

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Environmental Statement

Volume 1, Annex 3.1: Offshore Crossing Schedule



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Glossary

Term	Meaning
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 bays inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
Morecambe OWL	Morecambe Offshore Windfarm Ltd is a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) and Flotation Energy Ltd.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. 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 OWL	Morgan Offshore Wind Limited is a joint venture between bp Alternative Energy Investments Ltd. and Energie Baden-Württemberg AG (EnBW).
Offshore export cable corridor	The corridor within which the offshore export cables will be located.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
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
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 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.

Acronyms

Acronym	Meaning
ECC	Offshore Export Cable Corridor
MCZ	Marine Conservation Zone
OWL	Offshore Wind Limited
PL	Pipeline
SC	Cables (electrical / power)
TC	Telecom Cables

1 How to read the Morgan and Morecambe Offshore Wind Farms: Transmission Assets Offshore Crossing Schedule

1.1.1.1 There are existing assets within the Transmission Assets Order Limits: Offshore (referred to as the Offshore Order Limits) as detailed within this Offshore Crossing Schedule. However, not all assets within the Offshore Crossing Schedule will require a physical crossing. The requirement for crossings will be dependent upon the final cable layout plans which will be confirmed post-consent. Volume 1, Chapter 3: Project description of the ES details that up to 51 asset crossings may be required for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (up to 45 for the Morgan Offshore Wind Project and up to 6 for the Morecambe Offshore Windfarm). As per CoT51 (Volume 1, Annex 5.3: Commitments Register of the ES), crossing and proximity agreements, as set out in the Offshore Crossing Schedule, will be sought with asset operators.

Heading in Offshore Crossing Schedule	Explanation of Information within column
X Coordinate	Locational information British National Grid
Y Coordinate	Locational information British National Grid

Heading in Offshore Crossing Schedule	Explanation of Information within column
Asset Identification Number (No.)	<p>1. The Asset IDs are split according to the different parts of the offshore export cable corridors (ECCs). The ECCs of the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (referred to as the Transmission Assets) are identified as follows, and form the first part of the Asset ID:</p> <p>(a) the Morgan Offshore Wind Project ECCs potential interactions (i.e. either crossing or proximity) with the asset begin with 'MG'; and</p> <p>(b) the Morecambe Offshore Windfarm ECC potential interactions with the asset begin with 'MC'.</p> <p>2. The second part of the Asset ID relates to the asset categories:</p> <p>(a) Pipeline (PL) – subsea pipelines, for example, those associated with oil and gas infrastructure;</p> <p>(b) Cables (SC) – subsea (electrical/power) cables associated with oil and gas platforms and / or interconnectors; or</p> <p>(c) Telecom Cables (TC) – subsea cables associated with telecommunications.</p> <p>3. The third part of the Asset ID relates to number of the potential interactions (i.e. either crossing or proximity) which runs largely in numerical order from east to west starting at '001'. (The exceptions to these being assets which were identified at a later stage, and therefore follow on from the last used number).</p> <p>See Figure 1.1 for plans showing all Asset Identification Numbers with Figure 1.2; and Figure 1.3 showing the Asset Identification Numbers for the Morgan Offshore Wind Project and Morecambe Offshore Wind Farm, respectively.</p>
Type of Asset	<p>Provides a more detailed description of the asset</p> <p>(a) Telecom Cable;</p> <p>(b) Gas pipeline;</p> <p>(c) Chemical pipeline;</p> <p>(d) Electrical / power cable;</p> <p>(e) Other fluid pipeline.</p>
Asset Name	<p>This will give the details of any name already assigned to the asset, e.g. name/ number of the asset to be crossed.</p>
Asset Owner/ Responsible Authority	<p>All known 'Asset owners' are listed here.</p>

Heading in Offshore Crossing Schedule	Explanation of Information within column
Project Element	<p>The route of the ECCs of the Morgan and Morecambe Offshore Wind Farms: Transmission Assets relates to:</p> <ul style="list-style-type: none"> • Route 1 (Morgan): Route 1 Morgan ECC exits the Morgan Generation Assets from the north and travel southeast through the southern part of the Millom and North Morecambe gas fields and northern part of the South Morecambe gas field where it joins and becomes aligned with the Morecambe ECC (Route 4) to the east of the Morecambe Generation Assets. • Route 2 (Morgan): Route 2 Morgan ECC exits the Morgan Generation Assets from the north and travels southeast, passing through the southern part of the South Morecambe gas field and to the north of the Morecambe Generation Assets where it joins and becomes aligned with the Morecambe ECC (Route 4) to the east of the Morecambe Generation Assets. • Route 3 (Morgan): Route 3 Morgan ECC exits the Morgan Generation Assets from the south and travels east, passing through the southern part of the South Morecambe gas field and to the north of the Morecambe Generation Assets where it joins and becomes aligned with the Morecambe ECC (Route 4) to the east of the Morecambe Generation Assets. • Route 4 (Morecambe): Route 4 Morecambe ECC will start within the Morecambe Generation Assets; up to two crossings may be required for the Morecambe export cable within the Generation Assets but this is dependent on final location of OSPs and offshore export cable routing requirements to exit the Generation Assets. Route 4 exits the eastern side of Morecambe Generation Assets and becomes aligned with the Morgan ECCs (Route 1, 2, or 3). • Route 5 (Aligned Morgan and Morecambe Route): Morgan Routes 1, 2 and 3 join and meet with the Morecambe Route 4 to become the aligned Route 5 which heads south-east to cross two telecom cables (Vodafone’s Lanis 1 Telecom Cable and Aquacomms Havhingsten Sec 1.5 Telecom Cable). Route 5 then heads east through the Fylde Marine Conservation Zone (MCZ) to Landfall at Lytham St Annes.
Maximum Number of Potential Interactions	Details the number of potential interactions (i.e. crossing or proximity) with the asset that may be required for the Transmission Assets.
Comments	General comments about the asset itself, and details about its features.

Table 1.1: Offshore Crossing Schedule

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
313691.9	429666.3	MG_TC_001	a - Telecom Cable	Havingsten Seg 1.5 Telecom Cable	Aquacomms	Route 5 Aligned Morgan and Morecambe Route	4 for Morgan OWL	-
310774	429619.6	MC_TC_002	a - Telecom Cable	Havingsten Seg 1.5 Telecom Cable	Aquacomms	Route 5 Aligned Morgan and Morecambe Route	2 for Morecambe OWL	-
313666.1	430399.9	MG_TC_003	a - Telecom Cable	Lanis 1 Telecom Cable	Vodafone	Route 5 Aligned Morgan and Morecambe Route	4 for Morgan OWL	-
310741.9	430261.7	MC_TC_004	a - Telecom Cable	Lanis 1 Telecom Cable	Vodafone	Route 5 Aligned Morgan and Morecambe Route	2 for Morecambe OWL	-
301791.8	439966.9	MG_PL_005	b - Gas Pipeline	Calder To Rivers Onshore Terminal	Chrysaor Holdings	Route 1, 2 and 3 Morgan	4 for Morgan OWL	In vicinity of where Routes 1, 2 and 3 converge into single route; MG_PL_005, and MG_PL_007 are immediately adjacent
296979.8	435589.5	MC_PL_006				Route 4 Morecambe		

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
301791.8	439966.9	MG_PL_007	c - Chemical Pipeline	Rivers Onshore Terminal To Calder	Harbour Energy Plc	Route 1, 2 and 3 Morgan	4 for Morgan OWL	In vicinity of where Routes 1, 2 and 3 converge into single route; MG_PL_005, and MG_PL_007 are immediately adjacent
296979.8	435589.5	MC_PL_008				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.
300554.2	441978	MG_PL_009	c - Chemical Pipeline	Morecambe DP1 To Bains	Spirit Energy	Route 1 Morgan	4 for Morgan OWL	MG_PL_009 and MG_PL_010 are immediately adjacent
300561.1	441962.1	MG_PL_010	b - Gas Pipeline	Bains To Morecambe DP1	Spirit Energy	Route 1 Morgan	4 for Morgan OWL	MG_PL_009 and MG_PL_010 are immediately adjacent
299975.2	442757	MG_PL_011	b - Gas Pipeline	SMT Trunkline (South Morecambe Bay Gas)	Spirit Energy	Route 1 Morgan	4 for Morgan OWL	
289620.3	451335.5	MG_PL_012	c - Chemical Pipeline	Morecambe DPPA To Dalton Plem	Harbour Energy Plc	Route 1 or Route 2 Morgan	4 for Morgan OWL	MG_PL_012 and MG_PL_013 are immediately adjacent
289637.6	451324.4	MG_PL_013	b - Gas Pipeline	Dalton Plem To DPPA	Harbour Energy Plc	Route 1 or Route 2 Morgan	4 for Morgan OWL	MG_PL_012 and MG_PL_013 are immediately adjacent
276141.9	459153.6	MG_SC_014	d - Power Cable	IOM UK Interconnector Power Cable	Manx Electricity Authority	Route 1 or Route 2 Morgan	4 for Morgan OWL	

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
295184.1	439378.7	MG_SC_015	d - Power Cable	Calder to CPP1	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap
294192.2	438746.5	MC_SC_016				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.
296778.6	439140.6	MG_PL_017	e - Other Fluid Pipeline	Morecambe CPP1 TO DP3	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap; MG_PL_0017, MG_SC_0019, MG_SC_0021, MG_SC_0023 and MG_SC_0025 are immediately adjacent and in close proximity to each other on the seabed
297088.6	437527.7	MC_PL_018				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
296839	439147.2	MG_PL_019	b - Gas Pipeline	Morecambe DP3 TO CPP1	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap; MG_PL_0017, MG_SC_0019, MG_SC_0021, MG_SC_0023 and MG_SC_0025 are immediately adjacent and in close proximity to each other on the seabed
297141.6	437534.6	MC_PL_20				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.
296741.2	439130.4	MG_SC_021	d - Power Cable	Morecambe DP3 to CPP1 Electric	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap; MG_PL_0017, MG_SC_0019, MG_SC_0021, MG_SC_0023 and MG_SC_0025 are immediately adjacent and in close proximity to each other on the seabed
297039.9	437513.2	MC_SC_022				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
296635.2	439098.9	MG_SC_023	d - Power Cable	Morecambe CPP1 to DP3 Electric	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap; MG_PL_0017, MG_SC_0019, MG_SC_0021, MG_SC_0023 and MG_SC_0025 are immediately adjacent and in close proximity to each other on the seabed
296939.5	437495.5	MC_SC_024				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.
296583.9	439094	MG_SC_025	d - Power Cable	Morecambe CPP1 to DP3 Electric 2	Spirit Energy	Route 2 or Route 3 Morgan	4 for Morgan OWL	Where Morgan Route 2 and Route 3 overlap; MG_PL_0017, MG_SC_0019, MG_SC_0021, MG_SC_0023 and MG_SC_0025 are immediately adjacent and in close proximity to each other on the seabed
296888.4	437487.1	MC_SC_026				Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.

X Coordinate	Y Coordinate	Asset Identification No.	Type of Asset	Asset Name	Asset Owner	Project Element	Max No. Potential Interactions	Comments
296093	433649.1	MC_TC_027	a - Telecom Cable	Hibernia Atlantic Seg.A Telecom Cable	Hibernia Atlantic	Route 4 Morecambe	2 for Morecambe OWL	Potential interaction of the Morecambe offshore export cables is dependent upon the location of OSPs which is yet to be determined.
316655.5	427664.5	MC_TC_028	a - Telecom Cable	Sirius South Telecom Cable	Virgin Media	Route 4 Morecambe	2 for Morecambe OWL	Potential for interaction is proximity only.

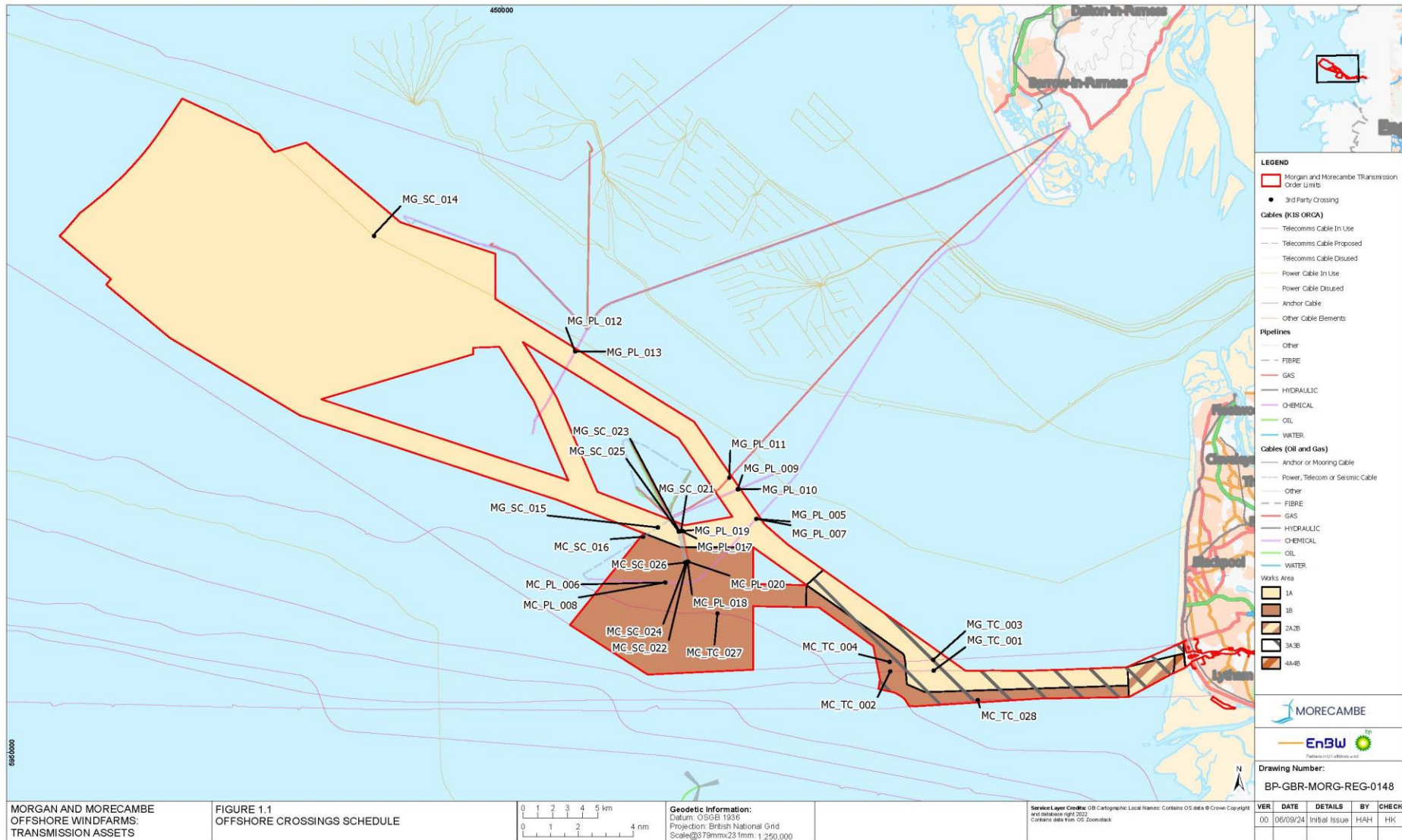


Figure 1.1: Offshore Crossing Schedule

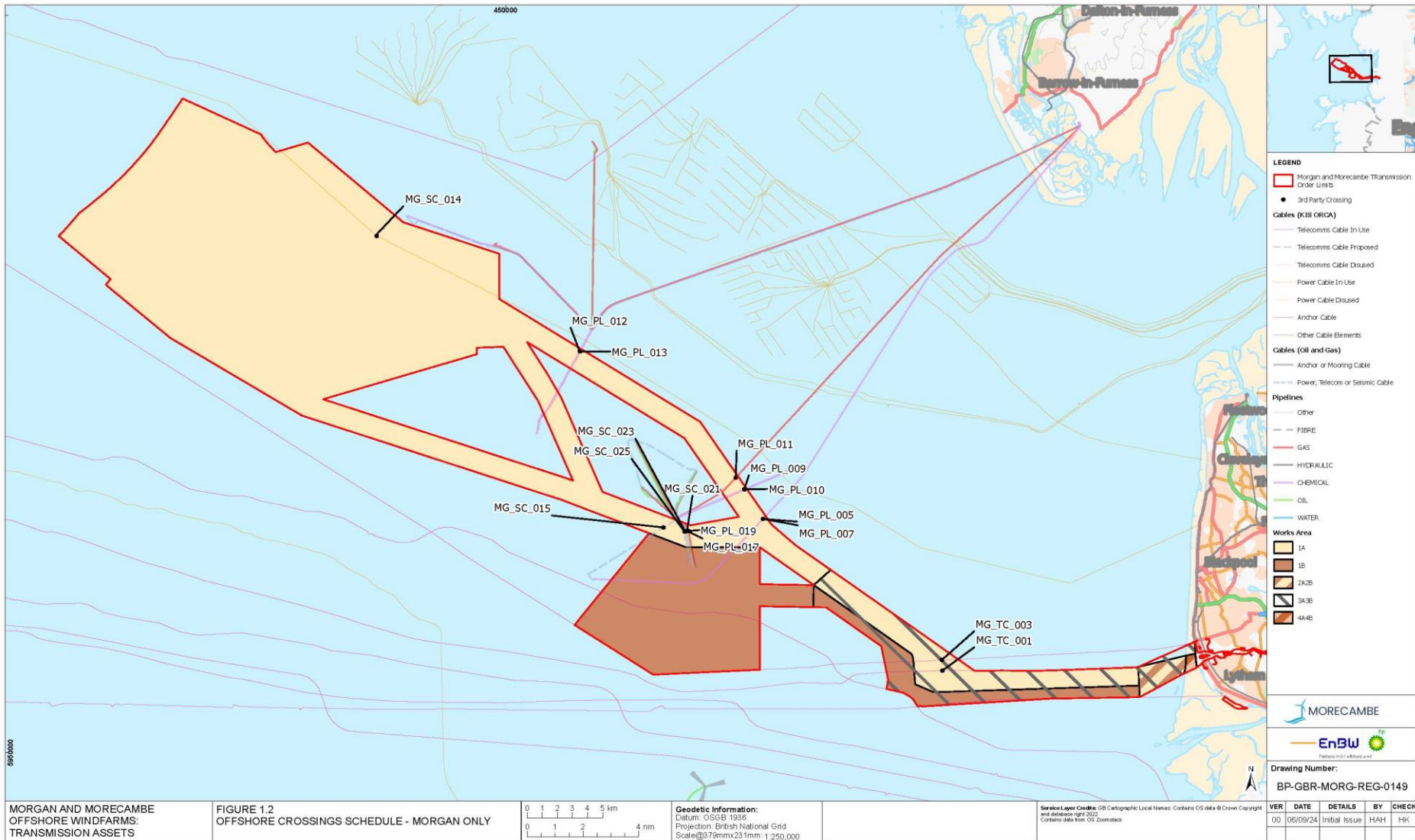


Figure 1.2: Morgan Offshore Wind Project: Transmission Assets Offshore Crossing Schedule

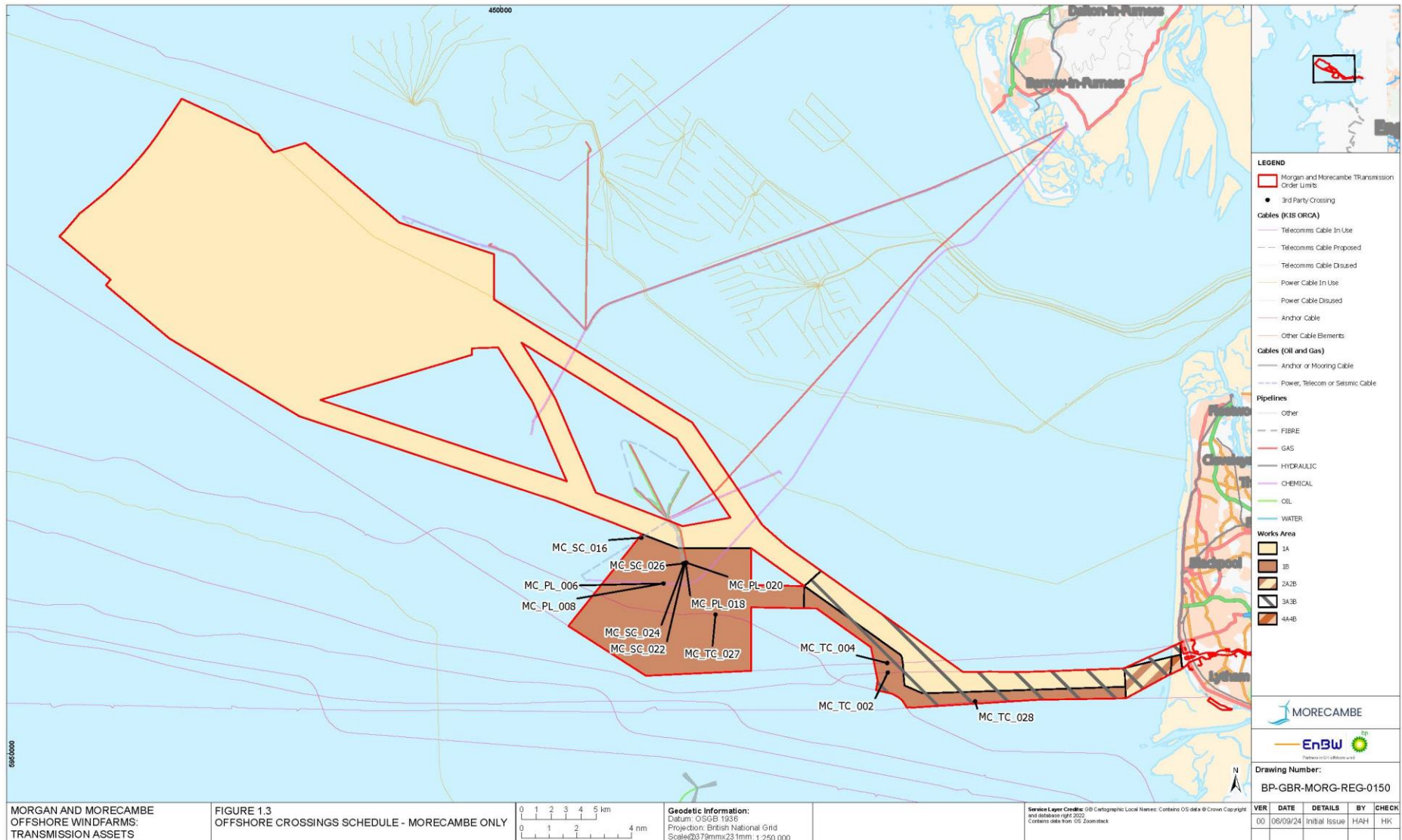


Figure 1.3: Morecambe Offshore Windfarm: Transmission Assets Offshore Crossing Schedule