MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Outline Onshore Construction Method Statement

Deadline: Deadline 7
Application Reference: EN020028

Document Numbers:
MRCNS-J3303-JVW-19159
MOR001-FLO-CON-CAG-MTH-0001

Document Reference: S_D4_11/F03

29 October 2025
F03

Document status					
Version	**Purpose of document**	**Approved by**	**Date**	**Approved by**	**Date**
F01	Deadline 4	AS	Aug 2025	IM	Aug 2025
F02	Deadline 6	GL	Oct 2025	IM	Oct 2025
F03	Deadline 7	GL	Oct 2025	IM	Oct 2025

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Glossary

Term	Meaning
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Design envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for EIA purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Direct pipe	A cable installation technique which involves the use of a mini (or micro) tunnel boring machine and a hydraulic (or other) thruster rig to directly install a steel pipe between two points.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach to, and information to support, the EIA and Habitats Regulations Assessment processes for certain topics.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, inter-array cables, offshore substation platforms and platform link (interconnector) cables to connect offshore substations.
Intertidal area	The area between Mean High Water Springs and Mean Low Water Springs.
Intertidal Infrastructure Area	The temporary and permanent areas between MLWS and MHWS.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).

Term	Meaning
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980.
Main rivers	The term used to describe a watercourse designated as a Main River under the Water Resources Act 1991 and shown on the Main River Map. These are usually larger rivers or streams and are managed by the Environment Agency.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for to apply for 'deemed marine licences' in English waters as part of the development consent process
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.
Micro-tunnel / micro-tunnelling	A tunnelling technique involving the use of a hydraulic (or other) jacking rig and a mini (or micro) tunnel boring machine to install a concrete tunnel between two points.
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall, and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morecambe OWL	Morecambe Offshore Windfarm Limited is owned by Copenhagen Infrastructure Partners' (CIP) fifth flagship fund, Copenhagen Infrastructure V (CI V).
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore export cables, landfall, and onshore infrastructure for the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.
Morgan Offshore Wind Project: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between JERA Nex bp (JNbp) and Energie Baden-Württemberg AG (EnBW).

Term	Meaning
National Grid Penwortham substation	The existing National Grid substation at Penwortham, Lancashire.
National Policy Statement(s)	The current national policy statements published by the Department for Energy and Net Zero in 2023 and adopted in 2024.
Offshore booster station	A fixed structure located along the offshore export cable route, containing electrical equipment to ensure bulk wind farm capacity can be fully transmitted to the onshore substations.
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Permanent Infrastructure Area	The area within the Transmission Assets Offshore Order Limits (up to MLWS) where the permanent offshore electrical infrastructure (i.e. offshore export cables) will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Offshore substation platform(s)	A fixed structure located within the wind farm sites, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore Infrastructure Area	The area within the Transmission Assets Order Limits landward of MHWS. Comprising the offshore export cable corridor from MHWS to the transition joint bay, onshore export cable corridor, onshore substations and 400 kV grid connection cable corridor, and associated temporary and permanent infrastructure including temporary and permanent compound areas and accesses. Those parts of the Transmission Assets Order Limits proposed only for ecological mitigation and/or biodiversity benefit are excluded from this area.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).
Transmission Assets Order Limits: Offshore	The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas

Term	Meaning
	required on a temporary basis during construction and/or decommissioning. Also referred to in this report as the Offshore Order Limits, for ease of reading.
Transmission Assets Order Limits: Onshore	The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds). Also referred to in this report as the Onshore Order Limits, for ease of reading.

Acronyms

Acronym	Meaning
CoCP	Code of Construction Practice
DCO	Development Consent Order
HDD	Horizontal Directional Drilling
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
MTBM	Micro-tunnel Boring Machine
NRW	Natural Resources Wales
PRoW	Public Rights of Way
SSSI	Site of Special Scientific Interest
TJB	Transition Joint Bays

Units

Unit	Description
%	Percentage
M	Metres
m^2	Square metres

1 OUTLINE ONSHORE CONSTRUCTION METHOD STATEMENT

1.1 Background

1.1.1 Introduction

1.1.1.1 This Outline Onshore Construction Method Statement supports the application for a Development Consent Order (DCO) for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to hereafter as 'the Transmission Assets').

1.1.1.2 This Outline Onshore Construction Method Statement was updated at Deadline 6 to including the following:

- Added reference to mitigation measures to avoid or minimise impacts on historic environment.
- Clarification of the protective tile target depth, to align with the Project Description (Document Reference F1.3).
- Clarification that landowners and occupiers will be consulted on the location of link boxes during detailed design.

1.1.1.3 This Outline Onshore Construction Method Statement was updated at Deadline 7 in response to a Rule 17 letter (PD-017) from the Examining Authority to including the following:

- Clarification on the location and details of Type C construction compounds.

1.2 Implementation

1.2.1.1 This Outline Onshore Construction Method Statement forms an appendix to the Outline Code of Construction Practice (CoCP) (Document reference J1).

1.2.1.2 Following the grant of consent for the Transmission Assets, detailed Onshore Construction Method Statement(s) will be prepared as a part of the detailed Code of Construction Practice(s) on behalf of Morgan OWL and/or Morecambe OWL for each project, prior to commencement of the relevant stage of works, and will follow the principles established in this Outline Onshore Construction Method Statement. The detailed Onshore Construction Method Statement(s) will require approval by the relevant planning authority following consultation with relevant stakeholders. The Applicants and all appointed contractors will be responsible for the implementation of the detailed Onshore Construction Method Statement(s).

1.2.1.3 The Applicants have committed to implementation of detailed Onshore Construction Method Statements via commitment CoT35 (see Volume 1, Annex 5.3: Commitments Register, document reference F1.5.3), which is secured by Requirement 8 of the draft Development Consent Order (DCO) (document reference C1) Schedules 2A & 2B. Below sets out the requirement wording for Project A (Project B's requirement mirrors that of Project A and is, therefore, not repeated):

8.—(1) No stage of the Project A onshore works or Project A intertidal works may commence until for that stage a code of construction practice has been submitted to and approved by the relevant planning authority following consultation as appropriate with Lancashire County Council, Natural England, the Environment Agency and, in relation to the Project A intertidal works or, if applicable to the Project A offshore works, the MMO.

(2) Each code of construction practice must accord with the outline code of construction practice and include, as appropriate to the relevant stage, -

(p) onshore Construction Method Statement (in accordance with the outline onshore construction method statement.

(3) The code of construction practice approved in relation to the relevant stage of the Project A onshore works must be followed in relation to that stage of the Project A onshore works.

(4) Onshore site preparation works must be carried out in accordance with the applicable details set out in the outline code of construction practice.

1.2.1.4 The Transmission Assets may adopt a staged approach to the approval of DCO requirements. This will enable requirements to be approved, in part or in whole, prior to the commencement of the relevant stage of works in accordance with whether a staged approach is to be taken to the delivery of each project.

1.2.1.5 For onshore and intertidal works (landward of Mean Low Water Springs), this approach will be governed by Requirement 3 within the draft DCO, which requires notification to be submitted to the relevant planning authority/authorities detailing whether Project A or Project B relevant works will be constructed in a single stage; or in two or more stages, prior to the commencement of construction works.

1.2.1.6 The Outline Onshore Construction Method Statement seeks to manage potential impacts from the construction of the onshore elements of the Transmission Assets. These elements would take place landward of the Transition Joint Bays (TJBs) and comprise the following:

- Onshore Export Cable Corridor (landward of the TJBs)
- Onshore Substations
- 400kV Grid Connection Cable Corridor

1.2.1.7 The construction of the onshore export cable corridor involves installation of up to six export cable circuits - up to four for Morgan OWL and up to two for Morecambe OWL - extending from the TJBs to each of the respective Applicants' onshore substations.

1.2.1.8 To maintain electrical independence, two separate substations are required, one substation for each project. The connection between each of the proposed onshore substations and the existing National Grid Penwortham substation will be achieved by up to four 400kV grid connection cable circuits (i.e. up to two for each project).

1.2.1.9 In addition to these elements, the Outline Onshore Construction Method Statement also considers the temporary construction compounds, storage areas, mitigation areas and accesses required to support the construction of the Transmission Assets.

1.2.1.10 The Transmission Assets for Morgan OWL and Morecambe OWL will be constructed independently of one another, however in the event that there is a temporal overlap of the projects' construction programmes, the Applicants will work to explore opportunities to coordinate the construction activities wherever practicable.

1.2.1.11 The relevant planning authorities for the onshore elements are:

- Fylde Borough Council
- South Ribble Borough Council
- Preston Borough Council
- Blackpool Borough Council
- Lancashire County Council

1.2.2 Purpose of the Outline Onshore Construction Method Statement

1.2.2.1 This Outline Onshore Construction Method Statement sets out the construction methodology and environmental considerations associated with the construction of the onshore elements of the Transmission Assets, including:

- Onshore Cable Corridor
- Onshore Substations, permanent access road and attenuation pond
- 400kV Grid Connection Cable Corridor
- Establishment of temporary construction compounds
- Temporary Haul roads

1.2.2.2 This is an outline document that is based on the maximum design scenario (MDS) assessed in the Environmental Statement (see Volume 1, Chapter 3: Project description of the Environmental Statement (Document Reference F1.3)).

1.2.2.3 The Outline Onshore Construction Method Statement should be read in conjunction with the Outline CoCP (Document J1) and its supporting appendices.

1.3 Scope of the Outline Onshore Construction Method Statement

1.3.1.1 The scope of this Outline Onshore Construction Method Statement applies to onshore site preparation works and construction activities for the Transmission Assets located landward of the Transition Joint Bays (TJBs). This Statement does not apply to activities associated with offshore and intertidal works i.e. seaward of the Transition Joint Bays. Intertidal works will be included within the Outline Landfall Construction Method Statement (which subject to acceptance by the ExA will be submitted prior to Deadline 5). For details regarding the offshore cable installation i.e. seaward of MLWS, refer to the Outline Cable Specification and Installation Plan (CSIP) (Document reference J15) and the Cable Burial Risk Assessment (CBRA) (Document reference J14).

1.3.1.2 Onshore site preparation works are defined in article 2 of the draft DCO (document reference C1) and will be undertaken prior to the commencement of construction. These works will be undertaken in line with this Outline Onshore Construction Method Statement which forms part of the CoCP; the CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO (Document reference C1).

1.3.1.3 Measures to avoid/or minimise the potential effects of the construction of the onshore elements to existing heritage assets and buried archaeological remains are set out in Section 1.8.4 Historic Environment in the outline CoCP (Document Reference J1); The CoCP is secured through requirement 8 in Schedules 2A and 2B of the draft DCO.

1.3.1.4 The detailed Onshore Construction Method Statement(s) will be in accordance with the principles established in the Outline Onshore Construction Method Statement and will be agreed with the relevant authority prior to commencing construction of the relevant stage of the onshore works (landward of the TJBs). For this Outline Onshore Construction Method Statement, the term 'construction' includes all related engineering, construction and restoration activities as authorised by the DCO within the Order Limits excluding onshore site preparation works, as defined in Article 2 of the DCO.

1.4 Ecological management

1.4.1 Overview

1.4.1.1 Measures to manage potential construction impacts on protected species and habitat features are set out within the Outline Landscape Management Plan (oLMP, document reference J2) and the Ecological Management Plan (oEMP, document reference J6).

1.4.1.2 The Outline Ecological Management Plan is secured by Requirement 12 of Schedules 2A & 2B of the draft DCO (Document reference C1).

Detailed Ecological Management Plan(s) will be implemented as approved by Requirement 12 of Schedules 2A & 2B of the draft DCO (Document reference C1).

1.4.1.3 In addition, the Applicants have made a commitment (CoT15 of Volume 1, Annex 5.3: Commitments Register of the ES (Document Reference C1) to developing Detailed Landscape Management Plan(s) in line with the Outline Landscape Management Plan. This is secured by Requirement 6 of Schedules 2A & 2B of the draft Development Consent Order (Document Reference C1). Detailed Landscape Management Plan(s) will be implemented by the Applicants as approved by relevant local authorities.

1.4.2 Invasive species

1.4.2.1 Measures to control and remove invasive weeds will be implemented in line with relevant best practice guidance. The measures will be set out in the Outline Biosecurity Protocol (Document reference J1.12), which forms part of the CoCP; The CoCP is secured in the dDCO.

1.4.3 Mitigation measures

1.4.3.1 Proportionate mitigation measures in relation to impact assessments (that are based on the realistic worst case construction scenario) are set out within the Commitments Register (Document Reference F1.5.3).

1.5 Establishment of temporary construction compounds

1.5.1.1 The locations of the temporary construction compounds (TCCs) are identified on the Onshore Works Plans (Document reference B7) and shown on Figure 1 below. The primary TCCs (known as Type A compounds, one per project) will extend up to 15,000 m^2 for Morgan OWL, and 11,500m^2 for Morecambe OWL. They will operate as a central base for the onshore construction works and will house the central offices, welfare facilities, car parking and stores, as well as acting as a staging post and secure storage for equipment and component deliveries. Up to three secondary TCCs (known as Type B compounds) for each project will also be provided along the Onshore Cable Corridor and each will each measure up to 15,000 m^2 for Morgan OWL and 11,500m^2 for Morecambe OWL. These TCCs will be required for laydown and storage of materials and plant, and will also provide space for small temporary offices, welfare facilities, security, waste storage, parking and wheel washing facilities.

1.5.1.2 Smaller compounds (known as Type C compounds, one per project) of up to 10,000 m2 for Morgan OWL and 7,500 m2 for Morecambe OWL. These compounds will primarily function as localised offices and welfare facilities to support nearby work fronts, providing essential amenities for personnel and limited space for storage and site management activities.

1.5.1.3 The location of the TCCs have been selected for ease of access from public highways, as well as to avoid sensitive human and environmental receptors where practicable. The locations of both Type A, Type B and

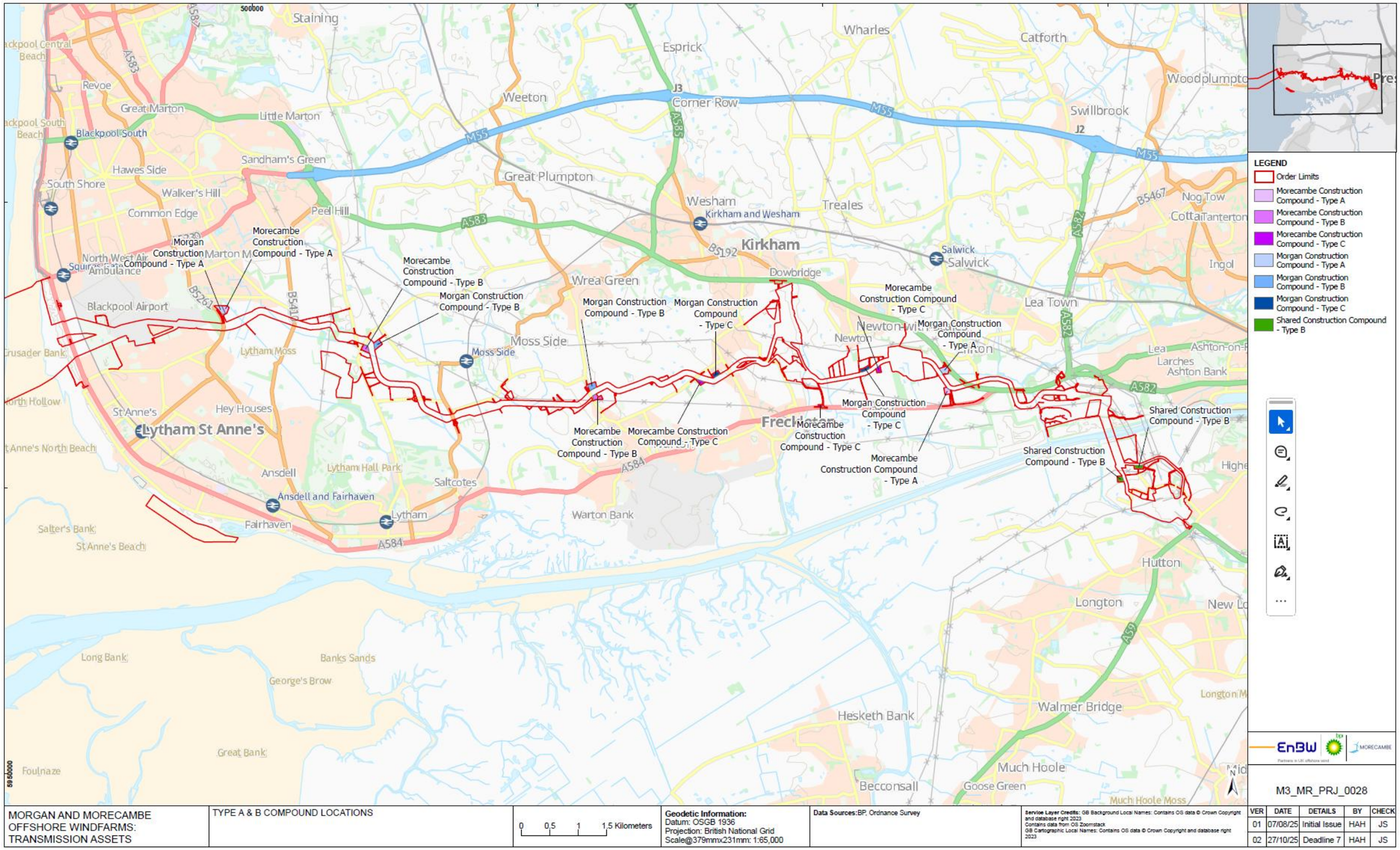
Type C compounds for the Transmission assets are presented in Figure 1.

1.5.1.4 The primary TCCs will be set up upon the commencement of construction of the Onshore Export Cable Corridor, 400kV Grid Connection Corridor and the Onshore Substations, with the remaining secondary TCCs set up as required. The set-up will follow the sequence of activities below:

- Pre-construction surveys (as required) in line with the outline LMP, (Document reference J2) and the outline EMP(s) (Document reference J6).
- The accesses to the TCCs will be constructed in line with design set out in the detailed Highways Access Management Plan(s) (Document reference J8). Traffic management associated with the construction of the access will be in line with the detailed Construction Traffic Management Plan(s) (Document reference J5). Both management plans are secured under Requirement 10 of Schedules 2A and 2B of the dDCO (Document reference C1)
- Fencing of the compounds following the procedures in the detailed Construction Fencing Plan(s), which forms part of the CoCP; the CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO (Document reference C1). An Outline Construction Fencing Plan is included in the DCO application (Document Reference J1.10)
- Site clearance for the TCC set up will be undertaken within the associated DCO boundary limits.
- Stripping and storage of the topsoil following the procedures in the detailed Soil Management Plan(s), which forms part of the CoCP; the CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO. An Outline Soil Management Plan is included in the DCO application (Document Reference J1.7).
- Installation of pre-construction drainage following the procedures in the detailed Construction Surface and Groundwater Management Plan(s), which forms part of the CoCP; the CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO (Document reference C1). An Outline Surface and Groundwater Management Plan is included in the DCO application (Document Reference J1.9)
- Constructing hardstanding areas by laying a geotextile or similar separation membrane directly on top of the subsoil, over which layers of crushed stone or other suitable material will be spread. Tarmac surfaces may also be provided (e.g. at the accesses to the TCCs and car parking)
- Once the TCC has been constructed, foundations for the portacabins will be installed. Once this work is completed, the cabins will be delivered and placed using a suitably sized crane.
- Installation of welfare facilities for the workforce including connection of services such as water, power, lighting and telecoms services.
- Installation of temporary lighting in line with the approved Construction Artificial Light Management Emissions Plan, which

forms part of the CoCP; the CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO (Document reference C1). An Outline Construction Artificial Light Management Emissions Plan is included in the DCO application (Document Reference J1.11).

1.5.1.5 Each compound will be removed at the end of construction and the land reinstated to its former condition in accordance with Article 29(6) of the DCO, and Requirements 16 of Schedules 2A and 2B of the DCO (Document reference C1) (as relevant).



MORGAN AND MORECAMBE OFFSHORE WINDFARMS: TRANSMISSION ASSETS	TYPE A & B COMPOUND LOCATIONS	0 0.5 1 1.5 Kilometers	**Geodetic Information:** Datum: OSGB 1936 Projection: British National Grid Scale@379mmx231mm: 1:65,000	**Data Sources:** BP, Ordnance Survey	**Service Layer Credits:** GB Background Local Names: Contains OS data © Crown Copyright and database right 2023 Contains data from OS Zoomstack GB Cartographic Local Names: Contains OS data © Crown Copyright and database right 2023	M3_MR_PRJ_0028				
						VER	DATE	DETAILS	BY	CHECK
						01	07/08/25	Initial Issue	HAH	JS
						02	27/10/25	Deadline 7	HAH	JS

Figure 1: Location of Temporary Construction Compounds

1.6 Utilities

1.6.1.1 All potentially affected utility providers will be contacted and the location of existing services will be accurately identified on the ground prior to intrusive ground investigations or construction. All measures for protection will be implemented before any works commence in accordance with any relevant protective provisions in the DCO.

1.6.1.2 All utility crossings will be undertaken in accordance with standards agreed with the utility owner/operator as set out in the relevant protective provisions.

1.7 Fuel, chemical and waste handling and storage

1.7.1.1 Fuel, chemical storage and handling will be in accordance with the procedures set out in the detailed Spillage and Emergency Response Plan(s) and the detailed Onshore Pollution Prevention Plan(s). Both plans form part of the CoCP, which is secured within Requirement 8 of Schedules 2A and 2B of the DCO. An Outline Spillage and Emergency Response Plan and Outline Pollution Prevention Plan are included in the DCO application (Document References J1.8 and J1.4 respectively).

1.8 Surface water drainage

1.8.1.1 Construction of the Onshore Export Cable Corridor, 400kV Grid Connection Corridor and the Onshore Substations will require the temporary management of surface water. Where required, temporary drainage will be installed along the Onshore Export Cable Corridor and 400kV Grid Connection Cable Corridor to ensure surface water drainage flow is maintained. Drainage will be in line with the Construction Surface Water and Drainage Management Plan as part of the CoCP. An Outline Surface and Groundwater Management Plan is included in the DCO application (Document Reference J1.9). Additional pre-construction drainage may also be installed where required to maintain the operation of pre-existing agricultural drainage systems.

1.8.2 Field Drainage

1.8.2.1 Particular care will be taken to ensure that the existing land drainage system is not compromised as a result of construction of the Transmission Assets. Land drainage systems will be maintained by the Applicants during construction and reinstated on completion.

1.8.2.2 A suitably qualified drainage consultant will be employed by the contractor during the detailed design process and this consultant will liaise with landowners or occupiers (through the agricultural liaison officer, ALO) to consult on the pre and post construction drainage schemes which may be required. This will include the design of any land drainage works required during construction, and on the design and timing of any land drainage works required for the subsequent restoration of the land. This process will take due regard of any local and site-specific knowledge insofar as this is available.

1.8.2.3 Existing agricultural land drains, where encountered during the construction of each phase, will be appropriately marked. The location of drains cut or disturbed by the construction works will be photographed, given a unique number and logged using GPRS coordinates. The actual condition and characteristics (e.g. depth of installation, pipe type and diameter) of the existing drainage will also be recorded upon excavation.

1.8.2.4 During the construction works, temporary drainage will be installed to intercept existing field drains and ditches to maintain the integrity of the existing field-drainage system during construction. Such measures will also assist in reducing the potential for wet areas to form during the works, thereby reducing the impact on soil structure and fertility. Drainage systems however will not be installed into areas where they are not currently present, e.g. environmental wetlands.

1.8.2.5 Any field drainage intercepted during construction will either be reinstated during reinstatement of the land or diverted to a secondary channel. Landowners and occupiers will be informed of the design of drainage works required during construction, including: pipe layout, falls, dimensions and outfalls (if required). The drainage would be reinstated in a condition that is at least as effective as the previous condition and will follow best practice for field drainage installations taking into account site specific conditions. Where it is reasonable for the reinstatement of drainage to involve works outside of the order limits it will be undertaken subject to the agreement of the landowner.

1.8.2.6 Landowners and occupiers will be provided with the opportunity to inspect land drainage works as they progress, subject to health and safety considerations. Furthermore, records of existing and remedial drainage will be maintained by the contractor with copies provided to the Landowner (and the Occupier, if applicable) following the completion of construction works in each phase.

1.8.2.7 A dispute resolution process will be established including the appointment of a jointly agreed Independent Expert, who shall have at least 5 years experience of dealing with land drainage issues, for drainage design and implementation, if required. Where agreement cannot be reached the matter will be taken to the appropriate dispute resolution system.

1.8.3 Water Supplies

1.8.3.1 Where an existing mains or private water supply to a farm is expected to be adversely and directly affected by the construction of the Transmission Assets, the main works contractor shall, if requested by the farmer or landowner to do so, provide or procure (or meet the reasonable cost of the provision of) an alternative supply of water (the form and type of which shall be at the contractor's option). Where the supply is affected temporarily by the construction of the Transmission Assets, then the alternative supply need only be supplied for the period during which it is affected.

1.8.3.2 Where a request is made by the farmer or landowner for a permanent supply due to permanent severance of the existing supply caused by the

construction of the Transmission Assets, the main works contractor shall, where provision of an alternative means of supply can be demonstrated by the land owner/farmer to be reasonably required for their business, provide or procure (or meet the reasonable cost of) a permanent means of alternative supply of water (the form and type shall be at the Applicant's decision).

1.9 Flood risk

1.9.1.1 A summary of the assessed flood risk of the onshore elements of the Transmission Assets is presented in Volume 3, Chapter 2: Hydrology and flood risk (Document Reference F3.2). Additionally, a Flood Risk Assessment was submitted as part of the DCO Application (Document Reference F3.2.3).

1.10 Construction working hours

1.10.1.1 Core working hours for the construction of the onshore elements of the Transmission assets, are secured under Requirement 14 of Schedules 2A and 2B of the DCO and are set out below:

- 07:00 to 19:00 Monday to Friday
- 07:00 to 13:00 Saturday
- Up to one hour before and after core working hours for mobilisation ('mobilisation period') i.e., 06:00 to 20:00.
- No core working will be undertaken on Sundays or Bank Holidays, except in exceptional circumstances.

1.10.1.2 During the mobilisation period, the contractor may undertake the following activities:

- Arrival and departure of the workforce at the site and movement around the Transmission Assets to the place of work that does not require the use of plant;
- Site inspections, inductions and safety checks;
- Deliveries (excluding heavy goods vehicle movements);
- General site preparation and housekeeping that does not generate significant noise or lighting levels; and
- Site maintenance work but does not include any operation of heavy machinery or flood lights.

1.10.1.3 Activities carried out during mobilisation and maintenance will not generate significant noise levels (such as piling).

1.10.1.4 Construction noise levels associated with mobilisation activities undertaken during the start-up period (06:00 to 07:00) and during the shutdown hours (19:00 to 20:00) will not exceed the relevant threshold values for these periods in accordance with DMRB LA111 and Annex E of BS5228 1:2009+A1:2014 (Noise Control on Construction and Open Sites, February 2014). These thresholds will apply to any noise sensitive

receptors. Further detail on thresholds is included in Table 1.4 of the outline Construction Noise and Vibration Management Plan (document reference J1.3). Noise monitoring will be undertaken during the construction works (including mobilisation) in accordance with the detailed Construction Noise and Vibration Management Plan(s).

1.10.1.5 For construction noise at equestrian receptors, additional measures are available to control potential impact from construction activities, which include the following:

- Timing of activities, as far as reasonably practicable, to days and times when horses not likely to be near by, or arrangements can be made to remove horses from land while activities are being undertaken.
- Selection of low vibration equipment or operate equipment in low vibration mode where practicable.
- Consideration of non-vibratory methods for compacting haul roads and backfill material
- Consideration of enhancing sound insulation measures to any affected internal facilities; and
- Applying Biological Heritage Site guidance to shut down machinery or stop movement and noise, as far as reasonably practicable, where horses are within 20 m / 50 m or construction activities. The application of any measures set out in this guidance will be informed by the bespoke Communication Plan between the equestrian receptor and their appointed Agricultural Liaison Officer and Principal Contractor.

1.10.2 Extended working hours

1.10.2.1 In certain circumstances, specific works may have to be undertaken outside the core working hours listed in paragraph 1.10.1.1 in order to maintain time critical activities. These activities will be agreed by giving at least 48 hours' notice in advance of the works to the relevant planning authority. Such activities will not be undertaken outwith the core working hours until the relevant planning authority has agreed, pursuant to Requirement 14 of Schedules 2A and 2B to the dDCO (Document Reference C1). The activities where extended hours may be required are listed in Section 1.6.2 of the Outline CoCP (Document Reference J1).

1.10.3 Emergency Works

1.10.3.1 Emergency works may also be undertaken outside of the core working hours. If emergency works are required, the relevant local authority will be notified as soon as reasonably practicable.

1.10.4 Deliveries

1.10.4.1 Mobilisation does not include heavy good vehicle (HGV) movements into and out of construction areas (i.e. HGV movements should only occur at

the construction areas during the core working hours unless otherwise agreed), however suppliers can make use of the wider highway network outside these hours to travel. The handling of deliveries and materials will be in a manner which minimises noise and vibration, in accordance with the detailed Construction Traffic Management Plan which forms part of the CoCP. The CoCP is secured under Requirement 8 of Schedules 2A and 2B of the dDCO (Document reference C1). An Outline Construction Traffic Management Plan is included in the DCO application (Document Reference J5).

1.11 Construction Scenarios

1.11.1.1 The Morgan OWL and Morecambe OWL are being developed by two separate legal entities. Both projects are required to be constructed and to remain electrically separate from each other with separate Bilateral Grid Connection Agreements (BCAs) with the National Energy System Operator (NESO).

1.11.1.2 The detailed construction schedule and sequencing of the Transmission Assets will be confirmed at the detailed design stage. Therefore, a range of potential construction scenarios has been assessed between the two projects within the Environmental Statement. These scenarios include:

- **In Isolation Construction Scenario**

  The construction of one project only, where the other does not proceed.

- **Concurrent Construction Scenario**

  Construction of both projects at the same time, where activities overlap.

- **Sequential Construction Scenario**

  One project follows the other immediately (back-to-back), or after a period of delay (noting that in any event, the maximum gap between completion of Project A and commencement of Project B would be 4 years).

1.11.1.3 Further details on these scenarios is provided in Section 1.5 of the Rule 9 Submission: ES assessment of Construction Scenarios (AS-070).

1.11.1.4 In the event of sequential or concurrent construction of the Morgan and Morecambe Transmission Assets, all plans, schemes, details or documents are required to be sent by one project to the other to provide comments in advance of their submission to the relevant planning authority. This is secured in requirement 25 of Schedules 2A and 2B of the dDCO (Document reference C1).

1.12 Construction Duration

1.12.1.1 The maximum assessed construction periods for the onshore works are 36 months for Morgan OWL and 30 months for Morecambe OWL. The onshore works durations cover the onshore export cables, 400kV grid

connection cable circuits and onshore substations, along with any ancillary works consented within the DCO.

1.12.1.2 The onshore works durations do not equate to continuous construction activity across the entire Order Limits. Construction will take place in stages and at multiple locations at any one time, with these stages to be defined in the staging plan which must be approved under Requirement 3 of Schedules 2A and 2B of the draft DCO (Document Reference C1). The onshore works, particularly along the onshore cable corridor will be staggered, reflecting engineering complexity and environmental constraints.

1.12.1.3 Under the DCO, both projects must commence works within seven years of the DCO coming into effect. Therefore, in a sequential scenario, the maximum potential gap between construction of the transmission assets for the two projects would be up to four years.

1.13 Programme

1.13.1.1 The high-level programme detailed below sets out the key sequential stages for the delivery of the onshore works associated with the Transmission Assets. It outlines the typical construction progression, from onshore site preparation through to final reinstatement and land hand back, and highlights the anticipated points of interaction with landowners. The programme also provides an outline of potential construction sequencing between both projects.

Step 1 - Onshore Site Preparation

1.13.1.2 Following appointment of an Early Contractor Involvement (ECI) contractor, initial activities will include undertaking detailed ecological, ground and soil investigations across the proposed cable corridors and onshore substation locations, as well as pre-construction entry surveys. These investigations will inform detailed engineering design and the construction methodologies to be employed during the main construction activities. The works conducted by the ECI contractor will occur concurrently with the onshore site preparation works.

1.13.1.3 A temporary onshore site preparation compound will be established as required to support initial site activities. These activities, in addition to the activities to be carried out by the ECI contractor, are detailed in the Outline CoCP (Document Reference J1).

1.13.1.4 Site preparation activities for each project will typically commence 12 months before the commencement of the respective main construction works. The onshore site preparation works, in addition to the activities to be carried out by the ECI contractor, are to be undertaken in accordance with the principles set out in the outline management plans and outline CoCP (Document Reference J1).

Step 2 – Discharge of Requirements.

1.13.1.5 The next step is submission and approval of detailed design documentation, construction management plans and method statements

to the relevant planning authority, which are secured within the DCO. Consultation will be undertaken with stakeholders where required pursuant to the relevant DCO requirements.

1.13.1.6 The period for discharge is determined by two main timeframes: 1) the provision of final detail design, and 2) the review and approval timeframe by the relevant planning authority. As per Article 3 of Schedule 12 of the dDCO (Document reference C1), the relevant discharging authority must give notice to the undertaker of their decision, including the reasons, on the application within a period of ten weeks.

1.13.1.7 The detailed management plans which will be prepared post-consent are based upon the relevant outline plan(s) with additional detail included as relevant to the stage of works final design.

1.13.1.8 Onshore Site Preparation Works, as defined in Step 1, do not require a discharge, with works being completed under the controls specified within the relevant Outline Management Plans. The discharge process for main works is anticipated to run concurrently with the programme of onshore site preparation works.

Step 3 – Site Establishment

1.13.1.9 Upon obtaining the necessary discharge approvals, the appointed Main Works Contractor(s) will begin site establishment. Activities will include installing temporary construction compounds and welfare facilities, further development of site accesses from public roads, implementing necessary traffic management measures and utility diversions as required. These activities will be completed in accordance with the measures and controls contained within the relevant management plans.

1.13.1.10 Notification of construction works will be issued to local residents and businesses as per the detailed Communications Plan(s), which will form part of the CoCP; the CoCP is secured in the DCO. An Outline Communications Plan is included in the DCO application (Document Reference J1.1)

1.13.1.11 Fencing will be installed around localised work fronts to clearly demarcate construction areas. Crossing points for livestock, agricultural vehicles, and rights of way will be provided and agreed with landowners, and, if construction is concurrent, in coordination between Morgan OWL and Morecambe OWL.

1.13.1.12 Topsoil striping and storage will be undertaken to establish baseline environmental conditions and facilitate the construction of temporary haul roads. Temporary drainage systems, as well as pre-construction drainage, as specified in the detailed drainage plans agreed with landowners and the local drainage consultant will be installed. Further information on drainage works is provided in Section 1.8 Surface water drainage

1.13.1.13 Monitoring by the agricultural liaison officer (ALO), as secured through the detailed CoCP(s), will ensure adherence to the detailed Soil Management Plan(s). This will be following the pre-entry pre-

construction condition surveys, with regular inspections throughout construction phases to ensure soil handling methods are adhered to.

Step 4 – Construction and Commissioning

1.13.1.14 Installation of the onshore export cable circuits and 400kV grid connection cable circuits will be via open-cut trenching or trenchless methods (e.g. horizontal directional drilling), as defined by detailed design and in accordance with the Onshore crossing schedule (Document reference F1.3.2), factoring in environmental constraints and site-specific conditions. Further details on the cable installation and testing methodology is presented below in Section 1.14 Onshore cable installation.

1.13.1.15 Construction duration in each location will vary based on complexity and technique. The 'complex' locations, such as the River Ribble crossing and the onshore substations, will be the longest duration activities and therefore will be commenced earliest in the construction programme.

1.13.1.16 For 'standard' open-cut trenching and trenchless works across agriculture land, the period of construction and commissioning within sections of land will be no more than is necessary. Standard works are likely to start later in the programme, so completion of standard construction works and testing aligns with the completion of the complex work fronts.

1.13.1.17 Temporary haul roads within sections of the temporary cable corridor, e.g. between joint bays, may remain in place following installation and testing of cables. This is to facilitate the movement of plant, materials and personnel between active work fronts along the onshore cable corridor, where public road access to that location is not possible. As a result, reinstatement of land at some locations will not occur until the haul road is no longer required.

1.13.1.18 Following installation and testing of the cable sections between individual pairs of joint bays, the cables will undergo a further end-to-end test from both the onshore substations to Transition Joint Bays and National Grid Penwortham Substation to the onshore substations. Following the successful testing of the cable sections, trenches will be backfilled with suitable materials and stored subsoil, ensuring appropriate soil layering and reinstatement in line with the detailed Soil Management Plan(s).

Step 5 – Site reinstatement and Handover

1.13.1.19 Upon the confirmation that the haul road is no longer required, reinstatement may commence at the relevant sections. Final top soil reinstatement will include removal of all temporary construction infrastructure, including fencing, temporary compounds, haul roads, and associated temporary drainage features. Stored topsoil will be reinstated, ensuring appropriate soil layering and reinstatement, in line with the detailed Soil Management Plan(s).

1.13.1.20 Post-construction drainage works, as agreed with landowners and the LDC, will also be completed as part of the reinstatement process. Formal

inspections involving the ALO, appointed land agents and landowners will confirm satisfactory reinstatement in line with pre-construction entry surveys.

1.13.1.21 As secured through Article 29 and Requirement 16 of the dDCO (Document Reference C1), reinstatement and return of land must occur within 12 months of completing construction.

1.13.1.22 In the sequential construction scenario, where both projects have rights to access the same land (known as “overlap areas”); if the second project has not started its works within the 12-month reinstatement period of the first project, the land will be fully reinstated and handed back to the landowner before the second project comes forward. In the majority of the order limits the Applicants have identified separate cable corridors for each project, the second project will be working in a separate, but most likely adjacent, area of land so the same specific area within a parcel of land is not likely to be impacted twice.

1.14 Onshore cable installation

1.14.1.1 The onshore export cables and 400kV grid connection cable circuits will be installed using a combination of open-cut trenching and trenchless techniques, depending on site-specific conditions, environmental sensitivities and engineering requirements.

1.14.1.2 Throughout all stages of onshore export cable and 400kV cable installation, the appointed ALO and Land agent will regularly engage with landowners and occupiers, ensuring adherence to the approved detailed management plans and that reinstatement is carried out to landowners’ satisfaction.

1.14.1.3 The following section provides further details on the two cable installation methods.

1.14.2 Open Cut Trenching

Open-cut trenching is a construction method used for the installation of cables underground. The majority of the onshore export cable circuits and 400kV grid connection cable circuits will be installed using open-cut trenching methods, in either flat or trefoil formation. This will follow a typical construction methodology, in line with relevant management plans, as outlined below. The sequence assumes that onshore site preparation works have already been undertaken, and haul road access associated with the works installed:

- Stage 1 – Trench excavation:
  - Trenches will be excavated according to engineering specifications, supervised by a banks person.
  - Turf, topsoil and subsoil from the excavation will be segregated and stored in separate stockpiles in line with the detailed Soil Management Plan(s). The stockpiles will be located away from watercourse crossings, and in line with the detailed Surface and groundwater management plan(s), with measures in place to

ensure any runoff from the stockpiles does not enter watercourses or drainage ditches.

  - In the event that the trenches need dewatering, water from the dewatering activities will be released under agreement with Environmental Agency (EA) to a local drainage ditch, watercourse and/or spread over ground. Water from dewatering activities will, where required, pass through a silt interceptor (or equivalent) prior to discharging to drainage ditches or watercourses.

- Stage 2 – Duct installation
  - Upon excavation, cable ducts will be installed within the trenches.
  - Depending on soil properties, a layer of Cement Bound Sand (CBS) or equivalent, or subsoil will be used to line the bottom of the trench and cover the cable ducts to facilitate heat dissipation during cable operation.
  - Protective tiles and underground marker tape will be installed above the CBS layer to a target depth of 1.2 m, in line with the maximum design parameters as described in Table 3.19 of the Project Description (Document reference F1.3) to ensure the cables are not damaged by future excavations.
- Stage 3 – Cable installation:
  - Cable installation involves pulling cables through the pre-installed ducts from adjacent joint bays via a winch. Further details on joint bays and link boxes are provided in Section 1.15
  - Cable jointing and testing activities will occur within the adjacent joint bays. Cable testing will be conducted following installation of individual cable sections and upon completion of the entire cable routes (i.e. from the TJBs to the Onshore Substation(s), and from the Onshore Substation(s) to National Grid Penwortham Substation). Following the successful testing of the cable sections, trenches will be backfilled with suitable materials and stored subsoil, to the top of the subsoil level.
  - Any disrupted land drainage systems will be repaired, repairs undertaken following consultation with landowners in respect of repair methodology to be used.

1.14.3 Trenchless techniques

1.14.3.1 The onshore cable corridor and the 400kV grid connection corridor will cross existing infrastructure and natural features such as roads, railways, rivers, steep gradients, hedgerows and other sensitive environmental features. These crossings will be undertaken using trenchless installation techniques, with specific locations and techniques identified in the Onshore Crossing Schedule (Document reference: F1.3.2). A programme of intrusive site investigations will be undertaken at locations identified, with results from these investigations used to characterise

ground conditions and to undertake a controlled risk assessment that will inform the detailed design of trenchless technique locations.

1.14.3.2 Horizontal directional drilling, commonly refer to as HDD, is one trenchless method for installing underground ducts and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig. It is one of the most commonly used techniques utilised to cross obstacles such as roads, railways and underground utilities. Further details on complex crossings utilising alternative techniques, such as at the River Ribble, will be captured in the detailed Onshore Construction Method Statement(s), with further information provided within Section 3.15.8 of the Project Description (Document reference F1.3). The typical activities required by an HDD operation are summarised below:

- Site survey and bore planning:
  - Prior to the commencement of HDD operations, a site survey will be conducted. Intrusive surveys will be undertaken to establish the geological and geotechnical conditions at each HDD location. The survey team will create an accurate plan of the drill path and elevations of the proposed duct. This will include a hydrogeological assessment to confirm the depth of the drill and to establish an appropriate standoff between the drill path and hard bed of potential watercourses and the bedrock geology. During the survey, any buried services which are in close proximity to the route will be clearly marked and documented on the survey drawings and on the site (where possible).
  - A bore plan and profile will be created from the results of the survey. The plan will provide final information on the proposed bore arc including entrance and exit points, radius of curvature and the bore diameter required to accommodate the cables.
- Preparation of site for HDD operation:
  - For larger HDD crossings, a stoned compound will be required at the HDD entry point for drilling equipment, drilling fluid management systems, material laydown areas and launch pits. Smaller stoned areas will be required at the drill exit locations. These areas will be cleared of vegetation and topsoil in line with the detailed Soil management plan(s) (Document Reference J1.7). Hardcore will then be laid to provide a firm work area. A description of these compounds is provided in Section 1.5 Establishment of temporary construction compounds .
  - A regular supply of water will be required at the HDD sites during the HDD operations for the mixing of drill fluid. Storage tanks may be required if alternative supplies of water cannot be provided.
  - The HDD process will require the use of bentonite and, where required, grout: bentonite is used as a lubricant and grout is used as a sealant. The use of these materials will be carefully monitored and controlled to avoid a breakout along the drilled bore and/or spillage and runoff from tanks and plant at the entry

location. A detailed Bentonite Breakout Plan(s) will be developed and submitted for approval by the LPA as part of the DCO discharge process. In the event of a bentonite breakout, the management procedure set out in the approved plan will be followed. An Outline Bentonite Breakout Plan (Document Reference J1.13) has been submitted as part of the Application. Bentonite fluid is cleaned and recycled during the HDD process and would be disposed of as a controlled waste following the completion of construction.

- At longer and larger bores a lagoon/settling pond may be required at the launch site to contain the bentonite slurry arisings from the HDD bore. The lagoon/settling pond will have a sufficient capacity to accommodate the drill arisings/slurry from the HDD operation. Tankers may be required to control the levels of slurry where necessary. For short drills, the entry and exit pits will act as a slurry pit.
- A slurry pit/settling pond will also be required in the HDD reception site to collect any slurry discharged from the drill hole.

1.15 Joint bays and link boxes

1.15.1.1 Joint Bays (JBs) and Link Boxes (LBs) will be required along the onshore cable route. JBs are typically concrete floored excavations that provide a clean and dry environment for jointing sections of cable together and support the completed cable joint. JBs will be completely buried, with the land above reinstated. During the operation and maintenance phase, access to JBs is only expected to be required in event of cable failure or fault requiring replacement or repair. An inspection cover will be provided on the surface for LBs for access during the operation and maintenance phase to facilitate routine inspections. LB inspection covers would be surface mounted, either raised or flush based on feedback provided by Landowners.

1.15.1.2 The location of the joint bays and link boxes will be determined during detailed design, taking into consideration cable specifications requirements, manufacturing tolerances and local terrain constraints (i.e. sharp bends, changes in elevation). Landowners and occupiers will be consulted during this process, and where practicable, JBs and LBs will be sited close to field boundaries or existing access routes to facilitate maintenance access and reduce land impacts.

1.16 Temporary haul road

1.16.1 Construction

1.16.1.1 The temporary haul road will be constructed within the Transmission Assets Order Limits along the Onshore Export Cable Corridor and 400 kV Grid Connection Corridor. The haul road will provide access from the TCCs to the Onshore Cable Corridor; the haul road will also provide access to the cable corridor from public roads. The specification of the haul road will be confirmed during detailed design but it is likely to be

constructed from an engineered fill, with geotextile layers. The material will be granular and semi-permeable of an appropriate standard. The stone haul road will be constructed by placing successive layers of stone compacted on a layer of permeable geo-textile membrane. Haul roads will be periodically inspected and maintained throughout the construction period. For trenchless crossings of some sensitive features, no haul road will be used along the crossed section. These locations are specified in the Onshore Crossing Schedule (Document reference F1.3.2). Additionally, utility owners will be consulted as required at crossing locations, in accordance with agreed protective provisions.

1.16.2 Speed limits

1.16.2.1 The site speed limit will be 15 mph on the haul road and must be adhered to at all times. Appropriate speed limits within the temporary construction compounds will be set. Speed limit signs will be installed on all construction roads and site access roads. Vehicles on site will be fitted with visual and audible warning devices for reversing where appropriate.

1.16.2.2 Banksperson(s) will be used, if required, when reversing in the compounds and on the temporary haul road.

1.17 Onshore Substation

1.17.1 Onshore substation piling

1.17.1.1 Foundations for the Onshore Substations may require piling. Details of specific piling requirements are not yet known and will be confirmed following detailed design and further geotechnical investigations. Where piling is required, a piling risk assessment will be undertaken and reported in the detailed Onshore Construction Method Statement(s), and carried out in accordance with the mitigation measures in Section 1.3 of the outline Construction noise and vibration management plan (Document reference J1.3).

1.17.2 Onshore substations AILs

1.17.2.1 It is expected that a number of abnormal indivisible loads (AILs) comprising large components such as transformers will be transported to the Onshore Substations. In addition, smaller AILs will also need access for cable drum deliveries to several points along the Onshore Cable Corridor. Depending on the width, length or weight of the laden vehicle, different notice periods will be provided to HAs, bridge authorities and the police. Further information on the management of AILs will be provided in the Construction Traffic Management Plan as part of the CoCP. An Outline Construction Traffic Management Plan is included in the DCO application (Document Reference J5).

1.17.3 Onshore Substation Construction

1.17.3.1 A programme of intrusive site investigation will be undertaken of the Onshore Substation platforms and surrounding area. Information from

the investigations will be used to inform the detailed design and the construction methods to be employed. Where piling is required to construct foundations, a piling risk assessment will be undertaken to ensure that piles do not create a pathway for pollutants. Laboratory results from the soil sampling and borehole logs will be reviewed to confirm whether contaminants are present and to characterise ground conditions.

1.17.3.2 The construction of the Onshore Substations comprises the following activities:

- Pre-construction surveys (as required) in line with the Outline EMP (Document reference J6), carried out by suitably experienced/licensed ecologists.
- Highway works - clearance and construction of the access for the temporary construction road off A583 Kirkham Bypass for Morgan OWL, and the A584 Preston New Road for Morecambe OWL.
- Site clearance along the route of the temporary access roads, construction compound and the Onshore Substation platforms, in line with the Outline EMP (Document reference J6).
- Fencing following the procedures in the approved Fencing Plan, which forms part of the CoCP; the CoCP is secured as a requirement in the DCO An Outline Fencing Plan is included in the DCO application (Document Reference J1.10).
- Stripping and storage of the topsoil along the temporary construction access road; stripping and storage will follow the procedures in the Outline Soil Management Plan, which is part of CoCP; the CoCP is secured in the DCO. An Outline Soil Management Plan is included in the DCO application (Document Reference J1.7).
- Importation of stone and surfacing of the temporary access road.
- Stripping and storage of topsoil from the temporary construction compound areas in line with the Soil Management Plan, which forms part of the CoCP; the CoCP is secured in the DCO. Topsoil will be stored around the perimeter of the construction compounds.
- Constructing hardstanding areas on compounds, importing stone and setting up of welfare and office facilities as per Section 1.10 Construction working hours. Surfacing of car park and installation of services.
- Stripping of topsoil from the Onshore Substation platform areas and in line with the detailed Soil Management Plan(s), which is part of the CoCP; the CoCP is secured in DCO.
- Following completion of the topsoil stripping, the pre-earthworks drainage will be installed prior the Onshore Substations cut and fill works in line with the Surface and groundwater management plan, which is part of the CoCP; the CoCP is secured in the DCO. An Outline Surface and groundwater management plan is included in the DCO application (Document Reference J1.9).

- Earthworks including cut and fill for the Onshore Substations.
- Excavation of the attenuation pond(s) and realignment of the ordinary watercourse in line with the Operational Drainage Management Plan, which is secured in the DCO. An Outline Operational Drainage Management Strategy is included in the DCO application (Document Reference J10).
- Import and compaction of stone to create the Onshore Substation platform(s).
- Civils groundworks of the Onshore Substations including the construction of the foundations and building works. Activities will include:
  - Concrete foundations to all structures: detailed design will determine if piling is required
  - Installation of drainage, pipe work ducts and troughing
  - Installation of permanent fencing using strip foundation
  - Construction of internal access roads, transformer skids and parking

  These activities will be completed in accordance with the measures and controls contained within the relevant management plans.
  - Installation of mechanical/electrical equipment at Onshore Substations
  - Commissioning of Onshore Substations

1.17.3.3 Restoration of the construction compounds and the temporary access road and, construction of the permanent mitigation areas in line with the EMP as secured in the DCO. An Outline EMP is included in the DCO application (Document Reference J6).

1.18 Restoration and Reinstatement

1.18.1.1 Following completion of construction of the cable corridors all agricultural land will be restored to its previous condition. This will include the replacement of field boundaries and stock fences. Soil will be reinstated in accordance with detailed Soil Management Plan(s), which forms part of the CoCP. The CoCP is secured as a requirement in the DCO. An Outline Soil Management Plan is included in the DCO application (Document Reference J1.7). Further detailed on reinstatement activities can be found in Section 1.13.

1.18.1.2 Land drains within the Onshore Export Cable Corridor and 400kV Grid Connection, which may be temporarily affected by construction operations, will also be restored following completion of construction. This is important to ensure that the growth of crops, trees and hedgerows is not affected by changes to the surface water drainage system.

1.18.1.3 Habitat reinstatement will be implemented in accordance with the detailed LEMP(s) and will include re-planting of hedgerows along the Onshore Cable Corridor and 400kV Grid Connection Cable Corridor.

Trees will not be planted over the edge of the onshore export cable to avoid the risk of damage to the cable.

1.19 Emergency contacts

1.19.1.1 Emergency contact details will be provided in the Spillage and Emergency Response Plan which forms part of the CoCP. An Outline Spillage and Emergency Response Plan is included in the DCO application (Document Reference J1.8)

1.20 Landowner liaison

1.20.1.1 Liaison with landowners will primarily be through the Agricultural Liaison Officer as defined in the CoCP and secured in the DCO.