierarchy principles should be applied. The Principal Contractor(s) have the overall responsibilities for:
- Identifying specific individual(s) (by name or position) responsible for implementing the SWMP and checking compliance with the SWMP;
 - Implementing the SWMP during the onshore construction works, including being responsible for forecasting waste streams, co-ordinating the management of all on-site waste streams and the overall segregation, storage and collection of wastes;
 - Ensuring that waste produced during construction is segregated and is reused, recycled, and recovered, as far as reasonably practicable;

- Keeping all waste management duty of care documentation and, in collaboration with the Undertaker, for making any necessary updates to the SWMP and associated records;
- Fulfilling waste management duty of care requirements and ensuring the lawful collection, processing or disposal of wastes (along with the appointed waste contractors and receiving sites);
- Ensuring that any subcontractor(s) are aware of and follow the procedures necessary to be compliant with the SWMP; and
- Ensuring that all on-site employees and sub-contractor staff are provided with appropriate training to understand the requirements of the SWMP and their responsibilities.

3.1.3 Subcontractor(s)

27. Under the co-ordination of the Principal Contractor(s), the subcontractor(s) will be responsible for carrying out the waste management tasks in the SWMP. All subcontractor(s) producing construction waste will be responsible for ensuring their waste is managed in accordance with the legislative requirements (set out in **Section 2** of this document) and the waste duty of care (set out in **Section 4** of this document).
28. All waste carriers used to transport construction waste from the Project will be registered waste carriers. Subcontractor(s) will also have to demonstrate how they have minimised waste and that they have considered opportunities to reuse or recycle their waste. All subcontractor(s) will be responsible for compliance with the SWMP in use by the Principal Contractor(s) and may be required to produce their own waste management documentation, if required.

3.1.4 Training

29. A training programme will be implemented to ensure that all relevant members of the onshore construction teams, including subcontractor(s)' personnel receive focused SWMP training to ensure their competence in carrying out their duties on the Project.
30. Waste management training will be additional to the mandatory training requirements relating to health and safety on-site. Toolbox Talks and method statement briefings will be given to onshore construction teams as work proceeds and will cover the types of wastes produced at each key build stage, and the SWMP controls related to specific activities undertaken during the works.
31. All training records will be maintained and filed on-site. The records will include the content of the courses, record of attendance and schedule of review.

4 Key Obligations

4.1 Duty of Care

32. A key requirement of Section 34 of the Environmental Protection Act 1990 is that the waste producer is responsible for ensuring that their waste is collected by an appropriately licensed waste carrier and managed at a suitably licensed facility. These requirements are set out in the Waste Duty of Care Code of Practice (Defra, 2018b).
33. To meet these requirements, waste materials arising from the construction of the Project will only be transported by waste carriers holding a valid registration with the Environment Agency. Each consignment of waste removed from the construction site will be accompanied by a waste transfer note (or hazardous waste consignment note), which correctly describes the waste and identifies the waste carrier and planned destination.
34. Requirements for transferring waste and registered waste carriers are set out in Part 8 and 9 of the Waste (England and Wales) Regulations 2011. The waste will only be transferred to facilities that have the appropriate environmental permit. Compliance with the duty of care requirements will be monitored using site inspections and breaches will be recorded. Periodic audits will also be undertaken of the waste facilities used by the Project (see **Section 7.2**).

4.2 Pre-Treatment of Wastes

35. The Principal Contractor(s) will be required to ensure appropriate waste segregation facilities are present on-site. Inert, non-hazardous and hazardous wastes destined to be landfilled will be pre-treated prior to disposal in accordance with the EU Landfill Directive (1999/31/EC). Treatment can comprise physical, thermal, chemical or biological processes providing that they change the characteristics of the waste in order to reduce its volume or hazardous nature or to facilitate its handling or recovery.

5 Compliance with the Waste Hierarchy

36. The waste hierarchy as described in Defra’s *Guidance on Applying the Waste Hierarchy* (Defra, 2011) is set out in EN-1 (DESNZ, 2023; see Paragraph 5.15.2), which presents the preferred approach to the management options from waste prevention, to reuse, recycling, energy recovery and landfill (see **Plate 5-1**). This approach supports the need to achieve efficient use of material resources, minimise the amount of waste produced (or otherwise increase its value as a resource) and reduce, as far as possible, the amount of waste that is disposed to landfill.
37. Further information on waste prevention is provided in the Defra’s *Waste Prevention Programme for England: Maximising Resources, Minimising Waste* (Defra, 2023). This highlights that construction is a key sector with opportunities to reuse materials to reduce construction waste and increase the reuse of construction materials at their highest value.
38. The Project will apply the waste hierarchy in relation to the reduction and sustainable management of waste through the design, construction and operation of the Project to improve resource efficiency and environmental performance contributing to overall sustainable waste management.

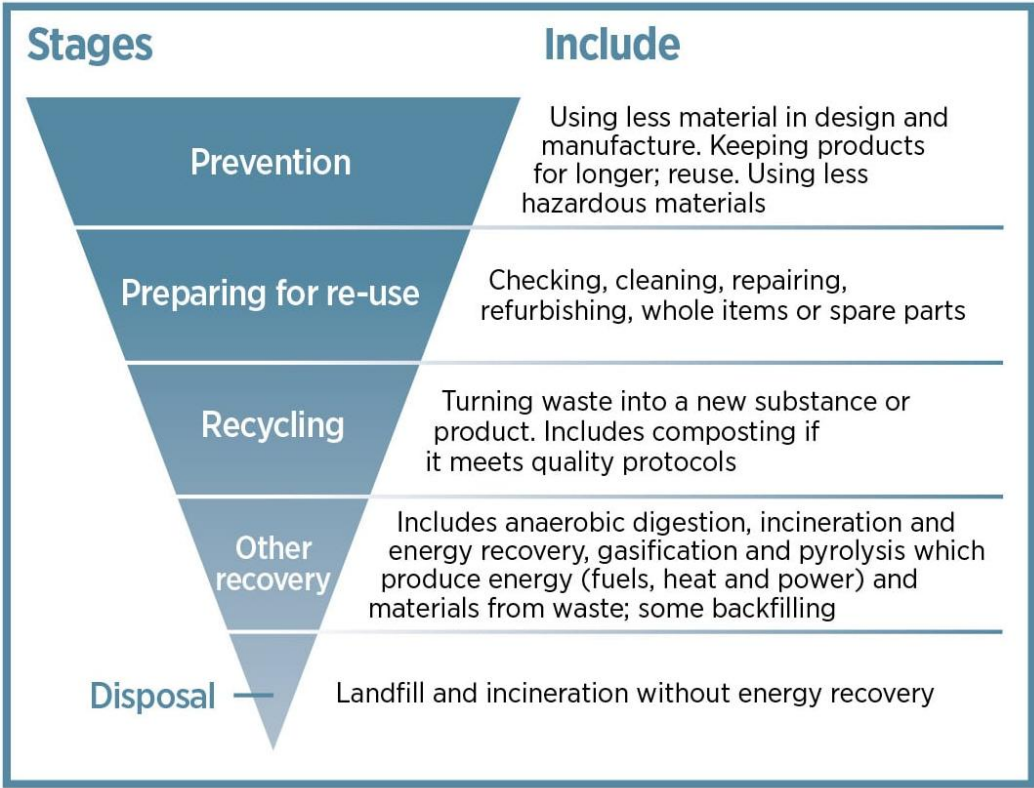


Plate 5-1 Stages in the Waste Hierarchy (Defra, 2011)

39. All waste generated by the Project will be managed in accordance with the waste hierarchy. This places waste prevention as the preferred option at the top, followed by reuse, recycling and other recovery, with landfill disposal at the bottom as the last resort.

5.1 Waste Prevention and Minimisation

40. A circular economy approach will be taken by the Undertaker and Principal Contractor(s) during the design stages to eliminate wastes as part of the design process. This will use waste prevention and elimination techniques appropriate for construction projects detailed in the *Waste Prevention Programme for England: Maximising Resources, Minimising Waste* (Defra, 2023) and draws on industry best design practice such as the *Designing out Construction Waste* (Zero Waste Scotland, 2023).
41. An integrated design approach will be developed for the landfall, onshore ECC and OCS zone construction works to use excavated material within the works as part of the project design wherever reasonably practicable. This includes reuse of all topsoil and excavated subsoil as close to the point of generation as practicable.
42. The reuse of excavated material within the Project would be managed in accordance with the Definition of Waste: Development Industry Code of Practice published by CL:AIRE (CL:AIRE, 2011), as outlined in **Section 1.3**. This would involve the preparation of a MMP that will set out how the suitable excavated material is to be used as a resource within the construction of the Project.
43. For any excavated material which cannot be reused within the Onshore Development Area of the Project, the Principal Contractor(s) will seek timely opportunities for alternative beneficial reuse within the vicinity of the works to minimise transport distances of material.

5.1.1 Waste Minimisation

44. Good practice waste minimisation techniques will be adopted across all Project construction sites, including the following approaches:
- Detailed design phase: Identify further opportunities to design out waste materials, including designs for decommissioning of the OCS zone infrastructure, specification of standard sizes in design and avoiding unnecessary off cuts;

- Procurement and supply chain management: insert clauses in contracts that encourage waste minimisation for example use of materials that can be reused, recycled, or recovered upon decommissioning or replacement. Obtain a commitment from suppliers for sustainable materials and minimising wastes (maximising segregation), cascade this into contracts and implement through ongoing construction phase auditing;
 - Appoint contractors that can demonstrate commitment to sustainable procurement and practices and have embedded sustainability policies;
 - Identify opportunities for off-site fabrication of structures and components, on-site assembly;
 - Use of construction or aggregate materials with a high recycled content;
 - Just in time delivery of construction materials to avoid wastage. Where possible, commission suppliers that operate return schemes for any unused material and packaging waste;
 - On-site segregation of waste streams to maximise reuse and recycling;
 - Minimise generation of hazardous waste by selecting more environmentally friendly materials; and
 - Implementation of the SWMP including site auditing and identifying key site personnel to manage the waste management process for the site.
45. Best practice waste minimisation techniques will be reviewed throughout the construction phase to identify further opportunities to reduce waste generation and maximise recycling.

5.2 Recycling

46. The Principal Contractor(s) will consider the use of recycled materials where possible (for example, recycled aggregate and secondary aggregates for use in concrete, or granular fill). During construction, wastes will be segregated into waste types to facilitate off-site recycling (for example, metals, wood, plastic, and cardboard).
47. The layout of the construction site will be designed to allow sufficient space for separate containers of key waste materials to be stored to facilitate segregation and recycling. These containers will be clearly labelled, and construction staff will be given training on waste segregation (see **Section 3.1**).
48. Specification of construction materials would follow best practice in selecting material that is responsibly sourced with low environmental impact and maximising efficient use of resources.

5.3 Disposal

49. All waste that cannot be reused, recycled or recovered will be placed in the general waste skips or bins and will be disposed of off-site by approved contractors. Burning of wastes at the construction site will not be permitted.

5.4 Resource Efficiency Targets

50. Resource efficiency targets will be set during the detailed design stage for specific materials. This will include targets for alternative aggregates and recycled content materials such as steel reinforcement subject to the appropriate specifications for the Project being met.
51. The Project will aim to achieve the following target for construction waste (excluding excavated materials):
- Divert 90% (by weight) of non-hazardous construction waste from landfill disposal.
52. Diversion from landfill will be achieved through a combination of on-site and off-site reuse, recycling and recovery from all construction sites. The targets exceed the target set by the Waste (England and Wales) Regulations 2011 (as amended), which requires that a minimum of 70% of construction and demolition waste should be prepared for reuse, recycling or other material recovery. A 90% diversion from landfill is considered best practice and was demonstrated as achievable at the London 2012 Olympic Park in London.
53. Further targets will be set during the detailed design stage to reduce, reuse or recycle key waste materials on-site and off-site. The targets will be incorporated into the Principal Contractor(s) contract specifications with contractor(s) and subcontractor(s) post-consent and documented in the SWMP.

6 Identification and Management of Wastes

6.1 Waste Types

54. The key waste streams generated from the construction of the onshore elements of the Project will be classified as:
- Inert – wastes that will not cause adverse effects to the environment when disposed of and have no potentially hazardous content. Examples of inert wastes are rocks, uncontaminated soils and aggregates;
 - Non-hazardous – wastes do not exhibit hazardous properties and are defined in regulatory guidance. Examples of non-hazardous wastes include insulation materials, concrete, untreated wood, paper and cardboard; and
 - Hazardous – wastes are considered 'hazardous' under environmental legislation when it contains substances or has properties that might make it harmful to human health or the environment as set out in classification guidance. Hazardous wastes may have one or more of the following properties: explosive, corrosive, flammable, highly flammable, infectious, oxidising or sensitising.
55. Further details of how wastes are classified as hazardous is provided in the WM3 Guidance on the Classification and Assessment of Waste (Environment Agency, 2021) and other advice provided by Defra on construction and demolition wastes (Defra, 2024). Where required, sampling plans may be developed to sample and test specific wastes via laboratory to confirm the chemical composition that will inform the classification and subsequent management options.
56. Wastes will be generated from various construction activities of the Project, and the SWMP will be updated at later stages to ensure appropriate controls are applied to anticipated waste streams for each works phase.
57. The following are examples of waste types expected to be generated from the construction activities of Project:
- Inert wastes:
 - Soils and subsoil – removed from works areas; and
 - Hardcore – that cannot be reused.
 - Non-hazardous wastes:
 - Drilling wastes – fluids and solids from trenchless technique activities;
 - Food waste – from welfare facilities;
 - General wastes – mixed packaging and general waste from welfare facilities and site offices;

- Green waste – from vegetation removal and clearing if transferred from site;
 - Concrete and rubble;
 - Scrap metal;
 - Recyclables – plastic bottles, drinks cans that are segregated at site welfare facilities;
 - Sewage waste – from toilet facilities at temporary construction works areas and OCS zone; and
 - Wood – pallets, packing wastes, cable reels.
 - Hazardous wastes:
 - Batteries, lead-acid;
 - Chemicals, off spec and unwanted;
 - Contaminated land – if any is identified and removed;
 - Empty drums, with residues – from chemicals / oils / lubricants;
 - Medical / clinical waste – from first aid posts;
 - Oil filters – from plant maintenance;
 - Oily rags – from plant maintenance;
 - Used oil – from equipment and plant; and
 - Waste electrical and electronic equipment (WEEE).
58. There will be a range of quantities of wastes generated from the Project's construction activities, some will be relatively small quantities such as medical wastes from first aid posts and others in large quantities such as soils from excavation.

6.2 Locations of Waste Generation

59. Waste will be generated from construction activities and logistics support at the following Project locations:
- Landfall
 - Trenchless installation works;
 - Transition Joint Bay (TJB) and associated link box excavation and construction;
 - Temporary landfall construction compound (e.g. site offices and worker welfare facilities); and
 - Site reinstatement.

- Onshore ECC
 - Excavation of cable trenches and installation of cable ducts;
 - Jointing bays and associated link boxes excavation and construction;
 - Trenchless installation works and temporary trenchless installation compounds (e.g. site offices and worker welfare facilities);
 - Haul road construction;
 - Main temporary construction compounds (e.g. site offices and worker welfare facilities); and
 - Intermediate temporary construction compounds (e.g. site offices and worker welfare facilities);
 - Site reinstatement.
 - OCS zone
 - Site preparation during enabling works;
 - OCS and ESBI construction;
 - Temporary construction compounds (e.g. site offices and worker welfare facilities); and
 - Site reinstatement.
60. Waste storage areas will be provided at designated locations throughout the Project's construction areas and will be tailored to meet the specific work activities being undertaken.
61. Each skip / container will be clearly marked to indicate the intended contents and will be suitable for the storage of the specified contents. All skips / containers will be covered to prevent the escape of waste by windblow or vandalism. If liquid waste is being stored, an appropriate bund and drip pans will be in place. Storage areas will be located away from potential contaminant pathways such as soakaways and drains, trial pits, excavations and trenches.
62. Any hazardous waste will be stored safely in a designated area away from non-hazardous wastes and labelled accordingly.

6.3 Estimated Waste Arisings

63. Good practice management methods for inert, non-hazardous and hazardous wastes are detailed in **Table 6-1** to
64. **Table 6-3** and where possible indicative estimates of waste arisings have been provided. The LoW code for each waste type is also provided in the table, these will be updated in the SWMP in line with the specific wastes that will be generated from project activities.

65. These waste estimates provided are indicative and based on professional judgement and information on the Project at the time of writing and will be updated post-consent by the appointed Principal Contractor(s) to confirm the expected types of wastes and more accurate estimate of the arisings.

Table 6-1 Inert Wastes: Good Practice and Indicative Estimated Waste Arisings from Construction Phase

Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Topsoil	Landfall, onshore ECC, OCS zone	<p>Landfall and onshore ECC – all soil will be stored in line with the MMP.</p> <p>OCS zone - Topsoil will be stripped and temporarily stored at the OCS zone. Indicative quantity of topsoil excavated within the OCS zone: 100,000m³.</p>	All stored soils should be reused within the project design to prevent waste requiring removal from site.	Estimate to be confirmed in the SWMP.
Subsoil	Landfall, onshore ECC, OCS zone	<p>Temporary landfall construction compound - a temporary landfall compound will be required for the landfall trenchless installation works. The temporary compound will lead to a maximum area of 12,500m² being stripped of soils which will be temporarily stored and re-instated following completion of the landfall works.</p> <p>Jointing Bays - there are anticipated to be approximately 62 jointing bays locations along the onshore ECC, each bay will require around 75m³ of subsoil to be removed and stockpiled to allow construction (based on an area of 30m² and depth of 2.5m/bay).</p> <p>Link boxes - there are also anticipated to be approximately 56 link box locations along the onshore ECC (each box having an area of approximately 4m²).</p> <p>OCS zone – subsoil will be excavated and temporarily stored within the OCS zone and used for cut and fill where possible.</p>	<p>All excavated subsoils will be temporarily stored and reinstated once construction works are complete. Where excess of materials is identified from locations of constructed infrastructure, the engineering design will identify alternative areas for the subsoil or confirm if excess to requirements (as discussed in Section 5.1).</p> <p>Any excess will be reused at locations identified within the MMP.</p>	Estimate to be confirmed in the SWMP.

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Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Hardcore 17 05 04	Landfall, onshore ECC	The haul road is anticipated to be approximately 6m wide (and approximately 8.5m at passing places) and will be constructed with sub-base material. Soils will be stripped and stored prior to construction of the haul road. Once the section of onshore ECC is finished, the sub-base will be stripped and re-used at other sections.	Hardcore will be removed and reused at other project locations. Where material cannot be used if it is contaminated with mud quantities of waste may be generated.	Estimate to be confirmed in the SWMP.

Table 6-2 Non-Hazardous Wastes: Good Practice and Indicative Estimated Waste Arisings from Construction Phase

Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Drilling fluids 01 05 04	Landfall, onshore ECC	For certain trenchless techniques, it is assumed that bentonite muds would be used that are non-hazardous.	Fluids recovered by mud-plant and reused in drilling. Minimal fluids are likely to be required to be disposed of.	Estimate to be confirmed in the SWMP. Consult trenchless installation contractor on quantities, once known.

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Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Drilling solids 01 05 04 or 01 05 99	Landfall, onshore ECC	The landfall will generate waste solids from trenchless techniques which will be calculated based on bore diameter and length of the trenchless installation. Estimates of trenchless crossings at the landfall and along the onshore ECC will be included when information is available.	Solids will be recovered and dewatered. Sampling may be required to confirm non-hazardous classification (depending on chemical inputs). Waste options will be reviewed to seek reuse, where appropriate.	Estimate to be confirmed in the SWMP.
Food waste 20 01 08	Landfall, onshore ECC, OCS zone	Food wastes may be produced at welfare facilities where workers take breaks and have lunch. Not expected to be a large waste stream, unless dedicated catering facilities are provided at locations with larger workforce.	Provide dedicated containers for any food wastes produced at welfare locations to minimise general waste and allow diversion for composting.	Estimate to be confirmed in the SWMP.
General wastes 17 09 04 (mixed construction) or 20 03 01 (mixed municipal)	Landfall, onshore ECC, OCS zone	Will be produced at all sites, although will be minimised where specific wastes will be segregated for recycling (plastic bottles, cardboard packaging, wooden packaging, plastics). Dedicated skips and bins should be deployed to maximise recycling with a general waste skip provided as the disposal point for those wastes that cannot be recovered.	Minimise the mixing of recyclable wastes by training staff on which materials can be segregated and recycled to minimise waste. Reinforce with construction staff at toolbox talks.	Will depend on staff numbers and duration of use of construction compounds / welfare facilities. Estimate to be confirmed in the SWMP.

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Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Green waste 20 02 01	Landfall, onshore ECC, OCS zone	The enabling works will identify areas of vegetation removal, including trees.	Vegetation and branches can be shredded on the sites and remain in-situ to rot down. Not removed from site, unless identified as invasive non-native species. A detailed Ecological Management Plan will be developed in accordance with the Outline Ecological Management Plan which will include measures to prevent the transfer and spread of invasive non-native species (Commitment ID CO81, see Volume 2, Appendix 6.3 Commitments Register).	None expected to require off-site management.
Concrete and rubble 17 01 01 or 17 01 07	Landfall, onshore ECC, OCS zone	Small quantities of concrete and rubble are expected as there is no demolition of buildings or other structures as part of the Project.	Reuse of materials in foundations, where appropriate. Segregate in dedicated skips where quantities warrant, potentially at the OCS zone construction site.	Estimate to be confirmed in the SWMP.
Scrap metal 17 04 05 (iron and steel) 17 04 07 (mixed)	Landfall, onshore ECC, OCS zone	Limited scrap metal is likely to be generated at the landfall and onshore ECC construction, however some quantities are expected from rebar and steel strapping / packaging. Large quantities are likely at the OCS zone from construction of the OCS and ESBI.	Avoid over ordering materials that become surplus. Ensure all scrap metal is segregated and stored in clearly labelled skips and bins to facilitate recycling.	50 - 100

APPENDIX B - OUTLINE SITE WASTE MANAGEMENT PLAN

Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
17 04 11 (cables, non-haz)				
Recyclables 20 03 01	Landfall, onshore ECC, OCS zone	Containers should be deployed at all construction compounds and welfare facilities for dry recyclables, including plastic bottles, cardboard, glass bottle.	Maximise recycling of materials to minimise general waste.	Estimate to be confirmed in the SWMP. Potentially hundreds of tonnes of packaging and containers could be recycled.
Wood 17 02 01	Landfall, onshore ECC, OCS zone	Offcuts and clean packing and pallets from the delivery of materials will become waste at all site locations. Wood contaminated with oils or chemicals may be classified as hazardous.	Return pallets to suppliers to prevent wastes. Reuse boards and packing, where practicable. Segregate wood in dedicated skips to allow diversion to energy recovery to reduce disposal.	Estimate to be confirmed in the SWMP.

Table 6-3 Hazardous Wastes: Good Practice and Indicative Estimated Waste Arisings from Construction Phase

Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Batteries, lead-acid 16 06 01	Landfall, onshore ECC, OCS zone	Used lead-acid batteries may be produced when replaced on plant or other equipment at all sites. Batteries replaced at sites may be returned to suppliers.	Ensure segregation. Batteries must be stored in dedicated battery boxes to prevent leakage of acid. Used batteries can be sent for recycling at dedicated processors.	0.25 – 1.0
Battery banks	OCS zone	Containerised battery storage units will be part of the ESBI. If these are not functioning, they will be returned to suppliers.	No wastes expected as part of construction as delivered as containerised units.	No wastes expected as containerised units.
Chemicals (liquid) Various, including 20 01 13 20 01 14 20 01 27	Landfall, onshore ECC, OCS zone	Containers or drums of various chemicals may be produced from various construction activities at any of the work sites.	Ensure Material Safety Data Sheets are kept in a log for all waste chemicals and they are stored appropriately. Chemicals must be stored in a bunded area away from non-hazardous wastes.	Estimate to be confirmed in the SWMP.
Medical / clinical waste 18 02 02	Landfall, onshore ECC, OCS zone	Small quantities expected. Larger quantities may be generated if a serious health and safety incident occurs on-site.	Waste containers must be clearly labelled with appropriate hazards (infectious, sharps etc.) at the first aid posts.	< 0.1

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Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Contaminated soils 17 05 03	Landfall, onshore ECC, OCS zone	No contaminated soils are planned to be excavated, however small quantities may be generated from accidental spillages or leaks.	All oil or chemical contaminated soils should be stored in lined areas to prevent further contamination. Wastes should be kept separate from non-hazardous wastes.	Estimate to be confirmed in the SWMP.
Empty drums, with residues Various waste codes – depending on chemical or oil	Landfall, onshore ECC, OCS zone	Drums from lubricants and chemicals from various construction activities. Drums with partial residues should be treated as hazardous wastes.	All drums with oil or chemical residues would be segregated and treated as hazardous waste. Drums can be drained and cleaned to allow recycling of metal or plastics and safe treatment of fluid residues.	Estimate to be confirmed in the SWMP.
Oil filters, used 15 02 02	Landfall, onshore ECC, OCS zone	Used oil filters may be produced from routine maintenance of plant at all sites or servicing of generators. Poorly managed used oil filters could lead to contaminating the ground if uncontained.	Dedicated oil filters boxes can be deployed at locations where oil filters will be generated (to allow collection of the oil residues). Liquid oils and metal filters can be sent for recycling / reprocessing.	0.1 – 0.2
Oily rags 15 02 02	Landfall, onshore ECC, OCS zone	Oil contaminated rags and absorbents from plant maintenance.	Collect in dedicated containers and labelled as hazardous waste. Avoid mixing with non-hazardous materials to reduce the quantity of hazardous waste and allow energy recovery.	Estimate to be confirmed in the SWMP.

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Waste Type / Code	Onshore Project Element	Commentary on Waste	Good Practice Management	Indicative Waste Estimate (tonnes)
Used oil Various codes, 13 02 04 to 08	Landfall, onshore ECC, OCS zone	Used engine oil from plant or generators from routine servicing or change-out.	At locations where used oil is produced the stored liquid should be contained in a dedicated bunded location to prevent leakage. Used oil can be reprocessed for various uses such as new lubricants and fuel oils and raw materials for industrial manufacturing.	2 – 5 (depending on plant and equipment and site practices).
WEEE 20 01 35	OCS zone	Damaged or discarded and end of life Waste Electrical and Electronic Equipment (WEEE). May be generated at any location, most likely at the OCS zone works as a longer duration.	Segregate to avoid contamination from other wastes. Assess whether equipment can be refurbished or can be sent for recycling. Classification will depend on type of equipment as many types contain hazardous substances.	Estimate to be confirmed in the SWMP.

7 Monitoring and Review

7.1 Data Collection and Tracking

66. The Principal Contractor(s) will be required to keep waste records to ensure all wastes generated are tracked from source to end point to allow full traceability both on-site and off-site. The data strategy will include the following:
- Waste tracking spreadsheet and weekly reporting of waste arisings and destinations;
 - Procedures for waste transfer notes / consignment notes log and reporting (note that this is likely to become fully electronic in future years);
 - Monthly reporting of summary data and splits for alternative management options (e.g. % reused, recycled, disposed);
 - Details of compliance audits of waste storage areas and findings; and
 - Responsibilities for reporting data and process for remediating non-compliances.
67. The waste management data will be compiled into monthly reports to monitor progress in reducing, minimising and diverting waste from landfill.
68. On completion of construction, a comparison of the estimated waste arisings and the actual waste management data will be undertaken. Any differences between the estimated and actual waste arisings will be used to assess the effectiveness of the waste minimisation and management measures. The review will identify any deviations from the SMWP and highlight lessons learnt.

7.2 Site Inspection and Audit

69. Regular inspections of the onshore construction works will be undertaken by a suitably qualified person identified by the Principal Contractor(s) to ensure the continued compliance of site operations with the provisions of the SWMP and control measures outlined in relevant method statements.
70. A record of all site inspections and findings will be logged and all non-compliances tracked to ensure remedial actions are followed up and closed-out.
71. Audits of site-specific compliance with the SWMP will be undertaken by staff to ensure the construction areas are segregating wastes and depositing the correct waste types in the designated containers at storage locations.
72. All third-party locations receiving wastes for treatment or disposal from the Project will be audited prior to wastes being transferred by waste contractors and a log and schedule shall be kept of all site visits and findings.

73. Appropriate Duty of Care paperwork for the movements of waste (for example, waste transfer notes) will be retained on-site. Volumes (m³ or tonnes) and waste types will be recorded for all wastes sent for reprocessing, recycling or disposal. Records will also be kept of waste re-used / recycled on-site.

7.3 Plan Review

74. During construction, the SWMP will be reviewed annually to ensure all information is current and accurate. Updates to the SWMP will be required where there are the following:
- Changes to relevant waste legislation and regulations;
 - Updates to the Project's standards and procedures;
 - Changes to the scope of the construction activities; and
 - Changes to the construction waste collection locations, waste contractor details or types of waste being collected.
75. The Principal Contractor(s) will be responsible for reviewing and updating the SWMP for approval by the Undertaker and communicating information to all users.

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List of Acronyms

Acronym	Definition
CEP	Circular Economy Package
CL:AIRE	Contaminated Land: Applications in Real Environments
CoCP	Code of Construction Practice
DBD	Dogger Bank D
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
ES	Environmental Statement
ESBI	Energy Storage and Balancing Infrastructure
EWC	European Waste Catalogue
HDD	Horizontal Directional Drilling
LoW	List of Waste
MMP	Materials Management Plan
OCS	Onshore Converter Station
PEIR	Preliminary Environmental Information Report

APPENDIX B - OUTLINE SITE WASTE MANAGEMENT PLAN

Acronym	Definition
SWMP	Site Waste Management Plan
TJB	Transition Joint Bay
WEEE	Waste Electronic and Electrical Equipment
WRAP	Waste & Resources Action Programme