



**DOGGER BANK
TEESSIDE A & B**

**March
2014**

Environmental Statement

Chapter 23 Tourism and Recreation

Application Reference: 6.23


Cover photograph: Indicative image showing installation of meteorological mast within the Dogger Bank Zone

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Environmental Statement – Chapter 23
Tourism and Recreation

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1 Introduction

1.1 Background

- 1.1.1 This chapter of the Environmental Statement (ES) describes the existing onshore and offshore tourism and recreational activities, and assesses the potential impacts of Dogger Bank Teesside A & B. The chapter includes an assessment of effects, both positive and negative, for each phase of the project, during construction, operation and decommissioning for both onshore and offshore activities.
- 1.1.2 Tourism is an important source of income in Redcar and Cleveland area and socio-economic impacts are discussed separately in **Chapter 22 Socio-economics**.
- 1.1.3 Other local community impacts are addressed in **Chapter 20 Seascape Visual Impact Assessment, Chapter 21 Landscape and Visual Impact Assessment, Chapter 28 Traffic and Access, Chapter 29 Noise and Chapter 30 Air Quality**. Inter-relationships between impacts identified within this chapter and other local community impacts are introduced in Section 9 of this chapter and discussed in further detail in **Chapter 31 Inter-relationships**.

2 Guidance and Consultation

2.1 Policy

National Policy Statement

2.1.1 The assessment of potential impacts upon tourism and recreation has been made with specific reference to the relevant National Policy Statements (NPS). These are the principal decision making documents for Nationally Significant Infrastructure Projects (NSIP). Those relevant to Dogger Bank Teesside A & B are:

- Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change (DECC) 2011a);
- NPS for Renewable Energy Infrastructure (EN-3) (DECC 2011b); and
- NPS for Electricity Networks Infrastructure (EN-5) (DECC 2011c).

2.1.2 The NPSs are described in detail in **Chapter 3 Legislation and Policy** and the specific assessment requirements for tourism and recreation, as detailed in the NPSs, are summarised in **Table 2.1**, together with an indication of the paragraph numbers of the ES chapter where each is addressed. Where any part of the NPS has not been followed within the assessment an explanation as to why the requirement was not deemed relevant, or has been met in another manner, is provided.

Table 2.1 NPS assessment requirements

NPS Requirement	NPS Reference	ES Reference
The assessment should include the effect of the proposed project on maintaining coastal recreation sites and features.	EN-1 paragraph 5.5.7	This has been included within this chapter.
Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.	EN-1 paragraph 5.10.6	The Dogger Bank Teesside A & B proposal does not include any requirement for building on open space.

NPS Requirement	NPS Reference	ES Reference
The assessment should consider the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities; and effects on tourism.	EN-1 paragraph 5.12.3	Given the nature of the development proposals it is not considered appropriate for the development to include provision of additional local services.

- 2.1.3 EN-3 and EN-5 do not specifically include details on the assessment of impacts on tourism and recreation.

National planning policy

- 2.1.4 In section 4.1.5 of the NPS EN-1, it is stated that:

“The energy NPSs have taken account of relevant Planning Policy Statements (PPSs) and older style Planning Policy Guidance Notes (PPGs) in England where appropriate”.

- 2.1.5 The intention appears to be that no specific regard should be given to PPSs or PPGs or any successor policies, i.e. the National Planning Policy Framework (unless they are specifically highlighted within the NPS). There are no references to any other PPSs or PPGs within the assessment criteria for tourism and recreation, as such national planning policy has not been separately reviewed.

Local planning policy

- 2.1.6 EN-1 states at paragraph 4.1.5 that:

“Other matters that the IPC may consider important and relevant to its decision-making may include Development Plan Documents (DPD) or other documents in the Local Development Framework (LDF). In the event of a conflict between these or any other documents and an NPS, the NPS prevails for the purposes of IPC decision making given the national significance of the infrastructure”.

- 2.1.7 In relation to Dogger Bank Teesside A & B, the existing DPD include the following (a summary of the relevant policies from each document is shown in **Table 2.2**):

- Redcar and Cleveland Core Strategy DPD (2007); and
- Redcar and Cleveland Development Policies DPD (2007).

- 2.1.8 Whilst not part of the development plan, relevant policies from the 'Redcar and Cleveland Sustainable Environment Strategy 2011-2016' (2011) have also been included.

Table 2.2 Relevant policies from the Development Plan Documents

Document	Policy/guidance	Relevant details
Redcar and Cleveland Core Strategy DPD Adoption (2007)	CS1 Securing a Better Quality of Life	The LDF seeks to deliver sustainable communities and development proposals will be assessed against their contribution to delivering amongst other things, quality local services including open spaces, leisure and community facilities.

Document	Policy/guidance	Relevant details
	CS3 Spatial Strategy for Greater Easton	The aims of the policy are to provide a more sustainable approach to development in the area including improving sports and community facilities, pedestrian and cycle access, and parks and green space.
	CS5 Spatial Strategy for Redcar Area	The policy aims to encourage sustainable communities with a similar approach to CS3, along with specifically, supporting the sustainable use of the foreshore and dunes at South Gare, Coatham Sands SSSI and Redcar Rocks SSSI integrating leisure and education with wildlife conservation.
	CS6 Spatial Strategy for East Cleveland and the Villages	The policy aims to encourage sustainable communities with a similar approach to CS3.
	CS12 Rural Economy	Priority will be given for developing the tourism and leisure sector in East Cleveland. In the countryside, development will promote appropriate leisure initiatives.
	CS18 Town, District and Local Centres	Proposals to enhance the vitality and viability of the town and district centres would be maintained and enhanced through encouraging the diversity of uses with a wide range uses including leisure, arts, retail and cultural.
	CS19 Delivering Inclusive Communities	Proposals will be supported where they improve the provision or access to community services and facilities with core facilities including sports facilities and children's play areas and safe open space.
	CS23 Green Infrastructure	Strategic green open areas will be protected and enhanced to improve quality, value and access.
	CS28 Sustainable Transport Networks	The policy aims to safeguard and improve safe, convenient and secure pedestrian and cycle routes within both rural and urban areas, and between urban areas and the countryside and coast, improving linkage between housing and recreation facilities, open space, the countryside and coast.
Redcar and Cleveland Development Policies DPD (2007)	DP2 Location of development	Development will be permitted where it does not result in the loss or significant adverse impacts on important open spaces and where it has adequate community facilities.
	DP3 Sustainable Design	Proposals are expected to ensure that pedestrian and cycling access is safe and linked to existing networks.
	DP4 Developer Contributions	Contributions can be sought for improved pedestrian and cycle facilities, rights of way, children's play spaces, youth facilities, playing pitches and recreation areas.
	DP8 Heritage Coast	Small-scale leisure and tourism development which is consistent with the conservation of the coast will be supported.
	DP13 Protecting Open Space	Proposals will not be permitted that result in the loss of public or private recreation or amenity open space, apart from for a limited number of specific reasons.
	DP16 Caravan Sites & Tourist Accommodation	Development of static caravan and chalet accommodation will be supported provided it meets specified criteria. Camping and touring caravan sites will be permitted when sited to minimise visual impacts.

Document	Policy/guidance	Relevant details
	DP18 Equestrian Development	Proposals for new livery stables and other commercial equestrian developments must meet specific criteria including being appropriate to its rural surroundings and that there is an adequate provision of bridleways in the area.
Redcar and Cleveland Sustainable Environment Strategy 2011-2016	Priority 3.6 Promote the environmental education, awareness and healthy outdoor exercise.	Maintenance and promotion of public access into Local Nature Reserves, Local Wildlife Sites and country parks.
	Priority 6.3 Community groups actively involved in enhancing their local greenspace	Support groups to develop projects and funding packages. Deliver environmental projects.
	Priority 6.4 Young people engaged in positive Environmental activity	Outreach youth work to identify and deliver local projects. Delivery of environmental projects on the ground.
	Priority 6.9 Raise awareness of the North York Moors National Park	Engage with every child in Redcar and Cleveland at least once during their school career to encourage them to visit the National Park.
	Priority 10.3 Increase the popularity of walking in the Borough	Support the North York Moors National Park in marketing the walks programme with the aim of increasing the number of people on walks in the area.

2.2 Other legislation, standards and guidance

2.2.1 In addition to the NPSs, the tourism and recreation assessment was undertaken with reference to the following legislation:

- The Marine and Coastal Access Act 2009 (the marine environment from Mean High Water Spring (MHWS));
- The Countryside and Rights of Way (CROW) Act 2000 (onshore);
- The Wildlife and Countryside Act 1981 (as amended) (onshore); and
- The Bathing Waters Directive (76/160/EEC).

2.3 Consultation

2.3.1 To inform the ES, Forewind has undertaken a thorough pre-application consultation process, including the following key stages:

- Scoping Report submitted to the Planning Inspectorate (May 2012);
- Scoping Opinion received from the Planning Inspectorate (June 2012);
- First stage of statutory consultation (in accordance with sections 42 and 47 of the Planning Act 2008) on Preliminary Environmental Information (PEI) 1 (report published May 2012); and

- Second stage of statutory consultation (in accordance with sections 42, 47 and 48 of the Planning Act 2008) on the ES (published November 2013) designed to allow for comments before final application to the Planning Inspectorate).

2.3.2 In addition, consultation associated with the Dogger Bank Creyke Beck application (Forewind August 2013) has been taken into account for Dogger Bank Teesside A & B where appropriate.

2.3.3 In between the statutory consultation periods, Forewind consulted specific groups of stakeholders on a non-statutory basis to ensure that they had an opportunity to inform and influence the development proposals. Consultation undertaken throughout the pre-application development phase has informed Forewind's design decision making and the information presented in this application. Further information on the consultation process is presented in **Chapter 7 Consultation**. A Consultation Report is also provided alongside this ES as part of the overall planning submission.

2.3.4 A summary of the consultation carried out at key stages throughout the project, of particular relevance to Tourism and Recreation, is presented in **Table 2.3**. This table includes the key items of consultation that have defined the assessment. A full explanation of how the consultation process has shaped the ES, as well as tables of all responses received during the statutory consultation periods, is provided in the Consultation Report.

Table 2.3 Summary of consultation responses

Date	Consultee	Comment	ES Reference
June 2012 (Scoping Opinion)	Planning Inspectorate	The potential impacts listed in the Scoping Report relate to positive impacts. The assessment must also assess any negative socio-economic effects that may arise, including the impacts upon the commercial fishing and tourism and recreation.	Impacts upon fisheries are discussed in full in Chapter 15 Commercial Fisheries . Impacts on socio-economics are discussed in full in Chapter 22 Socio-economics . Impacts on tourism and recreation are discussed in full throughout this chapter of the ES.
June 2012 (Scoping Opinion)	Planning Inspectorate	The Secretary of State advises that the interrelationship with socio-economics is discussed as part of the tourism and recreation assessment within the ES.	The interrelationship between tourism and recreation and socio-economics is discussed in Section 9
June 2012 (Scoping Opinion)	Planning Inspectorate	The Secretary of State agrees that the following matters can be scoped out: <ul style="list-style-type: none"> • Potential impacts on onshore tourism and recreation during operation, as significant impacts are not expected on this receptor during operation. 	The potential impacts on onshore tourism and recreation during operation have been scoped out of the ES.

Date	Consultee	Comment	ES Reference
June 2012 (Scoping Opinion)	Joint Nature Conservation Committee (JNCC)	Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.	Potential impacts to footpaths, bridleways and other Public Rights of Way (PRoW) are discussed in Section 6.
June 2012 (Scoping Opinion)	JNCC	The Environmental Impact Assessment (EIA) should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the adjacent/nearby Cleveland Way National Trail. Appropriate mitigation measures should be incorporated for any adverse impacts.	The EIA considers public open land and PRoW and coastal access routes in the vicinity of the development in Section 6. Consideration has also been given to the Cleveland Way National Trail. Appropriate mitigation measures will be incorporated for any adverse impacts.
June 2012 (Scoping Opinion)	Scarborough District Council	The Recreational and Tourist impact on the Borough should also be included and that such impacts on the North Yorkshire Moors National Park should not be scoped out as is proposed. The Moors provide a significant asset for Teesside and many Teesside residents and visitors use it for recreational and tourism. The 5km distance from the study area is not considered a sufficient reason to exclude these impacts from the assessment.	The North York Moors National Park has been scoped into the impact assessment and the assessment of impacts to this feature is described in Section 6.
November 2012 (Non Statutory)	Redcar Rugby Club	No real concerns as long as the route avoids the rugby pitches. Most southern extent of the fields is not used as pitches.	The cable route avoids all impacts on the rugby pitches (Section 6).
January 2013 (Non Statutory)	Redcar & Cleveland Planning Officer	After reviewing study areas and proposed approach to EIA methodology, they considered this to be appropriate and that the study area and desk based assessment would provide the required information for assessing the impacts of the proposed development.	The study areas are displayed on Figure 3.1 and EIA methodology is provided in Section 3.
March 2013 (Non Statutory)	Redcar & Cleveland Public Rights of Way Officer	Onshore cable routes will cross three public rights of way. No impacts anticipated on any other than very short temporary closures during construction. Awareness of the Natural England's Coastal Access Scheme. Implementation of this will start in the near future. The Scheme will create a new National Trail (with "spreading room") around the entire coastline. This will	Potential impacts to PRoW and National Trails are discussed in Section 6.

Date	Consultee	Comment	ES Reference
		include the cable landfall envelopes on the Stray between Redcar & Marske. It would appear from the drawing that any impact on the new National Trail would be limited to the construction phase.	
September 2013 (Non Statutory)	Redcar & Cleveland Public Rights of Way Officer	The summary appears to address the relevant issues with the mitigation measures being proposed being limited.	N/A
December 2013 (Statutory)	Environment Agency	Access: consideration needs to be given to when or if the beach will be closed and the extent of any closure.	The potential impacts of beach closures are discussed in Section 6 and the details of construction works are described in Chapter 5 Project Description .
December 2013 (Statutory)	Redcar & Cleveland PRow Officer	Meeting held and PRow Officer confirmed that he is in agreement regarding the scope and impacts and has no further comments.	The assessment of impacts is discussed in Sections 6-8.
December 2013 (Statutory)	Redcar & Cleveland Planning Officer	Given the job numbers during construction phase provided there will be an increased demand on accommodation, eating establishments, transport, and possibly retail. It will be beneficial to understand more about these requirements.	The Socio-economic impacts of the project are discussed in full in Chapter 22 Socio-economics .

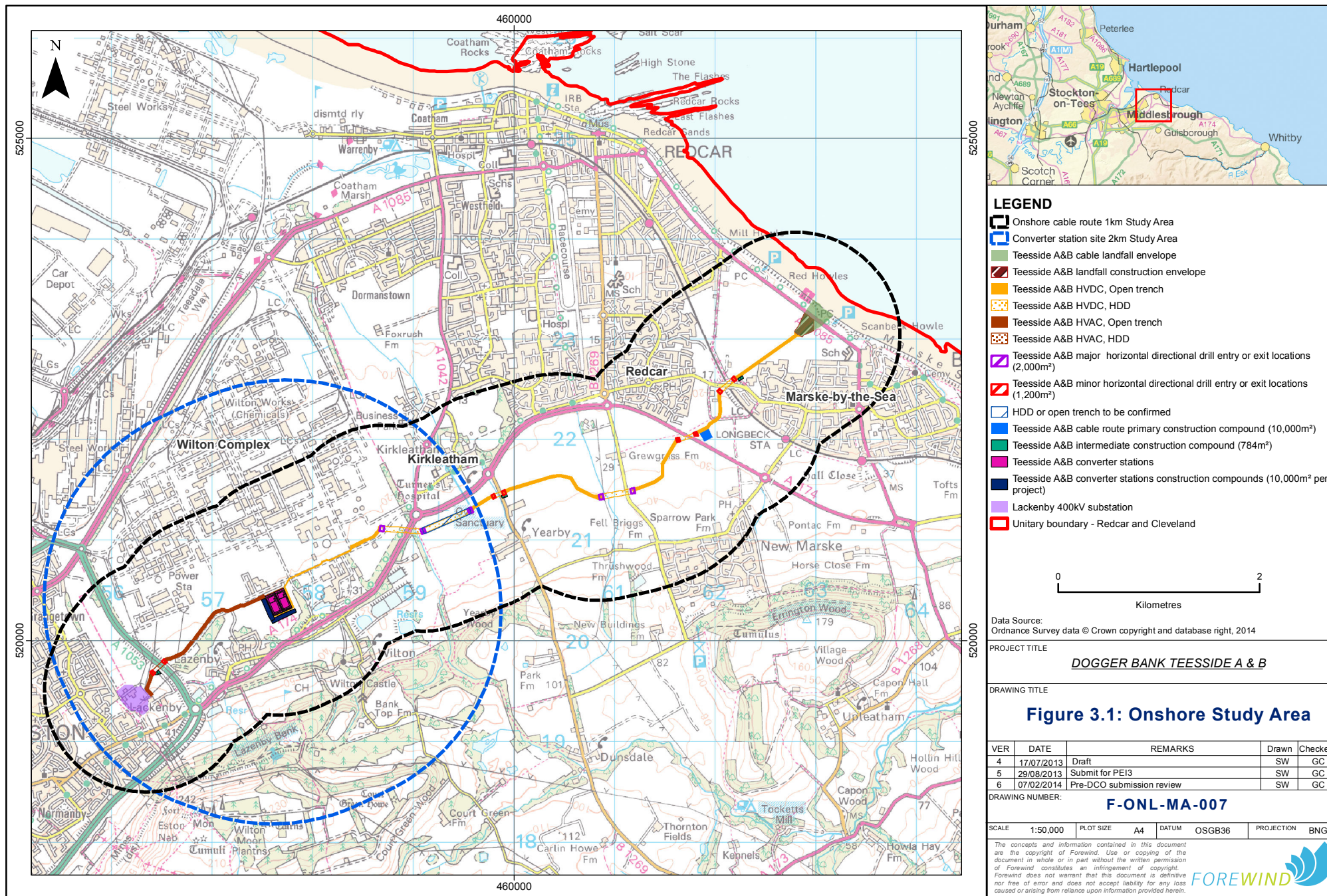
3 Methodology

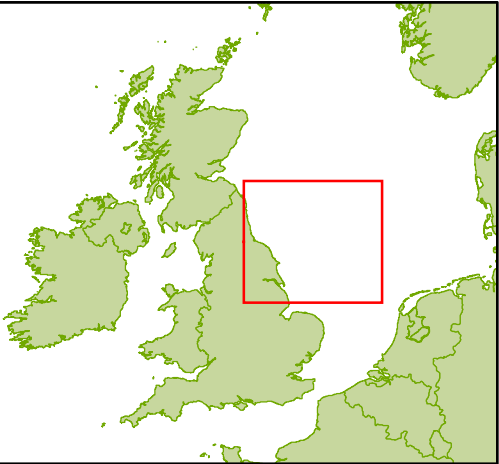
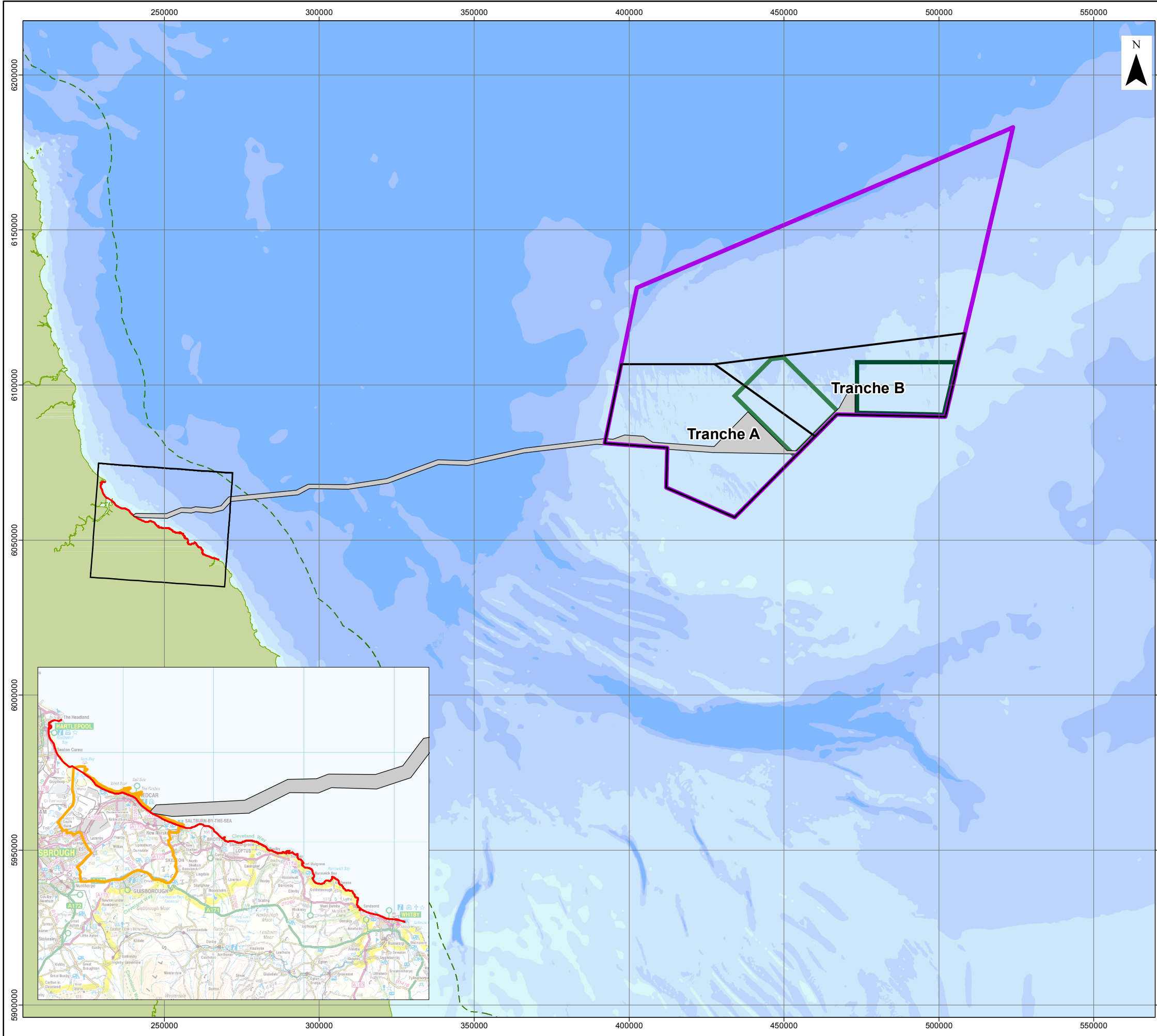
3.1 Study areas

- 3.1.1 The onshore development footprint includes all areas above MHWS. The offshore development footprint includes the Dogger Bank Teesside A & B Export Cable Corridor below MHWS, Tranche A and Tranche B of the Dogger Bank Zone.
- 3.1.2 For the purposes of the assessment, both the onshore and offshore development footprints have been considered for direct and indirect impacts on tourism and recreation.
- 3.1.3 The study areas for the tourism and recreation assessment comprise:
- Onshore: activities within 1km of the onshore cable route, and within 2km of the converter stations site (as agreed with RCBC) (**Figure 3.1**); and
 - Offshore: activities in Tranche A, Tranche B and the Dogger Bank Teesside A & B Export Cable Corridor below MHWS (**Figure 3.2**). At the cable landfall, the study area includes a wider section of the Redcar and Cleveland coast, between Redcar and Marske-by-the-Sea, in order to characterise the activities which are undertaken along this section of coastline. These activities are discussed throughout the chapter under the heading 'Inshore and coastal areas', which considers the sea area from MHWS to approximately 12 nautical miles (nm) from the coast.

3.2 Characterisation of existing environment - methodology

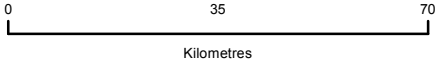
- 3.2.1 Characterisation of the existing environment has been informed through a desk-based study of available data, and information from the consultation process. The key sources of information used include:
- Great Britain Tourism Survey (GBTS);
 - Ordnance Survey (OS) 1:50,000 scale mapping;
 - OS 1:25,000 scale mapping;
 - Coastal Access: Natural England's Approved Scheme;
 - Redcar and Cleveland Council PRow map;
 - UK Charter Boats (UK Charter Boats, 2013);
 - Planning Inspectorate Scoping Opinion; and
 - On-going consultation with stakeholders.





LEGEND

- Dogger Bank Zone
- Tranche Boundary
- Dogger Bank Teesside A
- Dogger Bank Teesside B
- Dogger Bank Teesside A & B Export Cable Corridor
- Intertidal Study Area
- 12nm Territorial Boundary



Data Source:
Wrecks Locations © UKHO
Background bathymetry image derived in part from TCarta data © 2009

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 3.2: Offshore study area

VER	DATE	REMARKS	Drawn	Checked
1	16/05/2013	Draft	GC	DB
2	30/08/2013	Submit for PEI3	SW	DB
3	05/02/2014	Pre-DCO submission review	SW	DB

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SCALE 1:1,260,000 PLOT SIZE A3 DATUM WGS84 PROJECTION UTM31N

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3.3 Assessment of impacts – methodology

Tourism

- 3.3.1 There are no specific statutory guidelines which inform the management or assessment of tourism. The approach taken is based on accepted methodologies presented within other recent major infrastructure planning applications and through consultation and agreement with RCBC. As such, the potential impact of Dogger Bank Teesside A & B upon tourism is based on the receptor sensitivity and magnitude of effect definitions identified in **Table 3.1** and **Table 3.2**.

Table 3.1 Sensitivity of tourism receptors

Sensitivity	Definition
High	Nationally recognised tourist destinations such as National Parks.
Medium	Regionally recognised tourist destinations and sites identified as important for future tourism regionally e.g., within the Core Strategy, such as the Heritage Coast and the towns associated with it.
Low	Sites that are not tourist attractions in their own right but remain important for local tourism, such as local caravan parks.
Negligible	Sites with limited or no tourist attractions.

Table 3.2 Magnitude of effect on tourism receptors

Sensitivity	Definition
High	Permanent disruption to a known tourist attraction.
Medium	Temporary disruption to a known tourist attraction e.g. increased traffic congestion on roads serving the attraction.
Low	Works are visible from the tourist attraction but there are no direct impacts.
Negligible	Works that are unlikely to directly or indirectly affect the attraction.

Recreation

- 3.3.2 There are also no specific statutory guidelines which inform the management or assessment of recreation. As with tourism, the approach taken is based on accepted methodologies presented within other recent major infrastructure planning applications and through agreement with RCBC. As such, the potential impact of Dogger Bank Teesside A & B on recreation is based on the receptor sensitivity and magnitude of effect definitions identified in **Table 3.3** and **Table 3.4**.

Table 3.3 Sensitivity of recreation receptors

Sensitivity	Definition
High	Feature of national value such as National trails or paths, e.g. Cleveland Way National Trail.
Medium	Feature of regional value, such as PRoW (footpaths, bridleways and byways), stewardship bridleways.
Low	Feature of local value, e.g. local permissive pathways, open access land and local beaches used for recreation such as angling.
Negligible	Feature with limited or no recreational value such as offshore wildlife tours.

3.3.3 National Trails are long distance routes for walking, cycling and horse riding. PRoWs are open to all and are paths on which the public have a legal right to use. Some PRoWs are extended to provide access to horse riders, cyclists or motorists. Permissive pathways (for cyclists, walkers or horse riders or a combination) are not PRoW and have no legal designation. Their usage is permitted by the landowner. Stewardship bridleways provide access under the Defra Countryside Stewardship Scheme and provide permissive access for the duration of the scheme (typically 10 years).

3.3.4 In addition to the designation of access routes, consideration has also been made to the utilisation of the receptors when the overall sensitivity is defined.

Table 3.4 Magnitude of effect on recreation receptors

Sensitivity	Definition
High	Permanent closure of a recreation feature or permanent reduction in amenity value.
Medium	Temporary closure or disruption to a recreation feature or temporary reduction in amenity value (works within 100m of the feature).
Low	Temporary reduction in amenity value of a recreation feature (works within between 100m and 250m).
Negligible	No direct impact to feature and no amenity loss (works in excess of 250m).

Overall impact

3.3.5 Following the identification of receptor sensitivity and magnitude of effect, it is possible to assess the overall impact using the criteria presented in **Table 3.5**.

Table 3.5 Overall impact assessment

Receptor Sensitivity	Magnitude of Effect				
	High	Medium	Low	Negligible	No impact
High	Major	Major	Moderate	Minor	No impact
Medium	Major	Moderate	Minor	Negligible	No impact
Low	Moderate	Minor	Minor	Negligible	No impact
Negligible	Minor	Negligible	Negligible	Negligible	No impact

- 3.3.6 Potential impacts identified as major or moderate are regarded as significant in the impact assessment and have been avoided or reduced through mitigation, where possible.

4 Existing Environment

4.1 Onshore

Tourism

- 4.1.1 The Teesside coastline and local region presents a number of tourist and leisure opportunities; particularly focused around the seaside towns of Redcar, Marske-by-the-Sea and Saltburn-by-the-Sea. Redcar is the largest town in the Borough and is a traditional seaside resort with accommodation, beaches, shopping facilities, restaurants, entertainment venues and a racecourse to the south. The Redcar area was highlighted in 'The Coastal Arc Strategy' (Redcar & Cleveland, Borough Council, 2007), which focused on tourism related economic diversification for the Tees Valley coast and, as a result, is now considered to be a regional tourist destination. The southern extent of Redcar falls within the onshore study area, along with Marske-by-the-Sea and Kirkleatham.
- 4.1.2 Kirkleatham, on the southern edge of the town is described in the Core Strategy (Redcar and Cleveland Core Strategy DPD, 2007) as an "*unspoilt historic village and parkland*".
- 4.1.3 Visit England measures different aspects of the tourism industry and its GBTS is a national consumer survey measuring the volume and value of overnight domestic tourism trips taken by residents of Great Britain. Various studies and comparisons are undertaken looking at UK, regional and county level trends.
- 4.1.4 The regional results for the nine areas of Great Britain for 2012 shows a similar number of trips were made to North East England in 2012 and 2011 (2011: 4.3 million and 2012: 4.31 million). In comparison, there was a slight decrease (-1%) in the overall GB trend, from 126.64 million in 2011 down to 126.02 million in 2012 (Visit England 2013).
- 4.1.5 At the county level, data has been collated for Tees Valley. Figures are available for the total trips and holiday trips to the county. Between 2006 and 2012 there has been a decrease in both the overall number of trips, and spend in the county. The holiday spend dropped from £22 million down to £14 million in 2012. This represents a decrease of 36% (**Table 4.1**).

Table 4.1 Holiday trips and spend in the Tees Valley from 2006 – 2012

	2006 - 2008	2007 - 2009	2008 - 2010	2009 - 2011	2010 - 2012
Total trips ('000s)	588	551	478	473	451
Holiday trips ('000s)	175	136	101	103	97
Total spend (£m)	72	71	63	61	59
Holiday spend (£m)	22	19	17	16	14

- 4.1.6 On a more local level, figures are available for total trips and holiday trips to Redcar and Cleveland (**Table 4.2**). Between 2006 and 2012 there has been an overall decrease in the total number of holiday trips (-47%) and holiday spend in the Borough.

Table 4.2 Holiday trips and spend in Redcar and Cleveland from 2006 – 2012

	2006 - 2008	2007 - 2009	2008 - 2010	2009 – 2011	2010 - 2012
Total trips ('000s)	135	102	76	82	95
Holiday trips ('000s)	60	48	32	42	32
Total spend (£m)	16	12	13	14	13
Holiday spend (£m)	8	7	7	7	4

- 4.1.7 The key tourism features within the study area, along with their associated sensitivity are listed in **Table 4.3** and are shown on **Figure 4.1** and **Figure 4.2**. Only the historic sites with associated tourism value have been included within this assessment. The archaeological and heritage value of historic sites will not be considered within the current chapter and has been assessed separately in **Chapter 27 Terrestrial Archaeology**.
- 4.1.8 **Table 4.4** provides further details of the historic sites, museums and other attractions identified by the desk study and their location in relation to the project.

Table 4.3 Key tourism features within the onshore study area and associated sensitivities

Type	Description	Sensitivity
National Parks*	North York Moors National Park	High
Towns	Redcar, Marske-by-the-sea, Kirkleatham	Medium
Museums & other attractions	Winkies Castle (community museum); Kirkleatham Museum; Kirkleatham Owl Centre	Medium
Historic sites	World War I Early Warning Acoustic Mirror, Lovell Drift fan house, Cliff House	Low

*North York Moors National Park falls outside the onshore study area (approximately 4.7km from the onshore study area) but given its high sensitivity and that potential impacts have been raised by stakeholders it has been captured within this assessment.

- 4.1.9 The local beaches are both a tourism and recreation feature and have been included within the 'recreation' section.

Table 4.4 Detail on key tourism features within the onshore study area

Site	Location	Designation	Description	Distance to project (m)
Historic Sites				
World War I Early Warning Acoustic Mirror	NZ 6161 2295	Ancient Monument - 10203111	Sound mirror at Redcar built between 1916 and 1923.	618
Lovell Drift fan house	NZ 58048 18876	Grade II Listed Building - 1310931	Disused cast slag-concrete shell of ironstone mine ventilation fan-housing. C.1871 Included for industrial archaeological interest.	1383
Cliff House	NZ 63536 22928	Grade II Listed Building – 1387487	Large house built in 1850 for the Pease family.	495
Museums & other attractions				
Winkies Castle	NZ 63444 22460	N/A	This is a small, 16 th century cottage, one of the oldest cottages in Marske.	789
Kirkleatham Museum	NZ 59188 21678	N/A	Kirkleatham Museum is the local history museum for the Borough of Redcar and Cleveland.	469
Kirkleatham Owl Centre	NZ 59305	N/A	Kirkleatham Owl Centre has a collection of birds of prey and other animals for education, conservation and for the general public.	7

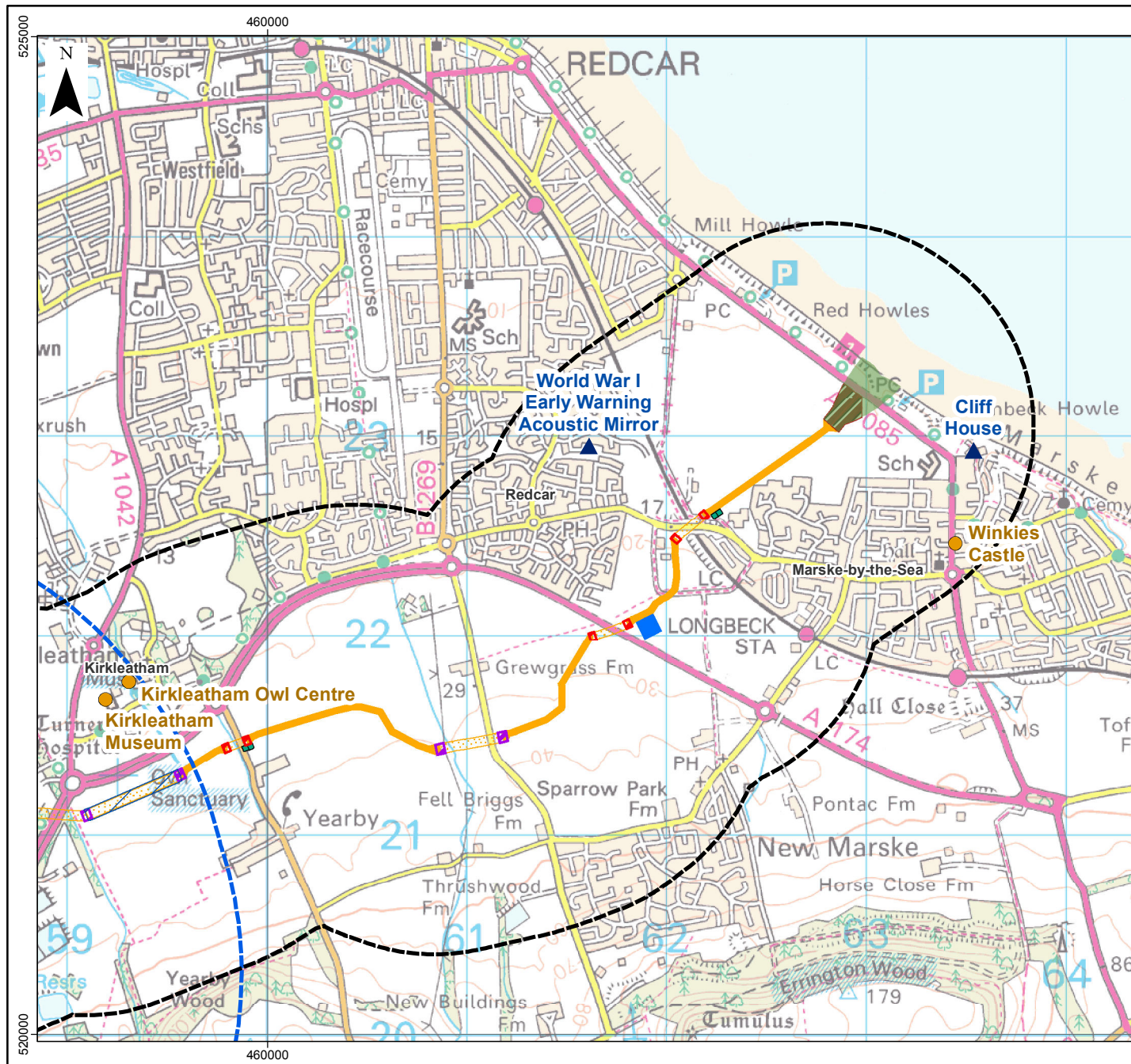
Recreation

- 4.1.10 Recreation is generally informal, with areas of public access rather than formal recreation facilities and access at the coast provided by the foreshore / beach and a network of public and permissive footpaths and bridleways. Dog walking and bird watching are popular activities, along with beach use.
- 4.1.11 The landfall is located on the 1.5km stretch of beach between the towns of Redcar and Marske-by-the-sea at Bydale Howle on Marske Sands. The beaches are accessed from two car parks at Millclose Howle and Bydale Howle. Marske Sands is a designated bathing beach with Redcar Stray, the southernmost of four designated beaches fronting Redcar.
- 4.1.12 A network of footpaths (local and PRoW) cross the study area. The footpaths in Eston Hills provide a valuable recreational resource for walkers, allowing access to the hill fort remains of Eston Nab.
- 4.1.13 The proposed England Coast Path National Trail will allow people to walk around the English Coast. The Filey Brigg to North Gare stretch of the trail runs along the coastline within the study area. Access to this area is anticipated to be ready in 2015 (Natural England, 2013).
- 4.1.14 The National Cycle Network Route 1 bisects the eastern extent of the study area, close to the landfall and the western extent, along the A174.
- 4.1.15 There are no Registered Parks and Gardens, Country Parks, National Trust Properties, Local Nature Reserves, National Nature Reserves, Registered Common Land or Areas of Outstanding Natural Beauty (AONB) within the onshore study area. Equestrian centres, fishing or watersport lakes were also absent from the study area.
- 4.1.16 Local Wildlife Sites (LWS) have been included within the assessment for their tourism value. Their nature conservation value has been assessed separately in **Chapter 25 Terrestrial Ecology**.
- 4.1.17 The archaeological and heritage value of the Eston Hills and hill fort and the Conservation Areas will not be considered within the current chapter and has been assessed separately in **Chapter 27**.
- 4.1.18 The key recreation features within the onshore study area are listed in **Table 4.5** along with their associated sensitivity. Only the local footpaths potentially affected by the proposed scheme have been scoped into the assessment. The recreation features are also shown in **Figure 4.3** and **Figure 4.4**.

Table 4.5 Key recreation features within the onshore study area and associated sensitivities

Type	Description	Sensitivity
National Trails	Proposed section of the England Coast Path (National Trail) from Filey Brigg to North Gare.	High
National Cycle Path	National Cycle Network Route 1.	High

Type	Description	Sensitivity
Historic Landscapes	Eston Hills and associated local footpaths, and the iron age hill fort at Eston Nab.	High - Medium
Public Rights of Way/stewardship bridleways	Public Right of Ways (footpaths, bridleways and byway), stewardship Bridleways.	Medium
Local Beaches	Marske Sands (Mill Howle, Millclose Howle, Red Howles, Bydale Howle, Scanbeck Howle, Flat Howle and Church Howle).	Medium
Golf courses	Wilton golf course (18 hole course).	Low
Sports clubs	Redcar Rugby Union Football Club (Mackinlay Park – multiple pitches), New Marske Sports Club (adult football), Teesside Athletic Football Club (Green Lane).	Low
Wildlife sites: Local wildlife sites (LWS)	Redcar to Saltburn Coast LWS and Wilton Woods Complex LWS.	Low
Conservation Areas	Marske, Kirkleatham, Yearby and Wilton.	Low
Permissive pathways	Permissive bridleway and local footpath) east of Greystone Road).	Low
Public buildings	Village Hall, Redcar	Low



LEGEND

- Onshore cable route 1km Study Area
- Converter station site 2km Study Area
- Teesside A&B cable landfall envelope
- Teesside A&B landfall construction envelope
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m²)
- Teesside A&B intermediate construction compound (784m²)
- Historic site
- Museums and other attractions



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PROJECT TITLE

DOGGER BANK TEESIDE A & B

DRAWING TITLE

Figure 4.1: Key tourism features within the onshore study area (east)

VER	DATE	REMARKS	Drawn	Checked
3	17/07/2013	Draft	SW	GC
4	29/08/2013	Submit for PEI3	SW	GC
6	13/01/2014	Pre-DCO submission review	SW	GC

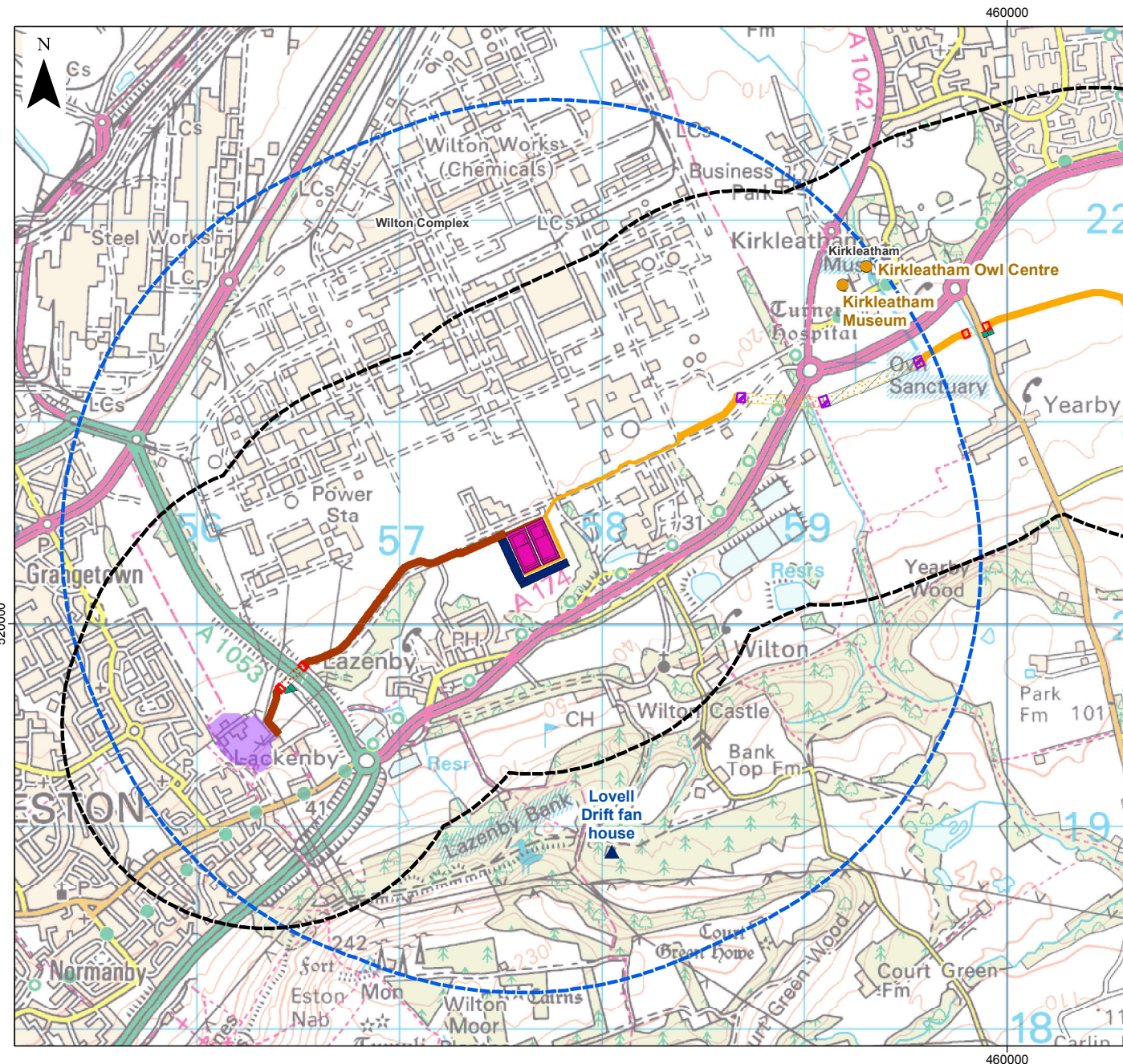
DRAWING NUMBER:

F-ONL-MA-502

SCALE	1:30,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
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LEGEND

- Onshore cable route 1km Study Area
- Converter station site 2km Study Area
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B HVAC, Open trench
- Teesside A&B HVAC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B intermediate construction compound (784m²)
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m² per project)
- Lackenby 400kV substation
- Historic sites
- Museums and other attractions



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PROJECT TITLE

DOGGER BANK TEESIDE A & B

DRAWING TITLE

Figure 4.2: Key tourism features within the onshore study area (west)

VER	DATE	REMARKS	Drawn	Checked
4	17/07/2013	Draft	SW	GC
5	29/08/2013	Submit for PEI3	SW	GC
6	27/01/2014	Pre-DCO submission review	SW	GC

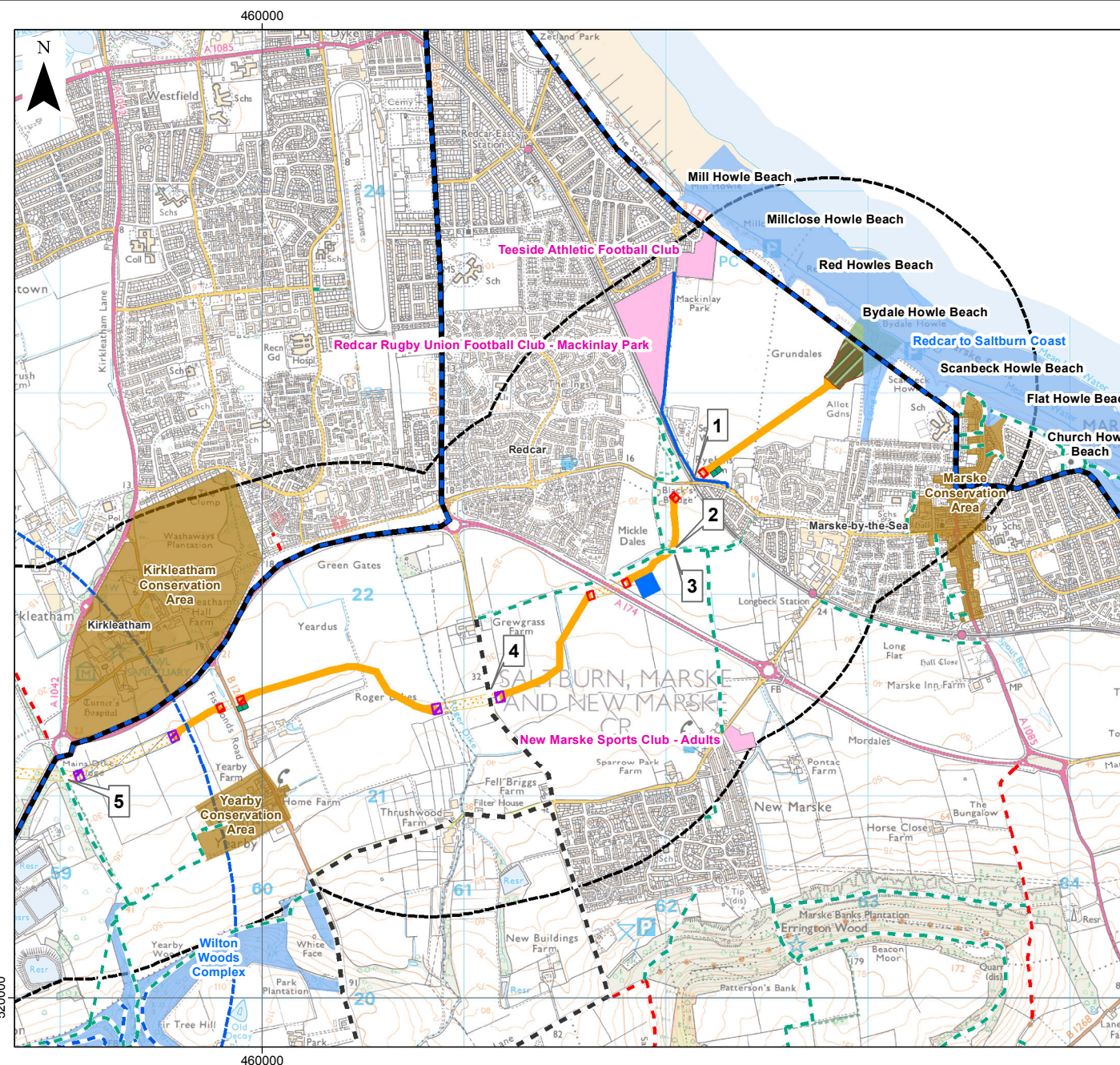
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F-ONL-MA-512

SCALE	1:30,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
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LEGEND

- Onshore cable route 1km Study Area
- Converter station site 2km Study Area
- Teesside A&B cable landfall envelope
- Teesside A&B landfall construction envelope
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m²)
- Teesside A&B intermediate construction compound (784m²)
- National Cycle Network
- Local Footpath
- Stewardship Bridleway
- Public Right of Way (Bridleway)
- Public Right of Way (Byway)
- Public Right of Way (Footpath)
- Sports Club
- Local Wildlife Sites (LWS)
- Conservation Areas



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PROJECT TITLE

DOGGER BANK TEESIDE A & B

DRAWING TITLE

Figure 4.3: Key recreation features within the onshore study area (east)

VER	DATE	REMARKS	Drawn	Checked
4	18/07/2013	Draft	SW	GC
5	29/08/2013	Submit for PEI3	SW	GC
7	10/02/2014	Pre-DCO submission review	SW	GC

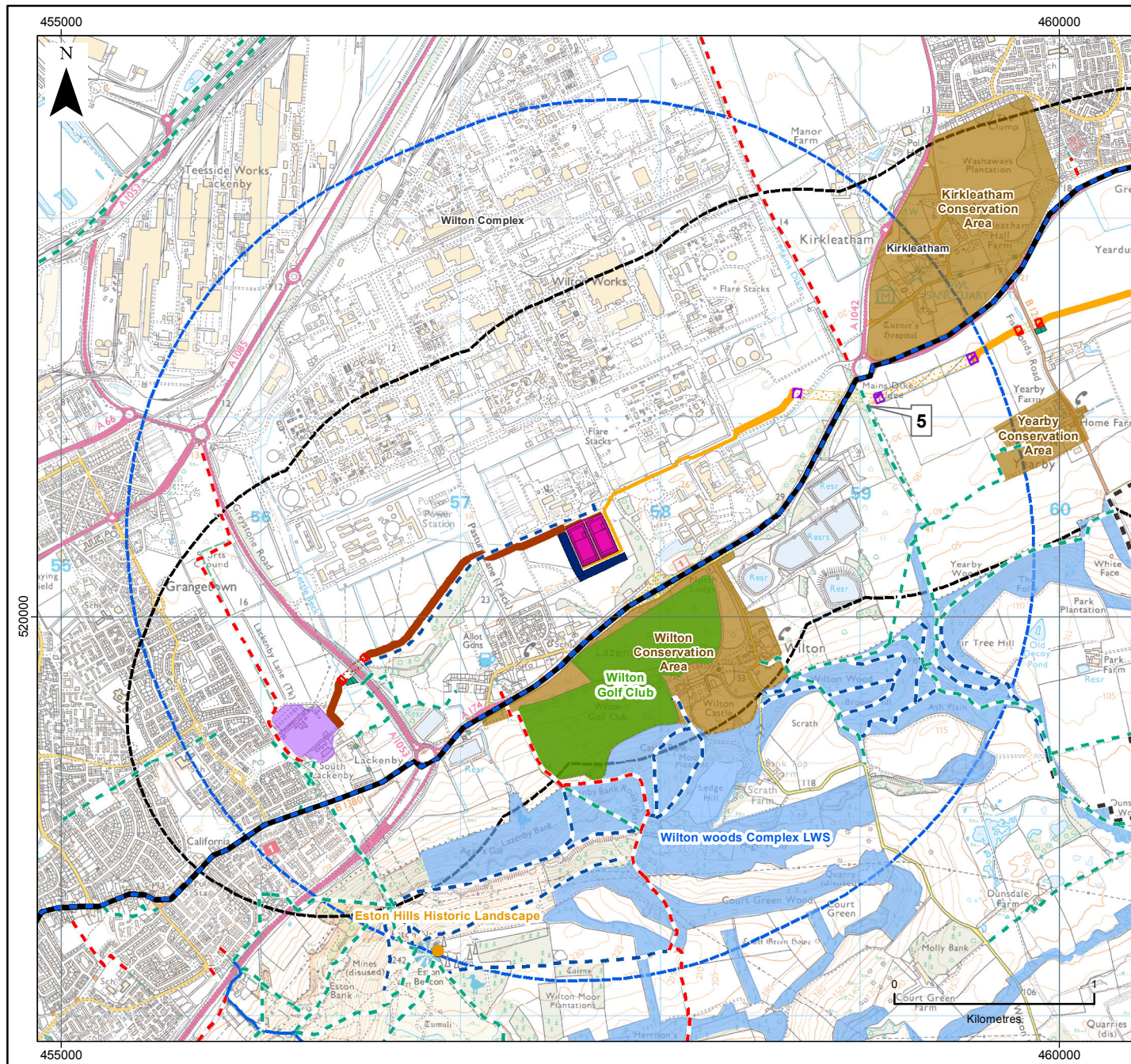
DRAWING NUMBER:

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SCALE	1:30,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
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LEGEND

- Onshore cable route 1km Study Area
- Converter station site 2km Study Area
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B HVAC, Open trench
- Teesside A&B HVAC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B intermediate construction compound (784m²)
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m² per project)
- Lackenby 400kV substation
- National Cycle Network
- Local Footpath
- Stewardship Bridleway
- Public Right of Way (Bridleway)
- Public Right of Way (Byway)
- Public Right of Way (Footpath)
- Eston Nab
- Golf Course
- Local Wildlife Sites (LWS)
- Conservation Areas

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PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 4.4: Key recreation features within the onshore study area (west)

VER	DATE	REMARKS	Drawn	Checked
4	18/07/2013	Draft	SW	GC
5	29/08/2013	Submit for PEI3	SW	GC
7	10/02/2014	Pre-DCO submission review	SW	GC

DRAWING NUMBER:

F-ONL-MA-514

SCALE	1:30,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
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4.2 Offshore

General description

- 4.2.1 Water based tourism and recreation activities are not common place within Tranche A and B, given the distance from shore (123km at its closest point, **Figure 3.2**). Subsequently the assessment focuses primarily on the inshore and coastal activities associated with the Dogger Bank Teesside A & B Export Cable Corridor and landfall up to 12nm from the coast. However there are a small number of activities which take place further offshore and these are also included in the assessment.

Inshore and coastal areas

Diving and watersports

- 4.2.2 This area of coastline has a high concentration of shipwrecks; many from the First and Second World Wars (**Chapter 18 Marine and Coastal Archaeology**) (**Figure 4.5**). This is mainly due to the fact that the Yorkshire coast is bordered by large ports on both the Tees and the Humber estuaries, in this case particularly Middlesbrough. However, more suitable areas for diving have been found to the north and south of the development area (e.g. Bridlington).
- 4.2.3 The inshore and coastal areas are also used for a variety of other recreational watersport, including kite surfing, wind surfing and surfing. Saltburn-by-the-Sea in particular is a popular surfing location to the south of the development which has clean surfing waves (Surfers Against Sewage 2009 and Saltburn-by-the-Sea 2013).
- 4.2.4 Redcar has also hosted part of the national kite surfing tour in both 2011 and 2012. This event took place at Majuba beach, to the north west of Redcar Town centre (Teesside Offshore Windfarm 2013). Although this is a national event the beach is 4km from the landfall site and is therefore deemed of a low sensitivity. This sensitivity also takes in to consideration that the works taking place in the intertidal, shallow subtidal and on the beach as well as the construction and recreational activities taking place are localised.
- 4.2.5 Diving and watersport activities are mostly run and fed from local towns and communities (i.e. are of local value). In addition, there is availability of alternative sites for these activities in the immediate area but at sufficient distance from the works to avoid an impact. They are therefore considered to be of low sensitivity (**Table 3.3**).

Angling

- 4.2.6 Recreational sea angling can be separated into three distinct forms; fishing from the shore, fishing from a chartered fishing boat or fishing from a privately owned boat. In Redcar and the wider study area all three are popular, with angling carried out from the beaches, piers and jetties, as well as boat-based fishing.
- Shore angling is very popular throughout the wider coastal region of North Yorkshire. Popular shore angling locations include North Sands, the Hartlepool

Headland, Car House Sands and at South Gare in the Tees Bay. Key target species include cod, whiting, dab, flounder, bass, rays and smoothhound.

- 4.2.7 The high concentration of shipwrecks in the study area (see **Figure 4.5**) makes it a popular area for recreational fishing, as a result of the aggregations of fish which can occur at these sites. Recreational fishing is however not only focused on shipwrecks, in the study area it takes many forms from inshore reef fishing to offshore fishing on wrecks and hard ground reefs
- 4.2.8 Recreational charter vessels primarily operate out of Whitby and Hartlepool approximately 29.5km south east and 13.8km north west of the proposed landfall, respectively. These two towns are highlighted as some of the best for cod fishing in the UK (World Sea Fishing (WSF) 2013a and b). Vessels in operation are under 40ft and capable of carrying up to 12 anglers; all vessels bar one have a maximum range of 60 miles from their respective ports. Charter trips range in length from two hours, to multiple days fishing reefs and wrecks. Whilst a number of these vessels have fished wrecks up to 60 miles offshore, recent increases in fuel costs have significantly reduced the operational range of these vessels.
- 4.2.9 In addition to the charter fleet, there is a privately owned boats sector in the area with most harbours and marinas supporting a significant number of small angling craft. The majority of these small angling craft tend to fish inshore and up to 6 nautical miles offshore, although a minority may fish farther offshore, up to 30 miles. There are no specific data on the number of privately owned angling vessels operating in the region but estimates conclude there may be as many as 150. Key target species for both charter and private boats are cod, whiting, dab, plaice, mackerel, bass, pollock, various rays, smoothhounds and tope.
- 4.2.10 There are a number of sea angling clubs along the coast with members competing in shore matches throughout the year. Local clubs include Saltburn Sea Anglers club, St Mary's Fishing Club (Teesside), Redcar Navy and Gentleman's Sea Fishing Club and the Whitby Sea Anglers Association.
- 4.2.11 Most recreational angling activities are run and fed from local towns and communities. The fishing competitions taking place in Whitby are adaptable to change given the small area of coastline that will be affected by the proposed development. Recreational angling is therefore considered to be of low sensitivity (**Table 3.3**).

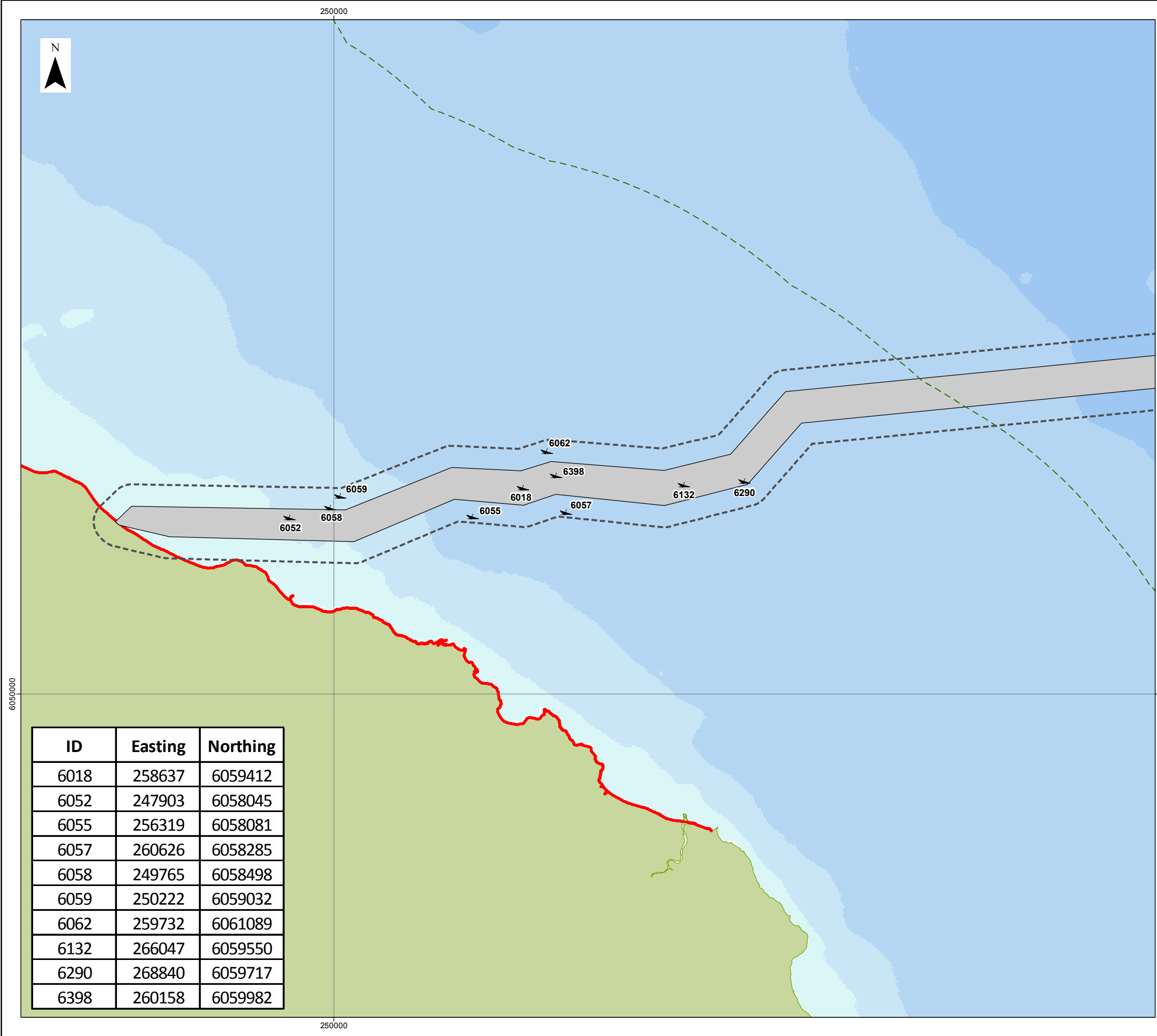
Wildlife boat trips

- 4.2.12 To the south of the cable landfall lies Whitby (**Figure 3.2**) from which wildlife boat trips are undertaken (Whitby Coastal Cruises 2013). Further south there is also Flamborough Head which is protected for its seabird colonies (**Chapter 8 Designated Sites**). As a result of the ornithological interests in the area, tourist boats offer day trips to view the scenic coastline and bird colonies, primarily in the summer months.
- 4.2.13 To the north of the landfall a number of operators also offer bird and cetacean watching trips to the Farne Islands and surrounding areas.

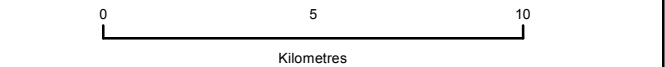
- 4.2.14 All the above mentioned wildlife boat trips operate from locations further to the north or south of the cable landfall site with Whitby being the closest at 29.5km. They are therefore not considered any further in this assessment.

Offshore areas

- 4.2.15 Although water based tourism and recreation associated with Dogger Bank Teesside A & B is primarily concentrated in the inshore and coastal areas, there are a small number of activities which could take place in the areas further offshore (beyond 12nm), including Tranches A, B and the offshore sections of the Dogger Bank Teesside A & B Export Cable Corridor. However, as a result of the distance from shore, the level of activity is significantly lower than in the inshore and coastal areas.
- 4.2.16 There are several wrecks within the offshore study area (**Figure 4.6**) some of which may be visited by diving charter vessels. Diving activity in the offshore areas is expected to be run and fed by local towns and communities (such as Middlesbrough). It is therefore considered to be of the same sensitivity as activity in the inshore and coastal areas (i.e. local value and low sensitivity, **Table 3.3**).
- 4.2.17 Other watersport activities (such as wave and kite surfing) do not take place in offshore areas due to the distance from shore. Therefore they are not considered further within the offshore sections of this assessment.
- 4.2.18 Recreational angling is not common in offshore areas. All vessels bar one have a maximum range of 60 miles (52.14nm) from their respective ports (UK Charter Boats, 2013a and b).
- 4.2.19 For similar reasons, wildlife tours are rare in offshore areas. Notably however, 'Wildlife Tours and Education' are offering a new 24 hour tour (which took place for the first time in 2012) to the Dogger Bank to see seabirds and cetaceans (Wildlife Tours & Education 2013). This tour is not run on a regular basis, with the first and only trip to Dogger Bank so far taking place in August 2012. No trips are currently planned for 2014.
- 4.2.20 As a result of the very limited level of recreational angling and wildlife tour activity which takes place in the offshore waters of the offshore study area, both are considered to be of negligible sensitivity (**Table 3.1** and **Table 3.3**).
- 4.2.21 Royal Yachting Association routes do pass through Tranche A and B. These are discussed in **Chapter 16 Shipping and Navigation** and are therefore not discussed any further in this chapter.



- LEGEND**
- Dogger Bank Teesside A & B Export Cable Corridor
 - Dogger Bank Teesside A & B Export Cable Corridor 1km Buffer
 - Intertidal Study Area
 - 12nm Territorial Boundary
 - UKHO Identified Wreck



Data Source:
Wrecks Locations © UKHO
Background bathymetry image derived in part from TCarta data © 2009

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.5 Confirmed shipwrecks in the inshore and coastal study area

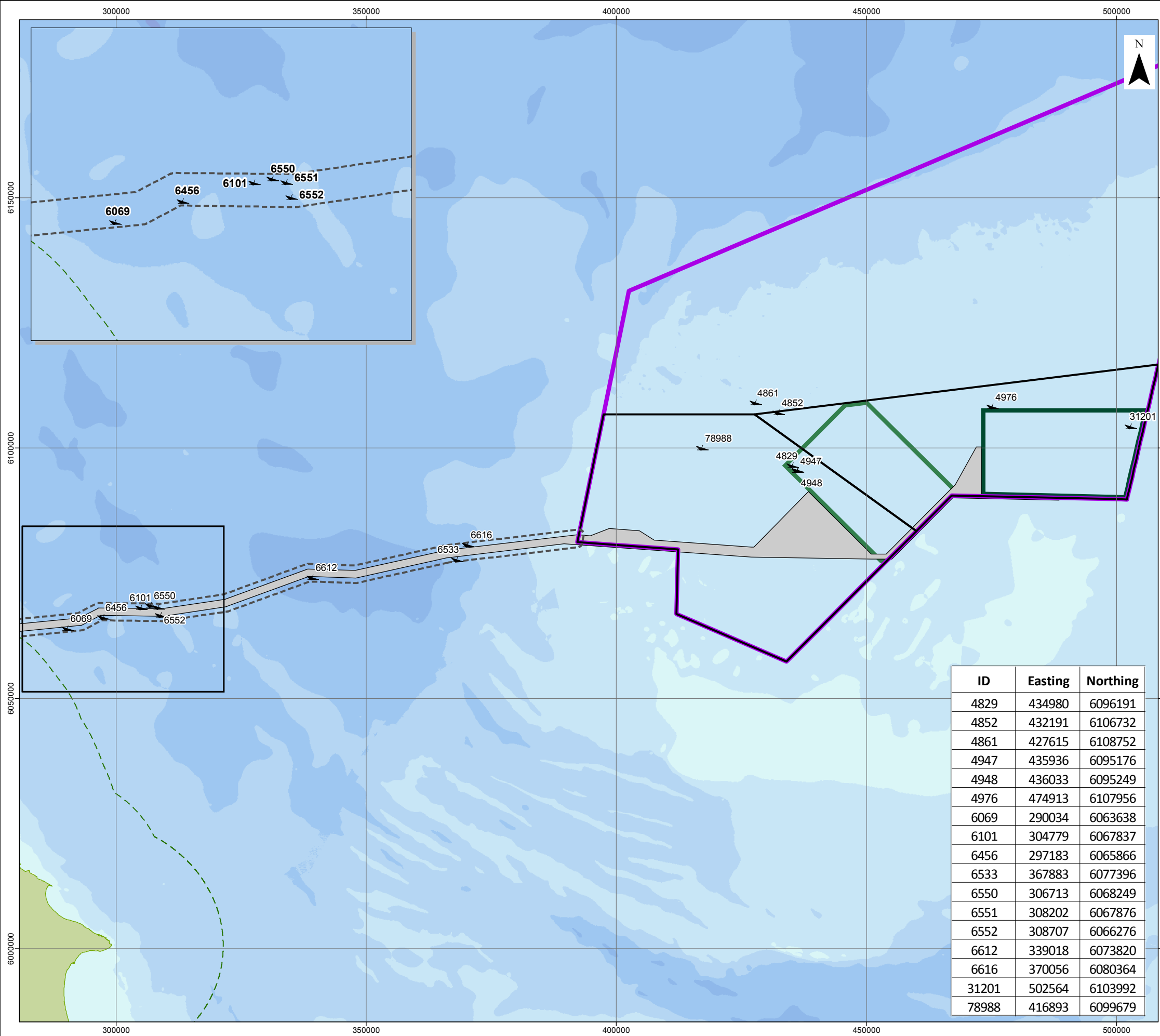
VER	DATE	REMARKS	Drawn	Checked
1	16/05/2013	Draft	GC	DB
2	13/08/2013	Submit for PEI3	SW	DB
3	05/02/2014	Pre-DCO submission review	SW	DB

DRAWING NUMBER:
F-ONC-MA-515

SCALE	1:180,000	PLOT SIZE	A3	DATUM	WGS84	PROJECTION	UTM31N
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FOREWIND



LEGEND

- Dogger Bank Zone
- Tranche Boundary
- Dogger Bank Teesside A
- Dogger Bank Teesside B
- Dogger Bank Teesside A & B Export Cable Corridor
- Dogger Bank Teesside A & B Export Cable Corridor 1km Buffer
- 12nm Territorial Boundary
- UKHO Identified Wreck

0 20 40
Kilometres

Data Source:
Wrecks Locations © UKHO
Background bathymetry image derived in part from TCarta data © 2009

PROJECT TITLE

DOGGER BANK TEESSIDE A & B

DRAWING TITLE

Figure 4.6: Confirmed shipwrecks in the offshore study area

VER	DATE	REMARKS	Drawn	Checked
1	16/05/2013	Draft	GC	DB
2	30/08/2013	Submit for PEI3	SW	DB
3	27/01/2014	Pre-DCO submission review	SW	DB

DRAWING NUMBER:

F-ONC-MA-516

SCALE	1:785,000	PLOT SIZE	A3	DATUM	WGS84	PROJECTION	UTM31N
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5 Assessment of Impacts – Worst Case Definition

5.1 General

- 5.1.1 This section establishes the realistic worst case scenario for each category of impact as a basis for the subsequent impact assessment. This involves both a consideration of the relative timing of construction and operation of the two projects, as well as the particular design parameters of each project that define the Rochdale Envelope¹ for this particular assessment.
- 5.1.2 Full details of the range of development options being considered by Forewind are provided within **Chapter 5**. For the purpose of the tourism and recreation impact assessment, the key project parameters which form the realistic worst case are set out in **Table 5.1**.
- 5.1.3 Only those design parameters with the potential to influence the level of impact are identified.
- 5.1.4 The realistic worst case scenarios identified here are also applied to the Cumulative Impact Assessment (CIA). When the worst case scenarios for the project in isolation do not result in the worst case for cumulative impacts, this is addressed within the cumulative section of this chapter (Section 10) and summarised in **Chapter 33 Cumulative Impact Assessment**.

5.2 Construction scenarios

Onshore

- 5.2.1 **Chapter 5** provides details of the three overarching construction scenarios associated with the onshore construction of Dogger Bank Teesside A & B.
- 5.2.2 The specific timing of the construction of the two projects will be determined post consent, and therefore a Rochdale Envelope approach has been undertaken for the EIA. There are four key principles that form the basis of the Rochdale Envelope, relating to how the projects will be built. These are:
- The two projects may be constructed at the same time, or at different times;
 - If built at different times, either project could be built first;
 - If built at different times, the duration of the gap between the end of the first project to be built, and the start of the second project to be built may vary from overlapping, to up to five years; and

¹ As described in **Chapter 5 Project Description** the term 'Rochdale Envelope' refers to case law (R.V. Rochdale MBC Ex Part C Tew 1999 "the Rochdale case"). The 'Rochdale Envelope' for a project outlines the realistic worst case scenario or option for each individual impact, so that it can be safely assumed that all lesser options will have less impact.

- Partial installation of elements of the second project may be completed during the construction of the first project, e.g. through the use of ducts to provide conduits for a later cable installation.

5.2.3 To determine which construction scenario is the worst realistic case for a given receptor, two types of effect exist with the potential to cause a maximum level of impact on a given receptor:

- Maximum *duration* effects; and
- Maximum *peak* effects.

5.2.4 The option to construct each project in isolation ('Build A in isolation' and 'Build B in isolation') is considered and enables the assessment to identify any differences between the two projects. The four construction scenarios for Dogger Bank Teesside A & B considered within the onshore assessment for tourism and recreation are therefore:

- i. Build A or Build B in isolation;
- ii. Build A and B concurrently – provides the worst 'peak' impact and maximum working footprint;
- iii. Build A, gap of up to 5 years, Build B (sequential) – provides the worst 'duration' of impact; and
- iv. Build A and install conduits for B, gap of up to 5 years, install cables for B in conduits.

5.2.5 For the single project scenario (i), either project is considered to have the same impact on tourism and recreation receptors and will be identical for either project, and so a single assessment is presented.

5.2.6 For the sequential scenario (iii) no gap between builds is considered the worst case as this effectively represents up to six years of continuous construction, which is considered a larger influence affecting people visiting and using this area compared to leaving a gap of up to 5 years between construction phases. There is also not considered to be any material difference between building A or B first in this scenario, for tourism and recreation receptors, and so a single assessment is presented.

5.2.7 The sequential scenario with conduits (iv) is not considered to be materially different from scenario (iii) above, and as such is not considered separately within this chapter.

5.2.8 For each potential onshore impact only the worst case construction scenario for 'two projects' is presented, i.e. either concurrent or sequential. The justification for what constitutes the worst case is provided in the impact assessment discussion (Section 6).

5.2.9 As such, the onshore construction scenarios presented within the impact assessment section of this chapter (Section 6) are:

- Single project; and
- Two projects – either concurrent or sequential.

Offshore

- 5.2.10 Similar to the onshore scenarios set out above, there are a number of key principles relating to how the projects will be built, and that form the basis of the Rochdale Envelope (**Chapter 5**). For the offshore assessment these are:
- The two projects may be constructed at the same time, or at different times;
 - If built at different times, either project could be built first;
 - If built at different times, the duration of the gap between the end of the first project to be built, and the start of the second project to be built may vary from overlapping, occurring in series or having a gap between projects;
 - Offshore construction will commence no sooner than 18 months post consent, but must start within seven years of consent (as an anticipated condition of the development consent order); and
 - Assuming a maximum construction period per project of six years, and taking the above into account, the maximum construction period over which the construction of Teesside A & B could take place is 11 years and six months.
- 5.2.11 As with the onshore assessment, to determine which offshore construction scenario is the worst realistic case for a given receptor, two types of effect exist with the potential to cause a maximum level of impact on a given receptor:
- Maximum *duration* effects; and
 - Maximum *peak* effects.
- 5.2.12 To ensure that the Rochdale Envelope incorporates all of the possible offshore construction scenarios (as outlined in **Chapter 5**), both the maximum duration effects, and the maximum peak effects have been considered for each offshore receptor. Furthermore, the option to construct each project in isolation is also considered ('Build A in isolation' and 'Build B in isolation'), enabling the assessment to identify any differences between the two projects. The three construction scenarios for Dogger Bank Teesside A & B considered within the offshore assessment for tourism and recreation are therefore:
- i. Build A or Build B in isolation;
 - ii. Build A and B concurrently – provides the worst 'peak' impact and maximum working footprint; and
 - iii. Build A, then Build B (sequential) – provides the worst 'duration' of impact.
- 5.2.13 Any differences between the two projects, or differences that could result from the manner in which the first and the second projects are built (concurrent or sequential and the length of any gap) are identified and discussed in the impact assessment sections of this chapter (Section 6).
- 5.2.14 For each potential offshore impact only the worst case construction scenario for 'two projects' is presented, i.e. either concurrent or sequential. The justification

for what constitutes the worst case is provided in the impact assessment discussion (Section 6).

5.2.15 As such, the offshore construction scenarios presented within the impact assessment sections of this chapter (Section 6) are:

- Single project; and
- Two projects – concurrent or sequential.

5.3 Operation scenarios

5.3.1 **Chapter 5** provides details of the operational scenarios for Dogger Bank Teesside A & B. Flexibility is required to allow for the following three scenarios:

- Dogger Bank Teesside A to operate on its own;
- Dogger Bank Teesside B to operate on its own, and
- For the two projects to operate concurrently.

5.3.2 For the tourism and recreation assessment there is not considered to be a material difference between either Dogger Bank Teesside A or Dogger Bank Teesside B operating on its own. As such, only one assessment for the single project scenario is presented and is considered representative for whichever project is operating in isolation.

5.3.3 These scenarios are applied to both the onshore and offshore operation impact assessment.

5.4 Decommissioning scenarios

5.4.1 **Chapter 5** provides details of the decommissioning scenarios for Dogger Bank Teesside A & B. Exact decommissioning arrangements will be detailed in a Decommissioning Plan (which will be drawn up and agreed with DECC prior to construction), however for the purpose of this assessment it is assumed that decommissioning of Dogger Bank Teesside A & B could be conducted separately, or at the same time.

5.5 Realistic worst case scenarios

Table 5.1 Realistic worst case scenario for the assessment of impacts

Impact	Realistic worst case scenario	Rationale
Construction		
Onshore impacts	<p><i>All scenarios</i></p> <ul style="list-style-type: none"> • No additional parking required for site personnel outside of the identified works compounds, i.e. no additional parking required at the landfall. <p><i>Single project or both projects built concurrently</i></p> <ul style="list-style-type: none"> • Maximum construction period of converter station of 36 months; 	Maximum ranges provided within Chapter 5 Project

Impact	Realistic worst case scenario	Rationale
	<ul style="list-style-type: none"> Maximum construction period of cable route (HVDC cable system) of 24 months; Maximum construction period of cable route (HVAC cable system) of 18 months (single project or concurrent build); Beach closure up to 8 weeks (single project) or 14 weeks (concurrent build). <p><i>Projects built sequentially</i></p> <ul style="list-style-type: none"> Maximum construction period of converter station of 36 months + 36 months with no gap; Maximum construction period of cable route (HVDC cable system) of 24 months + 24 months with no gap; Maximum construction period of cable route (HVAC cable system) of 18 months + 18 months with no gap; and Beach closure of up to 16 weeks (8 weeks +8 weeks with no gap). 	<p>Description.</p> <p>Maximum ranges provided within Chapter 5 Project Description.</p>
Offshore impacts	<p><i>All scenarios</i></p> <ul style="list-style-type: none"> Safety zones of 500m radius from any construction activity (to be applied for); Maximum construction space at the landfall per project of 2,500m²; Up to 2 small cofferdams (10x10x3m) or 1 large cofferdam (15x10x3m) per project; and Maximum of 66 (indicative number) construction vessels per project on site at any one time. <p><i>Single project or both projects built concurrently</i></p> <ul style="list-style-type: none"> Maximum duration of intertidal & shallow subtidal works (including beach closure) up to 8 weeks (single project) or 14 weeks (concurrent build); and Maximum duration of offshore construction activities up to 6 years per project. <p><i>Projects built sequentially</i></p> <ul style="list-style-type: none"> Maximum duration of intertidal & shallow subtidal works (including beach closure) up to 8 weeks and 8 weeks (with the possibility of a gap in-between); and Maximum duration of offshore construction programme up to 11 years six months. 	<p>Maximum ranges provided within Chapter 5 Project Description.</p>
Operation		
Onshore impacts	<ul style="list-style-type: none"> Both projects either operating in isolation or at the same time; and Maximum of 8 vehicle movements a day for operational staff and other maintenance visits. 	<p>For the onshore tourism and recreation receptors there is not considered to be a material difference should Teesside A & B operate in</p>

Impact	Realistic worst case scenario	Rationale
		isolation or concurrently.
Offshore impacts	<ul style="list-style-type: none"> Both projects in operation at the same time; Safety zones of 500m radius from any maintenance activity (to be applied for); and Maximum of 28 (indicative number) operation and maintenance vessels per project on site at any one time. 	
Decommissioning		
Onshore impacts	<ul style="list-style-type: none"> Buried cable system left <i>in situ</i> (exposed cabling at the landfall may be removed due to ongoing coastal erosion); Dismantling and removal of above ground electrical equipment; Removal of any building services equipment; Demolition of the buildings and removal of security fences; and Landscaping and reinstatement of the site. 	
All offshore impacts	<ul style="list-style-type: none"> Removal of all cabling and built structures (where relevant based on the worst case scenarios detailed under construction). 	Decommissioning arrangements will be detailed in a Decommissioning Plan, which will be drawn up and agreed with DECC prior to construction.

6 Assessment of Impacts During Construction

6.1 Introduction

- 6.1.1 Reference should be made to **Chapter 5** of the ES for details of the activities proposed during the construction phase.

Embedded mitigation

- 6.1.2 The site selection process (**Chapter 6 Assessment of Alternatives**) has identified a preferred onshore cable route and converter stations site, which minimises direct impacts to known environmental constraints, i.e. mitigation by design.
- 6.1.3 From an onshore tourism and recreation point of view, this included initial routing of the cable to avoid the Redcar Rugby Union Football Club and the Teesside Athletic Football Club grounds.

6.2 Impacts on onshore tourism

Key tourist destinations of high sensitivity – North York Moors National Park

All construction scenarios

- 6.2.1 The only tourist destination close to the study area identified as being of high sensitivity is the North York Moors National Park, which is located approximately 4.7km south of the onshore study area at its closest point (between Lackenby and south Guisborough).
- 6.2.2 Due to the distance between the National Park and the construction activities, no direct impacts are anticipated on the site. There is no potential visibility of the development from within the National Park and therefore viewpoints from the National Park were not scoped into **Chapter 21 Landscape and Visual Impact Assessment**.
- 6.2.3 The National Park is also very unlikely to be affected by increases in traffic congestion and noise associated with construction-related traffic, which will be localised to the main routes of the A174 and A1042. Of these, only the A174 leads into the National Park. This is supported by the traffic assessment undertaken for **Chapter 28**, whereby the increase in traffic levels due to construction traffic is not considered significant. No construction traffic will be passing through the National Park.
- 6.2.4 Overall, there is no pathway for the project to affect the North York Moors National Park and thus **no impact** is predicted.
- 6.2.5 No mitigation measures are proposed.

Tourist destinations of medium sensitivity – museums & other attractions

Single project

- 6.2.6 The onshore cable route passes within close proximity to Kirkleatham Museum and Kirkleatham Owl Centre. Both are situated 510m north of the cable route and approximately 2km east of the converter stations site. Both destinations are accessible from the A174 and the A1042. The full extent of road closures during construction are not known yet, and will be detailed within the Construction Traffic Management Plan (CTMP) (**Chapter 28**). However, the worst case during construction will be the temporary closure of the A174, south of Redcar, which may be subject to a traffic controlled one-lane closure for up to two weeks (one week at the start of construction and one week at the end of the construction period). This would be to enable the construction access point to be installed. The A1042 will not be subject to road closures; therefore both roads would remain accessible to tourists, albeit potentially with some temporary inconvenience from delays due to a one lane closure at the A174 for up to two weeks.
- 6.2.7 Winkies Castle (community museum) is situated slightly further from the cable route (approximately 800m) away and is accessed from the A1085. This road could also be subject to a temporary single lane closure for up to a week at the commencement of construction and one week at the end of the construction period.
- 6.2.8 The results of the traffic assessment have concluded that there will not be a significant increase in construction-related traffic for a single project according to the criteria identified by the Guidelines for the Environmental Assessment of Road Traffic (GEART) (**Chapter 28**). Therefore, the potential for these destinations to be temporarily affected while the construction works are undertaken is negligible.
- 6.2.9 All the sites are separated from the construction corridor by the main roads and therefore no noise or disturbance as a result of the works is anticipated. Overall, the magnitude of the impact on tourist destinations of medium sensitivity is considered to be medium.
- 6.2.10 **Table 6.1** details the mitigation measures that will be undertaken to minimise impacts on the museums and owl centre.

Table 6.1 Mitigation measures in relation to museums and other attractions

Mitigation measures
<ul style="list-style-type: none"> • Prior to commencement of works in this locality (approximately 3 months), liaison with the Winkies Castle, Kirkleatham Museum and Kirkleatham Owl Centre in order to inform them of the timing and duration of road closures if required, allowing the tourist destinations to supply up-to-date or alternative travel information to tourists wishing to visit and; • Minimise duration of lane closures wherever practicable, with consideration to public safety at all times.

- 6.2.11 When the overall traffic assessment is considered and with the implementation of the mitigation above, the magnitude of the impact is considered to be low. Therefore, overall the construction of a single project is anticipated to have a **minor adverse** effect upon these tourist destinations of medium sensitivity.

Two projects - concurrent

- 6.2.12 Should the construction of two projects be undertaken at the same time it will effectively double the amount of construction vehicles and machinery on site, double the volume of construction traffic required and represent the worst case scenario for construction.
- 6.2.13 A doubling of construction traffic would represent a low magnitude effect on the A174 and on the A1042. The A174, south of Redcar could be temporarily subject to a traffic controlled one-lane closure for up to one week at the commencement of construction and one week at the end of the construction period. This would be to enable the construction access point to be installed and removed. The A1042 will not be subject to road closures, therefore, both roads will remain accessible to tourists, albeit with some temporary inconvenience from delays if the one lane closure at the A174 was to occur. The overall magnitude of the impacts is considered to be medium.
- 6.2.14 Providing that the mitigation measures described in **Chapter 28** and **Table 6.1** are fully implemented a low magnitude effect is anticipated upon the A174 and A1042. Therefore a **minor adverse** impact upon the museums and owl centre which are tourist destinations of medium sensitivity is anticipated.

Tourist destinations of medium sensitivity – towns and villages

Single project

- 6.2.15 The towns and villages within, or close to the onshore study area identified as being of medium sensitivity are Redcar, Marske-by-the-Sea, and Kirkleatham, and the places of accommodation associated with them. The towns and villages will not be directly affected by the construction phase and the only effect is limited to the construction works being visible in some locations, resulting in reduced visual amenity. The increase in traffic in these areas, as a result of construction is not considered to be discernible from the background traffic levels (**Chapter 28**).
- 6.2.16 The construction of the cable route for either project will be partially visible from some areas of the towns and villages during the construction phase. The visual effects of the project on these areas have been assessed and viewpoints from all three were included in the assessment (**Chapter 21**).
- 6.2.17 Redcar and Marske-by-the-Sea were considered to either have no, or very limited, potential visibility of the converter station construction, due to screening by woodland, landform and buildings surrounding the site and therefore were not assessed in relation to the converter station within **Chapter 21**.
- 6.2.18 The main transport links for visitors are the main roads (A174 and the A1042) and the Tees Valley railway line. The A174, south of Redcar could be temporarily subject to a traffic controlled one-lane closure for up to one week at

the commencement of construction and one week at the end of the construction period. This would be to enable the construction access point to be installed and removed. Both roads will remain accessible to tourists, albeit with some temporary inconvenience from delays due to the one lane closure at the A174, if this was to occur. The findings of the traffic impact assessment (**Chapter 28**) have identified that there will be no construction related increases in traffic along these routes. At the railway line, Horizontal Directional Drilling (HDD) will be implemented to avoid all impacts on this transport link.

- 6.2.19 Given the short-term transient nature of the construction on the onshore cable route, impacts will be short-term and reversible. Therefore, the magnitude of the impact will be negligible and overall, a **negligible** impact is predicted upon tourist destinations of medium sensitivity during the construction of either project.

Two projects - concurrent

- 6.2.20 Should the construction of both Dogger Bank Teesside A & B be undertaken at the same time it will effectively double the volume of construction traffic required and represents the worst case for the construction of both projects.
- 6.2.21 The construction of both Dogger Bank Teesside A & B together will not result in any additional visual disturbance compared to that reported for a single project (**Chapter 20** and **Chapter 21**). As such, an effect of low magnitude is predicted for the construction of Dogger Bank Teesside A & B together.
- 6.2.22 As reported within **Chapter 28**, a doubling of construction traffic would represent an effect of low magnitude on these routes. As such, a **minor adverse** impact is predicted upon tourist destinations of medium sensitivity during the construction of both projects.
- 6.2.23 No additional mitigation measures are proposed to those outlined in **Chapter 28**.

Tourist destinations of low sensitivity – historic sites

All construction scenarios

- 6.2.24 The key historic sites of low sensitivity within the study area include: World War I Early Warning Acoustic Mirror, Lovell Drift Fan House and Cliff House. The first two features are separated from the cable route and converter stations site by housing or roads and therefore the proposed works are not anticipated to have any direct effects on either feature.
- 6.2.25 Cliff House is located less than 500m from the landfall area. Woodland and scrub screening along the edge of Long Beck is between the house and the landfall and has resulted in the house not being identified as a potential visual receptor in **Chapter 21**. The rise in construction traffic or noise levels will not have any effects on this site (**Chapter 28** and **Chapter 29**).
- 6.2.26 The rise in construction traffic levels will not have any effects on sites and therefore no impact is anticipated on the features of low sensitivity, resulting in **no impact** overall.

6.3 Impacts on onshore recreation

Recreation receptors of high sensitivity – National Cycle Network Route 1 and proposed England Coast Path

All construction scenarios

- 6.3.1 The National Cycle Network Route 1 is crossed at two points by the cable route, at the landfall, and at the roundabout which joins the A174 and the A1042 (**Figure 4.3** and **Figure 4.4**). At both locations the National Cycle Network Route 1 will be avoided using HDD, and therefore no planned closures are required. The exact route of the proposed England Coast Path is not known however it will be assumed that the route will follow the coastline and that it will be crossed at the landfall. There will be some noise and visual disturbance to both features, considered to be low magnitude.
- 6.3.2 The utilisation of HDD techniques will avoid all direct impacts on the two features. No construction compounds are located in close proximity to either feature.

Table 6.2 Mitigation measures in relation to recreation receptors of high sensitivity

Mitigation measures
<ul style="list-style-type: none"> • Prior to commencement of works in this locality (approximately 3 months), consultation with local community and relevant stakeholders to inform them of the timing of the works; • No storage of equipment, materials or machinery close to either the National Cycle Network Route 1 and proposed England Coast Path and • Minimisation of working area wherever possible.

- 6.3.3 Some visual and noise disturbance is likely to remain for the duration of the drilling (for details see **Chapter 5**). With the implementation of the mitigation in **Table 6.2**, the magnitude of impact is predicted to be negligible, and with the features being of high sensitivity, a **minor adverse** impact is predicted overall.

Recreation receptors of medium sensitivity – PRowS, Stewardship bridleway & Eston Hills Historic Landscape

Single project

- 6.3.4 The Eston Hills will not be directly impacted on by the construction phase. The works at the converter stations site will be visible for walkers using the footpaths in the more elevated areas. This has been included as a viewpoint for assessment in **Chapter 21**.
- 6.3.5 Due to the distance of the works from the Eston Hills and associated footpaths, and the existing industrial nature of the landscape, the magnitude of the impact is considered negligible along with the medium sensitivity of the receptor, resulting in a **negligible** impact
- 6.3.6 The cable route crosses four PRowS and one stewardship bridleway in the study area. These are presented on **Figure 4.3** and **Figure 4.4** and listed in **Table 6.3**.

Table 6.3 PRow and stewardship bridleway potentially affected by the proposed works

ID on Figures 4.3 and Figure 4.4	Designation and ID Code	Nearest Feature	Proposed Crossing Technique	Sensitivity
1	Public Byway (116/19/1)	Green Lane	HDD	Medium
2	Public footpath (129/29/1)	Catt Flatt Lane	Trenching	Medium
3	Public footpath (129/30/1)	Mickle Dale	Trenching	Medium
4	Stewardship bridleway	Grewgrass Lane	HDD	Medium
5	Public footpath (106/190/1)	Mains Dyke	HDD	Medium

- 6.3.7 With the exception of the two public footpaths at Mickle Dale and Catt Flatt Lane, all other PRowS within the study area will be crossed using HDD techniques. For the stewardship bridleway at Grewgrass Lane, and the public byway at Green Lane, the entry point for the HDD is immediately adjacent to the path. These paths are not anticipated to require temporary closure, but will be affected by temporary visual and noise disturbance from the HDD activities, for a maximum period of two months (**Chapter 5**), considered to be low magnitude.
- 6.3.8 The footpaths at Mickle Dale and Catt Flatt Lane will be crossed using open trenching, and will require temporary closure or diversion and crossing control. The maximum length of closure of the footpaths is anticipated to be two weeks. Thereafter, the users of the footpath will continue to be disturbed visually and by noise from the remaining trenching activities along this stretch (up to two months). The proposed construction methodology for open trenching is described in **Chapter 5**.
- 6.3.9 The mitigation measures required to close, divert and control crossing footpath at Mickle Dale and Catt Flatt Lane footpath will need to be assessed and agreed with the PRow Officer at RCBC prior to construction. The need for closure of any other paths that are located adjacent to or close to the cable route will also require confirmation from the PRow Officer.
- 6.3.10 The magnitude of this effect (mainly disruption and reduced amenity value to the local community and visitors who use Mickle Dale and Catt Flatt Lane footpath) is assessed as medium. However, any diversions, closures or crossing control requirements will be temporary and short term in nature. Diversions will be put in place, where practicable, and will be well publicised to minimise any inconvenience caused to these users. Where a diversion is not practical, for example where the cable route extends for several hundred metres either side of where the PRow is crossed, then a temporary closure may be required.
- 6.3.11 **Table 6.4** details the mitigation measures that will be undertaken to minimise the potential impact on Mickle Dale and Catt Flatt Lane footpath.

Table 6.4 Potential mitigation measures in relation to pathways

Mitigation measures
<ul style="list-style-type: none"> • Liaison with the PRow Officer to develop a PRow strategy, including identifying suitable temporary diversion routes and/or plan appropriate temporary closures / crossing control; • Good communication with local community to inform of any PRow temporary diversions and closures, to avoid inconvenience; • Minimise duration of closures wherever practicable, with consideration to public safety at all times; and • Reinstatement of all features immediately following construction phase.

6.3.12 Following the implementation of the mitigation measures described above, the potential magnitude of the impact upon the PRow is considered to be low and thus an overall **minor adverse** impact is predicted.

Two projects – sequential

6.3.13 Should both Dogger Bank Teesside A & B be constructed with up to a five year gap between construction phases, it is considered that whilst pathways will require a second crossing that the duration of the effect will remain short-term in each instance and the effect will remain one of medium magnitude. Providing that the mitigation measures outlined for a single project (**Table 6.4**) are undertaken for both projects, any disruption of amenity and accessibility to footpaths will remain as a low magnitude effect and a **minor adverse** impact.

Recreation receptors of medium sensitivity - local beaches

Single project

6.3.14 Marske Sands is an area of sandy beaches comprised of Mill Howle, Millclose Howle, Red Howles, Bydale Howle, Scanbeck Howle, Flat Howle and Church Howle; all located within 1km of the onshore cable route (**Figure 4.3**). The landfall is located towards the southern extent of Marske Sands, at Bydale Howle beach.

6.3.15 The main road links for visitors to Marske-by-the-Sea and Redcar, and the beaches between them, are the A1085, Redcar Road and A174. The full extent of road closures during construction are not known yet, and will be detailed within the CTMP(**Chapter 28**). The A174, south of Redcar could be temporarily subject to a traffic controlled one-lane closure for up to one week at the commencement of construction and one week at the end of the construction period. This would be to enable the construction access point to be installed. In a worst case, the A1085 could also be subject to similar temporary road closures; therefore, both roads would remain accessible to tourists, albeit with some temporary inconvenience from delays due to the one lane closures, if this was to occur. The findings of the traffic impact assessment (**Chapter 28**) have identified that there will be no construction related increases in traffic along these routes.

6.3.16 The construction works will be visible to beach users from all the beaches between Redcar and Marske-by-the-Sea in the study area (**Chapter 21**).

- 6.3.17 The construction phase of the project will result in a temporary direct impact to Bydale Howles Beach for a maximum duration of 24 weeks, of which the beach will only require closure for up to 8 weeks. During this stage, the construction footprint (a maximum of 250m wide) will be fenced off from the public and will result in a temporary restriction to access in this area. Pedestrian access will remain across the beach at all times during construction. Whilst the beach is not a PRow, it is considered to be a recreational feature of medium interest and the nature of any diversion or temporary closures will be assessed and agreed with the PRow Officer and any other local interest groups.
- 6.3.18 It is anticipated that the other beaches at Marske Sands will not be subject to closure; however they may be affected indirectly via reduced access from Bydale Howles Beach, and temporary visual disturbance. The noise effects at landfall were considered to radiate up to 75m and therefore any beach users within 75m of the landfall could experience some noise disturbance (**Chapter 29**). The effects will be of a temporary nature and of a maximum of 24 weeks duration (medium magnitude).
- 6.3.19 The mitigation outlined in **Table 6.4** will be undertaken to minimise the potential impact on the beach users. The possible closure of the beach in the location of the cable landfall will be temporary and short-term, and with the implementation of the mitigation measures identified the magnitude of the effect will reduce to low, with the sensitivity of the receptor being medium, resulting in a **minor adverse** residual impact.

Two projects – sequential

- 6.3.20 Construction of both Dogger Bank Teesside A & B sequentially will result in the maximum duration of works at the cable landfall envelope of all construction scenarios. Therefore Bydale Beach may be directly affected by works at the cable landfall envelope for up to 16 weeks, and thus the construction works area will remain closed to the public for this duration. Whilst the closure is for a long period, access to the beaches either side of the landfall will remain throughout and pedestrian access will remain across the beach at all times during construction. Overall, this is considered to be an effect of medium magnitude.
- 6.3.21 The mitigation outlined in **Table 6.4** will be undertaken to minimise the potential impact on the beach users. Following the implementation of these measures the magnitude of this impact is reduced to low, and with the sensitivity of the receptor being medium, a **minor adverse** impact is predicted in relation to beach users at Bydale Beach.
- 6.3.22 It is anticipated that the other beaches at Marske Sands will be similarly affected as for a single project scenario, but for a longer duration. However, taking the proposed mitigation measures to reduce impacts to the landscape and visual and noise effects, and assuming access to these beaches remain unchanged, the magnitude of this impact is still considered to be low overall. Therefore a **minor adverse** impact is predicted.

Recreation receptors of low sensitivity - other recreation features

All construction scenarios

- 6.3.23 Other recreational features of low sensitivity identified in the onshore study area include a golf course, the Conservation Areas, sports playing fields, the village hall in Redcar, a permissive bridleway, a local footpath (located immediately to the east of Greystone Road) and Local Wildlife Sites (LWS).
- 6.3.24 The nearest golf course to the onshore works is Wilton Golf and Leisure Club which is situated approximately 1km to the south of the proposed converter stations site. The golf club is separated from the site by the A174 and is screened by the surrounding woodland.
- 6.3.25 Redcar Rugby Club and Teesside Athletic Football Club playing field are situated approximately 250m north (at the southern-most tip of the playing field and the closest edge to the cable route). A viewpoint from the club grounds was selected in **Chapter 21**. Some sections of the cable route works will be visible from the playing fields. However, these effects will be of a temporary and short-term duration. Therefore the works are considered to be of low magnitude, and with a low sensitivity of receptor, a **minor adverse** impact is predicted.
- 6.3.26 The Redcar to Saltburn Coast LWS is located along Marske Sands. The ecological features of the site are considered separately in **Chapter 25**. At the landfall envelope, the beach will be directly affected by the construction works and require closure for up to 16 weeks. The surrounding area will be available for public access with some visual disturbance from the works (**Chapter 21**).
- 6.3.27 Therefore a low magnitude of change predicted to the LWS here in terms of its recreational value, and with the low sensitivity of receptor, an overall **minor adverse** impact is predicted.
- 6.3.28 The Wilton Woods Complex LWS is located south of the converter stations site and is not directly affected by the construction works. The site is located approximately 750m south of the converter stations site and is separated from the site by the A174. This LWS is not considered likely to be affected by the proposed works and **no impact** is anticipated.
- 6.3.29 The permissive bridleway and village hall in Redcar are not considered likely to be affected by the construction phase. The traffic assessment has considered that there will be no discernible rise in traffic above background levels in any of the surrounding towns (see **Chapter 28**). The construction phase is not likely to have any effects on either feature and therefore **no impact** is anticipated.
- 6.3.30 A local footpath that runs along the edge of a woodland area and to the east of Greystone Road will be temporarily impacted on by the installation of the cable. A short stretch of the footpath will require a temporary closure during the construction works (**Figure 4.4**). A medium magnitude of change is predicted to the footpath and with the low sensitivity of the receptor, a **minor adverse** impact is predicted. In line with the mitigation recommendations for PRoW and in order to minimise potential disruption to the public, the mitigation in **Table 6.4** will be implemented in order to reduce impacts to a **negligible** level.

- 6.3.31 The construction works will not have any direct effects on any of the Conservation Areas. Wilton and Kirkleatham are considered to have very limited views to either the converter station or the cable route (**Chapter 21**). There are no impacts anticipated on either the Wilton or Kirkleatham Conservation Area. There are no potential views of the converter station from Yearby. From the northern extent of the Yearby Conservation Area, there may be some views available of the cable route construction works to the north and west (**Chapter 21**). In terms of the overall impact on tourism, the views of the works are considered to be of low magnitude resulting in a **minor adverse** impact.

6.4 Impacts on offshore tourism and recreation

- 6.4.1 For all receptors the increased number of vessels operating in the area during the construction could lead to a higher risk of collision. All impacts relating to recreational sailing are assessed in **Chapter 16 Shipping and Navigation**.

Inshore and coastal areas – diving and watersports

Single project

- 6.4.2 Diving activities could be impacted either by reduced visibility caused by sediment disturbance (**Chapter 9 Marine Physical Processes**) or by general disruption as a result of construction activity at the landfall or in the vicinity of the Dogger Bank Teesside Export Cable Corridor works. However the suspended sediment concentration is predicted to return to pre-construction values within days of the construction activity being completed (**Chapter 9**).
- 6.4.3 Sediment disturbance effects on visibility are expected to be temporary in nature and localised to the immediate area of the works, access to which is expected to be restricted during construction by the implementation of 500m safety zones. The potential for re-suspension of sediments and sediment dynamics during construction is described in detail in **Chapter 9**. The severity, or degree of change in visibility relative to the baseline, is expected to be minor.
- 6.4.4 General disruption of diving and watersport activity is possible as a result of construction, although any disruption is expected to be temporary and localised. The magnitude of effect on diving and watersport is therefore considered to be low. Combined with the low receptor sensitivities identified in Section 4.2, the level of all identified impacts is anticipated to be **minor adverse**.
- 6.4.5 In all cases, it is also considered that the probability of an effect (i.e. reduced visibility or general disruption) interacting with diving and watersport activity is unlikely, given the generally low levels of activity in the area.

Two projects - sequential

- 6.4.6 As noted in Section 5, construction of both projects sequentially would effectively double the length of time of any disruption to diving and watersport activity. In particular, this scenario could increase the temporary beach closure up to approximately 16 weeks. However, given the considerations on sensitivity and magnitude as discussed above, it is considered that the level of all identified impacts will remain as **minor adverse**.

Inshore and coastal areas – recreational angling

Single project

- 6.4.7 Boat and shore-based recreational angling activities could be impacted by general disruption, as a result of construction activity at the landfall or in the vicinity of the Dogger Bank Teesside Export Cable Corridor works.
- 6.4.8 Any disruption is anticipated to be temporary and localised. The magnitude of the effect is therefore considered to be low and combined with the low sensitivity defined in Section 4.2, the impact on recreational angling is anticipated to be **minor adverse**.
- 6.4.9 It is also considered that the probability of an effect (i.e. general disruption) interacting with recreational angling is unlikely, given the generally low levels of activity in the area.

Two projects - sequential

- 6.4.10 Given the considerations discussed above, it is considered that the level of impact on recreational angling will remain as **minor adverse**.

Offshore areas – diving

Single project

- 6.4.11 Within the offshore area there are low levels of diving activity centred on a small number of sites (mainly wrecks) dispersed across a large area. On account of this and the temporary and localised nature of the disturbance, the magnitude of effect on offshore diving is considered to be negligible and a **negligible** impact is anticipated.

Two projects – sequential

- 6.4.12 Construction of both projects sequentially would effectively double the length of time of any disruption to diving activity. However, given the considerations on diving discussed above, it is considered that the level of impact will remain as **negligible**.

Offshore areas – recreational angling

Single project

- 6.4.13 Little recreational angling takes place within the offshore area beyond 12nm of the coast. Any activity is dispersed across a large area. On account of this and the temporary and localised nature of the disturbance to recreational angling, the magnitude of effect is considered to be negligible and a **negligible** impact is anticipated.

Two projects – sequential

- 6.4.14 The sequential build scenario effectively doubles the length of disturbance. However, given the considerations on recreational angling discussed above, it is considered that the level of impact will remain as **negligible**.

Offshore areas – wildlife tours

Single project

- 6.4.15 As described in Section 4.2, one tour operator has been identified with a visit planned to the Dogger Bank. However, the available information suggests that this is not a regular or frequent occurrence. The probability of an effect-receptor interaction occurring is considered to be very low; the tour operator is likely to be able to avoid the development area on account of the total size of the Dogger Bank as an interest feature. The magnitude of effect is therefore considered to be negligible, and a **negligible** impact is anticipated for wildlife tours.

Two projects – sequential

- 6.4.16 The sequential build scenario effectively doubles the length of disturbance. However, given the considerations on wildlife tours discussed above, it is considered that the level of impact will remain as **negligible**.

7 Assessment of Impacts During Operation

7.1 Impacts on onshore tourism and recreation

- 7.1.1 This section has been scoped out of the assessment as agreed in consultation with the Planning Inspectorate (**Table 2.3**).

7.2 Impacts on offshore tourism and recreation

All scenarios

- 7.2.1 An increase in the number of vessels operating in the development area and the presence of built structures associated with the wind farm during operation could lead to a higher risk of collision. Although it is not intended that operational safety zones will be used for Dogger Bank Teesside A & B, it is assumed that the location of structures which form a collision risk, such as mooring buoys, will be charted and will have a high-visibility yellow colouration as a minimum (**Chapter 16**). The passage of recreation vessels through the wind farm site will otherwise not be restricted. All impacts and mitigation relating to recreational sailing are assessed in **Chapter 16**.
- 7.2.2 Watersport activities could be impacted by a reduction in wave height as a result of the wind farm being built. In particular this would impact inshore and coastal wave and kite surfers. Although the change in wave height will be permanent throughout the operational lifespan of the development, the distance from shore and the severity, or degree of change in wave heights relative to the baseline (see Section 7.2 **Chapter 9**) are expected to lead to a worst case minor reduction in wave height. Therefore a **negligible** impact is predicted on watersport during the operational phase of the development.
- 7.2.3 During operation it is not anticipated that other activities have the potential to interact with tourism and recreation on the beach, in the cable corridor or in the Dogger Bank Zone. Therefore **no impact** is anticipated on tourism and recreation receptors (other than inshore and coastal wave and kite surfing, see above) from operation and routine maintenance activities (such as cable inspections and scour management).
- 7.2.4 There is the possibility that more significant maintenance operations may be required during the lifetime of the wind farm, for example the repair of a section of cable either at the wind farm site or along the Dogger Bank Teesside Export Cable Corridor. Should this be necessary, the duration of any activities is likely to be short and the extent of any potential effects no greater than any of those assessed during the construction phase (i.e. residual impacts no greater than **minor adverse**).

8 Assessment of Impacts During Decommissioning

8.1 Impacts on onshore tourism and recreation

- 8.1.1 The decommissioning of the onshore electrical connection, including the cable route and the converter stations at Dogger Bank Teesside A & B will form part of an overall Decommissioning Plan for Dogger Bank Teesside A & B, for which a full EIA will be carried out ahead of any decommissioning works being undertaken.
- 8.1.2 In relation to the converter stations, the programme for decommissioning is expected to be similar in duration to the construction phase. The detailed activities and methodology will be determined later within the project lifetime, but is expected to include:
- Dismantling and removal of electrical equipment;
 - Removal of cabling from site (as deemed necessary);
 - Removal of any building services equipment;
 - Demolition of the buildings and removal of fence; and
 - Landscaping and reinstatement of the site.
- 8.1.3 At the time of decommissioning, an evaluation will be made on whether the onshore buried cable system could be used for another purpose. If this is not feasible, the above ground features will be removed to a sufficient depth to allow agricultural (or other) practices to occur unhindered. The buried cable system will be isolated and left in place unless otherwise specified by the local planning authority. As such, there are not anticipated to be any decommissioning impacts associated with the onshore buried cable system.
- 8.1.4 Tourism and recreation impacts associated with the decommissioning of the converter stations will be similar to those identified for the construction of both elements.
- 8.1.5 The mitigation measures outlined for the construction phase would also be expected to be adopted for the decommissioning phase.

8.2 Impacts on offshore tourism and recreation

- 8.2.1 As a precautionary worst case scenario it is assumed that all infrastructure including cables will be removed (**Table 5.1** and **Chapter 5**). Exact decommissioning arrangements will be detailed in a Decommissioning Plan, which will be drawn up and agreed with DECC prior to construction. Any impacts arising from the decommissioning process will be the subject of future assessment, once the nature of activities is understood. However, no residual

impacts greater than those assessed during the construction phase are anticipated (i.e. no greater than **minor adverse**).

- 8.2.2 Once decommissioned, the development is expected to have **no** ongoing **impact** on offshore tourism and recreation.

9 Inter-relationships

9.1 Inter-relationships

- 9.1.1 In order to address the environmental impact of the proposed development as a whole, this section establishes the inter-relationships between tourism and recreation and other physical, environmental and human receptors (**Table 9.1**). The objective is to identify where the accumulation of impacts on a single receptor, and the relationship between those impacts, may give rise to a need for additional mitigation.
- 9.1.2 **Table 9.1** summarises the inter-relationships that are considered of relevance to the assessment of impacts on tourism and recreation and identifies where they have been considered within the ES.
- 9.1.3 When considering the potential for impacts to inter-relate it is assumed that any residual effect determined as having no impact will not result in a significant inter-relationship when combined with other effects on receptors.

Table 9.1 Inter-relationships relevant to the assessment of tourism and recreation in all phases

Inter-relationship	Section where addressed	Linked chapter
Influence of socio-economic impacts upon tourism and recreation.	Section 4 of this chapter	Chapter 22 Socio-economics
Influence of landscape and seascape upon tourism and recreation.	Sections 6 and 7 of this chapter	Chapter 20 Seascape Visual Impact Assessment and Chapter 21 Landscape and Visual Impact Assessment
Influence of navigational constraints on recreational boating.	Sections 6 and 7 of this chapter	Chapter 16 Shipping and Navigation
Influence of noise upon tourism and recreation.	Sections 6 and 7 of this chapter	Chapter 29 Noise
Influence of traffic movement upon tourism and recreation	Sections 6 and 7 of this chapter	Chapter 28 Traffic and Access
Influence of suspended sediment concentration on visibility for recreational diving.	Sections 6 and 7 of this chapter	Assessed in this chapter and discussed in Chapter 9 Marine Physical Process
Influence of air quality impacts upon tourism and recreation.	Sections 6 and 7 of this chapter	Chapter 30 Air Quality

- 9.1.4 **Chapter 31** provides a holistic overview of all the inter-related impacts associated with the proposed development.

10 Cumulative Impacts

10.1 Cumulative Impact Assessment strategy and screening

- 10.1.1 This section describes the CIA for tourism and recreation, taking into consideration other plans, projects and activities. A summary of the CIA is presented in **Chapter 33**.
- 10.1.2 Forewind has developed a strategy for the assessment of cumulative impacts in consultation with statutory stakeholders including the Marine Management Organisation (MMO), the JNCC, Natural England and the Centre for Environment, Fisheries and Aquaculture Science (Cefas). Details of the approach to CIA adopted for this ES are provided in **Chapter 4 EIA Process**.
- 10.1.3 The strategy recognises that data and information sufficient to undertake an assessment will not be available for all potential projects, activities, plans and/or parameters, and seeks to establish the confidence in the data and other information that is available.
- 10.1.4 In its simplest form the strategy involves consideration of:

Onshore

- Whether impacts on a receptor can occur on a cumulative basis between the onshore elements of Dogger Bank Teesside A & B and other activities, projects and plans for which sufficient information regarding location and scale exist.

Offshore

- Whether impacts on a receptor can occur on a cumulative basis between the wind farm project(s) subject to the application(s) and other wind farm projects, activities and plans in the Dogger Bank Zone (either consented or forthcoming); and
 - Whether impacts on a receptor can occur on a cumulative basis with other activities, projects and plans outwith the Dogger Bank Zone (e.g. other offshore wind farm developments), for which sufficient information regarding location and scale exist.
- 10.1.5 In this manner, the assessment considers (where relevant) the potential for cumulative impacts in the following sequence:
- With the third phase of development in the Dogger Bank Zone, known as Dogger Bank Teesside C & D;
 - With the above, plus any other activities, projects and plans in the Dogger Bank Zone; and

- With all the above, in addition to any other activities, projects and plans outwith the Dogger Bank Zone.

10.1.6 The strategy recognises that data and information sufficient to undertake an assessment will not be available for all potential projects, activities, plans and/or parameters, and seeks to establish the 'confidence' Forewind can have in the data and information available.

10.2 Onshore CIA

10.2.1 The onshore projects, activities and plans relevant to tourism and recreation are presented in **Table 10.1** along with a screening exercise to identify whether there is sufficient confidence in the project details to take these forward to the assessment.

Table 10.1 Cumulative impact assessment screening for onshore tourism and recreation

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
Commercial plant	Tees Renewable Energy Plant	Expected operational in 2015	Present - 2015	>2km	High	High	Outside onshore study area
Offshore wind farm cable	Tees Renewable Energy Plant underground cable	In construction	Present – 2015	>2km	High	High	Outside onshore study area
Pipeline	York Potash Project	In planning	Unknown	1km	Medium	Medium	N/A – carried forward to cumulative impact assessment
Anemometry Mast	Anemometry Mast at The Wilton Centre	Planning permission granted. Construction to be completed within 3 years	Construction must begin within 2013 - 2016	0m	High	High	Small scale project, no cumulative impacts anticipated.
Terminal	Northern Gateway Terminal	Outline permission given in 2007. October 2012 decision: Grant Reserved Matters	No indication	>2km	Medium - High	Medium - High	Outside onshore study area
Pipeline	Breagh Pipeline	Planning permission granted, April 2012, development must	Present - 2015	>3km	High	High	Outside onshore study area

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
		begin within 3 years.					
Erection of residential buildings	Two storey 2, 3 and 4 bedroom dwelling houses and garages	Public consultation ends March 2013	No indication	>2km	Medium - High	Medium - High	Outside onshore study area
Single pole installation	Installation of single pole to house transformer unit (application submitted under section 37 of the electricity act 1989)	Public consultation end February 2013	Construction must begin within 2013 - 2016	>3km	Medium - High	Medium - High	Outside onshore study area
Redevelopment of residential buildings	Redevelopment comprising the erection of 288 dwellings and ancillary works (amended scheme)	Granted planning permission	Construction must begin within 2013 - 2016	>2km	High	High	Outside onshore study area
Demolition	Demolition of various buildings	Granted deemed consent February 2013	Construction must begin within 2013 - 2016	<500m	Medium - High	Medium - High	N/A – carried forward to cumulative impact assessment

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
Erection of residential buildings	Erection of 6 dwellings	Granted planning permission	Construction must begin within 2013 - 2016	<1km	High	High	N/A – carried forward to cumulative impact assessment
Power station	Teesside Power Station	Permission not required December 2012	No indication	<500m	Medium	Medium	N/A – carried forward to cumulative impact assessment
Erection of residential buildings	Three storey 72 bedroom care home	Granted planning permission March 2013	Construction must begin within 2013 - 2016	>3km	High	High	Outside onshore study area
Commercial plant	Screening opinion request for new biomass import facility	EIA not required, November 2012	No indication	<2km	Low - Medium	Low - Medium	Outside onshore study area
Commercial plant	Screening opinion for proposed potash processing plant	Insufficient info in planning application, November 2012	No indication	>3km	Low - Medium	Low - Medium	Outside onshore study area
Erection of commercial Buildings	Two storey management block with associated 92 space car park	Planning permission granted December 2012. Development must begin within 3 years.	2012 - 2015	<1km	High	High	N/A – carried forward to cumulative impact assessment

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
Offshore wind farm onshore electrical connection	Dogger Bank Teesside C & D	Application expected in 2015	2016	<1km	High	High	N/A – carried forward to cumulative impact assessment
Onshore renewables	Scoping request for two wind turbines	Scoping Opinion requested	Five month construction period but unknown date	0m	High	High	Small scale project, no cumulative impacts expected
Onshore renewables	One wind turbine	Application withdrawn	N/A	N/A	N/A	N/A	Application withdrawn
Waste Treatment facility	Teesport Waste Treatment Facility	Public consultation end date November 2013	Construction must begin between 2013-2016	>3km	High	High	Outside onshore study area
Commercial plant	Elring Klinger (GB) Ltd Extension to factory	Application approved	Construction must begin between 2013-2016	<1km	High	High	N/A – carried forward to cumulative impact assessment
Demolition of a Power station	Teesside Power Plant	Permission not required (decision made on June 2013)	From approximately 2 nd October 2013 to 30 th September 2014	<500m	Low	Low	Small scale project, no cumulative impacts expected

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
Power Plant	Earthly Energy Group: Anaerobic power plant	Planning permission granted July 2013. Development to begin within 3 years of permission	Construction must begin between 2013-2016	<3km	High	High	Outside onshore study area
Onshore renewables	Erection of single wind turbine	Planning permission granted Jun 2013. Development to begin within 3 years of permission.	Construction must begin between 2013-2016	<1km	High	High	Small scale project, no cumulative impacts expected
Waste water	Northumbrian Water: Effluent main pipe	Planning permission granted August 2013. Development to begin within 3 years of permission.	Construction must begin between 2013-2016	<3km	High	High	Outside onshore study area
Onshore renewables	Bankfield Wind Farm	Public consultation ends November 2013	Unknown	<3km	High	High	Outside onshore study area
Onshore renewables	Land at Court Green Farm: Single wind turbine	Public consultation end date September 2013	Unknown	<3km	High	Medium-High	Outside onshore study area

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
Residential	Change to house type: Substitution of 30 approved house types of planning permission with 28 new house types, boundary treatments and associated landscaping	Planning permission granted August 2013	Construction must begin between 2013-2016	<3km	High	Medium-High	Outside onshore study area
Residential	Four bungalows: Yew Tree Care Centre	Planning permission granted July 2013. Development to begin within 3 years of permission	Construction must begin between 2013-2016	<1.5km	High	High	Outside onshore study area
Residential	1000 Dwelling development	Public consultation end date November 2013	Unknown	<1.5km	High	High	Outside onshore study area
Agricultural	Erection of agricultural building	Planning consultation ended November 2013	Construction must begin between 2013 – 2016	0m	High	Medium	Small scale project, no cumulative impacts anticipated
Residential development	Development of 14 two storey detached dwellings	Planning permission granted November 2013. Development to	Construction must begin between 2013-2016	<1.5km	High	Medium	Outside onshore study area

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Rationale for where no cumulative impacts are expected
		begin within 3 years of permission					

- 10.2.2 The onshore impacts identified during the construction, operation and decommissioning phases of Dogger Bank Teesside A & B that could result in cumulative impacts are:
- Onshore tourist destinations of medium and low sensitivity – minor residual impact;
 - National Cycle Network (Cycle Route 1) and proposed England Coast Path National Trail – minor residual impact (reduced amenity due to the requirement for temporary diversion / temporary closure during construction);
 - PRowS – minor residual impact (reduced amenity due to the requirement for temporary diversions / temporary closures during construction); and
 - Local beaches – minor residual impact (reduced amenity due to the requirement for temporary diversions during construction).

York Potash Project

- 10.2.3 This project is currently programmed to be submitted to the Planning Inspectorate in the third quarter of 2014. The pipeline will cross the Dogger Bank Teesside A & B cable route. However, further information on the construction schedule for the pipeline is not available. An assumption can be made that typically, it takes between 12-18 months following submission for consent to be granted. Therefore, there is the potential for the construction phase to overlap with Dogger Bank Teesside A & B.
- 10.2.4 The York Potash Project will cross two PRow within the study area and the Kirkleatham Owl Centre and Kirkleatham Museum are also likely to be affected by disturbance and construction traffic since they are located near to the pipeline crossing and onshore cable route.
- 10.2.5 Mitigation for the PRow for the York Potash Project is likely to include similar measures i.e. consultation and diversion (if required) and therefore no cumulative impact is anticipated.
- 10.2.6 Mitigation for the Kirkleatham Owl Centre and Kirkleatham Museum is also likely to include consultation and minimising lane closures (if required); however a cumulative impact may remain on both receptors from traffic and disturbance.

Demolition of various buildings in the Kirkleatham area

- 10.2.7 This project is located within 500m north of the onshore cable route and works will be undertaken between 2013 and 2016. Therefore, the construction phases may overlap, however due to the distance of the demolition from Dogger Bank Teesside A & B; no cumulative impacts with receptors identified within this chapter are anticipated.

Erection of 6 dwellings in Redcar

- 10.2.8 Planning permission was granted for the erection of the 6 dwellings in February 2013. Construction will be undertaken between 2013 and 2016, therefore there is the potential for the construction phase to overlap with Dogger Bank Teesside A & B. The project is located just less than 1km north of the cable corridor and

therefore it is very unlikely that there will be cumulative impacts with the receptors identified within this chapter.

Power station

- 10.2.9 This project is located within 1km west of the converter stations site and involves the demolition of exhaust stacks. Planning permission was not required for this project, and the following comment on the planning application was made:

“The exhaust stacks to be demolished are located within a predominately industrial area. It is not considered the demolition of the exhaust stacks and retention of the other equipment on the site will have not a significantly detrimental effect on the surrounding area. The proposed method of demolition and restoration of the site is considered to be acceptable. Prior Approval of the Local Planning Authority is not therefore required.”

- 10.2.10 The project is 1km away from Forewind works and the works at the power station are likely to be contained within the site itself. Therefore, it is considered very unlikely for works to have a cumulative impact with the receptors identified within this chapter.

Erection of commercial buildings

- 10.2.11 This project is located approximately 500m north of the onshore cable route, and construction is anticipated between 2012 and 2015. Therefore, there may be a small overlap in construction times. It is considered very unlikely for works to have a cumulative impact with the receptors identified within this chapter.

Dogger Bank Teesside C & D

- 10.2.12 The potential cumulative impacts of the project are considered to be the same as those identified within this chapter. The anticipated effects from the Dogger Bank Teesside C & D are effects to the visual amenity, noise, traffic-related construction effects and temporary closure and diversion of PRowS. In addition, there could be direct impacts on the Redcar Rugby Union Football Club grounds. Through consultation, the main sports grounds have been avoided and the route has been selected to run through the unused area of the grounds, at the southernmost area of the site. A second section of beach closure is also required at the landfall location (Millclose Howle).
- 10.2.13 As a worst case scenario, should all four Dogger Bank Teesside projects be constructed at the same time, it would result in an increase in magnitude of impacts already identified. Mitigation for receptors identified would be similar as for Dogger Bank Teesside A & B e.g. consultation, minimising any temporary road closures, determining PRow strategy in advance of works, minimisation of working areas, reinstatement of features on completion of the works. In addition, it may be possible to phase the construction works wherever possible to reduce the impacts. Overall, whilst the implementation of mitigation will reduce the impact on tourism and recreation receptors, a cumulative impact is likely to remain.

Elring Klinger (GB) Ltd Extension to factory

- 10.2.14 This project is located just less than 700m north of the cable route and involves the extension of an existing factory building with ancillary new access roads. Works will be undertaken between 2013 and 2016 and therefore, the construction phases may overlap, however due to the distance of the works from Dogger Bank Teesside A & B and the scale of the works, no cumulative impacts with receptors identified within this chapter are anticipated.

10.3 Offshore cumulative impact assessment

- 10.3.1 Due to the large number of other plans, projects and activities that must be considered in the offshore environment, two screening exercises have been undertaken in order to arrive at an informed, defensible and reasonable 'short list' to take forward in the assessment.
- 10.3.2 The first step in the CIA for offshore tourism and recreation involved an appraisal of the key impacts relevant to each of the receptors that have been identified (**Table 10.2**). For each impact, the potential for impacts to occur on a cumulative basis has been identified, both within and beyond the Dogger Bank Zone; the confidence in the data and information available to inform the CIA has been appraised (following the methodology set out in **Chapter 4**); and the other activities that could contribute to these impacts have been identified.
- 10.3.3 This also identifies where cumulative impacts are not anticipated, thereby screening them out from further assessment.
- 10.3.4 For offshore tourism and recreation, the potential for cumulative impacts is identified in relation to: diving and watersport; recreational angling; and wildlife tours (**Table 10.2**). However, it has been determined that cumulative impacts on these receptors are not expected to manifest outside, or beyond 1km from, the Dogger Bank Zone and Dogger Bank Teesside A & B Export Cable Corridor. In all cases, data confidence is assessed as medium. On this basis, the potential for any other cumulative impacts is screened out from further consideration in the process.

Table 10.2 Potential cumulative impacts

Impacts	Dogger Bank Zone (within 1km)		Beyond 1km from the Dogger Bank Zone		Rationale for where no cumulative impacts are expected
	Potential for cumulative impacts	Data confidence	Potential for cumulative impacts	Data confidence	
Impact on diving and watersport (inshore/coastal and offshore)	Yes	Medium	No	N/A	No cumulative impact is anticipated outside the Dogger Bank Zone due to the scale and nature of the impacts assessed for Dogger Bank Teesside A & B in its own right (i.e. all
Impact on angling (inshore/coastal and offshore)	Yes	Medium	No	N/A	

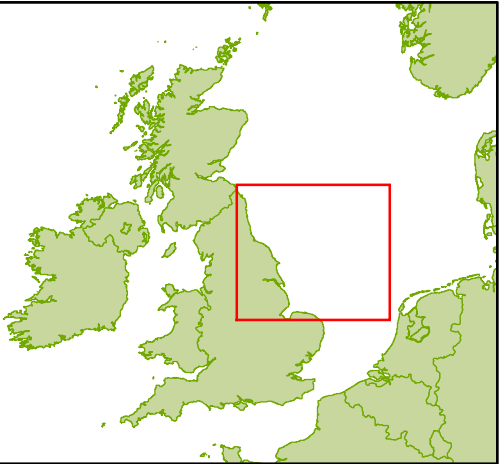
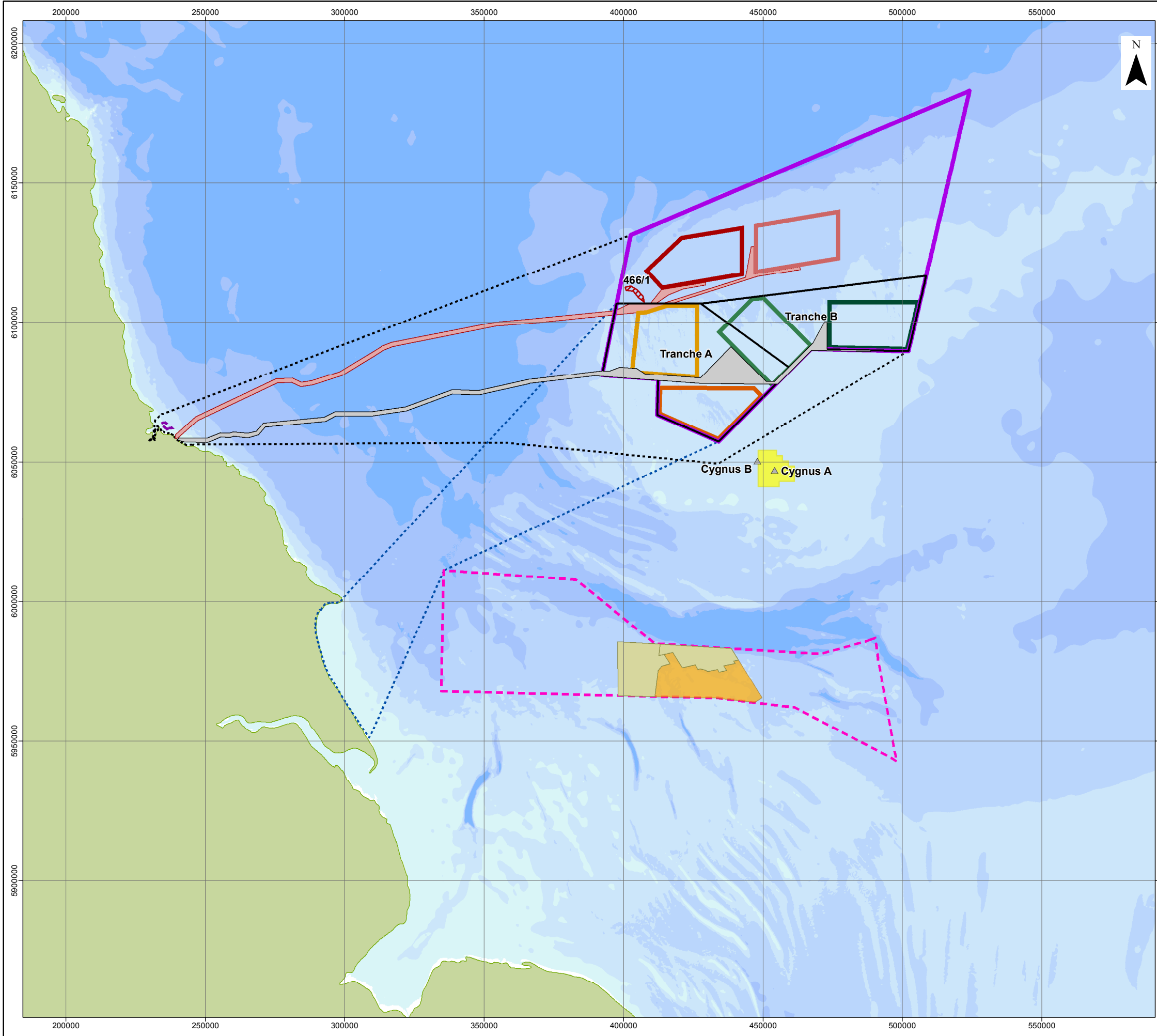
Impacts	Dogger Bank Zone (within 1km)		Beyond 1km from the Dogger Bank Zone		Rationale for where no cumulative impacts are expected
	Potential for cumulative impacts	Data confidence	Potential for cumulative impacts	Data confidence	
Impact on wildlife tours (inshore/coastal and offshore)	Yes	Medium	No	N/A	impacts are associated with tourism and recreation activities taking place within or close by the project areas and no impacts greater than 'minor adverse' have been identified).
Impact on diving and watersport (inshore/coastal and offshore)	Yes	Medium	No	N/A	

- 10.3.5 Where the first step has indicated the potential for cumulative impacts, the second step in the CIA for offshore tourism and recreation has involved the identification of the actual individual plans, projects and activities within those broad industry levels for inclusion in the CIA. In order to inform this, Forewind has produced an exhaustive list of plans, projects and activities occurring within a very large study area encompassing the greater North Sea and beyond (referred to as the 'long list', Chapter 4). The long list has been appraised, based on the confidence Forewind has in being able to undertake an assessment from the information and data available, enabling individual plans, projects and activities to be screened in or out.
- 10.3.6 The plans, projects and activities relevant to offshore tourism and recreation are presented in **Table 10.3** and **Figure 10.1** along with the results of the screening exercise that identifies whether it is possible to take each one forward in a detailed cumulative assessment. This considers the confidence in the information available and the distance from Dogger Bank Teesside A & B.
- 10.3.7 It should be noted that:
- Where Forewind is aware that a plan, project or activity could take place in the future, but has no information on how the plan, project or activity will be executed, it is screened out of the assessment; and
 - Existing projects, activities and plans are considered to be a part of the established baseline and are therefore not included in the cumulative assessment.

Table 10.3 CIA screening for offshore tourism and recreation

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Carried forward to cumulative impact assessment	Rationale for not carrying into CIA
Offshore wind farm	Dogger Bank Creyke Beck	Pre-Application	Post 2016	Creyke Beck A approximately 4km Creyke Beck B approximately 6km	High	High	Yes	N/A
Offshore wind farm	Dogger Bank Teesside C & D	Pre-Application	Post 2017	Teesside C and D approximately 8km	High	Medium	Yes	N/A
Offshore wind farm	Dogger Bank Zone – other future developments	Potential	Not confirmed	Not confirmed	Low	Low	No	Low data confidence
Offshore wind farm	Teesside offshore wind farm	Operational	2012-2013	Dogger Bank Teesside A: 236km Dogger Bank Teesside B: 198km	High	High	Yes	N/A
Offshore wind farm	Hornsea Project One	Pre-Application	Post 2015	Dogger Bank Teesside A: 116km Dogger Bank Teesside B: 98km	High	Medium	Yes	N/A

Type of project	Project title	Project status	Predicted construction period	Distance from Dogger Bank Teesside A & B	Confidence in project details	Confidence in project data	Carried forward to cumulative impact assessment	Rationale for not carrying into CIA
Offshore wind farm	Hornsea Project Two	Pre-Consent	Post 2015	Dogger Bank Teesside A: 113km Dogger Bank Teesside B: 95km	Medium	Medium	Yes	N/A
Oil and Gas	Cygnus gas field development (Alpha and Bravo)	Development (pre-production)	Ongoing – production to start in 2015	Alpha: Dogger Bank Teesside A: 47km Dogger Bank Teesside B: 30km Bravo: Dogger Bank Teesside A: 47km Dogger Bank Teesside B: 27km	Medium	Medium	No	Relative scarcity and low sensitivity of receptors in proximity to this project
Aggregate extraction	Area 466/1	Application area	Decision expected 2014	Dogger Bank Teesside A: 65km Dogger Bank Teesside B: 28km	Medium	Medium	No	As above



LEGEND

- Dogger Bank Zone
- Tranche Boundary
- Dogger Bank Creyke Beck A
- Dogger Bank Creyke Beck B
- Dogger Bank Teesside A
- Dogger Bank Teesside B
- Dogger Bank Teesside C
- Dogger Bank Teesside D
- Dogger Bank Teesside A & B Export Cable Corridor
- Dogger Bank Teesside C & D Export Cable Corridor
- Creyke Beck Export Cable Corridor Study Area
- Teesside Export Cable Corridor Study Area
- Tranche Boundary
- Teesside Offshore Wind Farm
- Hornsea Zone
- Hornsea Project One
- Hornsea Project Two
- Aggregate Application Area
- Cygnus Gas Field Development
- Cygnus Proposed Subsurface Infrastructure

0 40 80
Kilometres

Data Source:
Wrecks Locations © UKHO
Background bathymetry image derived in part from TCarta data © 2009

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 10.1: Other plans, projects and activities for offshore cumulative impact assessment

VER	DATE	REMARKS	Drawn	Checked
1	16/05/2013	Draft	GC	DB
2	30/08/2013	Submit for PEI3	SW	DB
3	05/02/2014	Pre-DCO submission review	SW	DB

DRAWING NUMBER:
F-ONC-MA-517

SCALE	1:1,400,000	PLOT SIZE	A3	DATUM	WGS84	PROJECTION	UTM31N
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- 10.3.8 The potential offshore impacts identified during the construction, operation and decommissioning phases of Dogger Bank Teesside A & B (Sections 6 to 8) that could result in cumulative impacts are:
- Impacts on diving activity from reduced visibility due to sediment disturbance; and
 - Impacts on diving, watersport, recreational angling and wildlife tours from general disruption by project activities.
- 10.3.9 It has been established through the CIA screening process for tourism and recreation that cumulative impacts are not expected to manifest beyond approximately 1km from the Dogger Bank Zone and Dogger Bank Teesside A & B Export Cable Corridor. This is on account of the scale and nature of the impacts assessed for Dogger Bank Teesside A & B in its own right (no residual impacts greater than minor have been identified).
- 10.3.10 The potential for cumulative impacts to arise on the offshore tourism and recreation receptors that have been described in this assessment is therefore extremely limited. Potential impacts from other offshore wind farms scoped into the assessment (Dogger Bank Creyke Beck, Dogger Bank Teesside C & D, Teesside wind farm and Hornsea Projects One and Two) are anticipated to be the same or similar to those set out in this assessment, and therefore to be limited to within the near vicinity (approximately 1km) of those activities. As such, they are not anticipated to overlap with any of the potential impacts described for Dogger Bank Teesside A & B.
- 10.3.11 As a result, the cumulative impact on offshore tourism and recreation during all phases is anticipated to be no greater than that assessed for Dogger Bank Teesside A & B on its own (**negligible to minor adverse**).

11 Transboundary Effects

11.1 Transboundary effects

- 11.1.1 This chapter has considered the potential for transboundary effects (effects across international boundaries) to occur on tourism and recreation as a result of the construction, operation or decommissioning of Dogger Bank Teesside A & B. The Dogger Bank Zone is a considerable distance from the coastline of adjacent EEA states and this assessment has found that tourism and recreation activities take place predominantly in the inshore and coastal areas.
- 11.1.2 It is therefore considered unlikely that there will be any impact from the proposed development on tourism and recreation activity in or from any other EEA state. As such, no transboundary effects are anticipated.
- 11.1.3 A summary of the likely transboundary effects of Dogger Bank Teesside A & B is provided in **Chapter 32 Transboundary Effects**.

12 Summary

12.1 Summary

- 12.1.1 This chapter of the ES has provided a characterisation of the existing environment for tourism and recreation based on existing data, which has established that there are **minor adverse** residual impacts associated with disruption and reduced amenity to the Kirkleatham Museum and the Kirkleatham Owl Centre, the local towns and villages, the National Cycle Trail, PRowWs and other footpaths (including beaches at the landfall location) during construction. These impacts will be managed through liaison with the attractions and the PRowW Officer and good communication with the local community.
- 12.1.2 **Minor adverse** residual impacts have been identified for offshore tourism and recreation receptors in inshore and coastal areas (diving and watersport, and recreational angling). Impacts are reduced to **negligible** further offshore, reflecting the lower levels of activity in these areas.
- 12.1.3 **Table 12.1** provides a summary of the potential impacts on tourism and recreation arising from the realistic worst case scenarios set out in Section 5 of this chapter.

Table 12.1 Summary of predicted impacts of Dogger Bank Teesside A & B on tourism and recreation

Description of impact	Mitigation measures	Residual impact
Construction phase		
Onshore tourist destinations of high sensitivity (North York Moors National Park)	N/A	No impact
Onshore tourist destinations of medium sensitivity – museums & other attractions	<ul style="list-style-type: none"> Liaison with the Kirkleatham Museum and Kirkleatham Owl Centre to inform them of the timing and duration of the works and lane closure if required. Minimise disruption of the lane closure on the A174, if required. 	Minor adverse
Onshore tourist destinations of medium sensitivity – towns and villages	N/A	Minor adverse

Description of impact	Mitigation measures	Residual impact
Onshore tourist destinations of low sensitivity – historic sites	N/A	Negligible
Onshore recreation receptors of high sensitivity – National Cycle Network 1 and proposed England Coast Path	<ul style="list-style-type: none"> • Consultation with local community and relevant stakeholders to inform them of the timing of the works. • No storage of equipment, materials or machinery close to either the National Cycle Network Route 1 and proposed England Coast Path. • Minimisation of working area wherever possible. 	Minor adverse
Onshore recreation receptors of medium sensitivity – ProW and Eston Hills	<ul style="list-style-type: none"> • Liaison with the PRow Officer to identify suitable temporary diversion routes and/or plan appropriate temporary closures; • Good communication with local community to inform of any PRow temporary diversions and closures, to avoid inconvenience; • Minimise duration of closures wherever practicable, with consideration to public safety at all times; and • Reinstatement of all features immediately following construction phase. 	Minor adverse
Onshore receptors of medium sensitivity – local beaches	<ul style="list-style-type: none"> • Liaison with the PRow Officer to identify suitable temporary diversion routes and/or plan appropriate temporary beach closure; • Good communication with local community to inform of any PRow temporary diversions and closures, to avoid inconvenience; • Minimise duration of closures wherever practicable, with consideration to public safety at all times; and • Reinstatement of all features immediately following construction phase. 	Minor adverse

Description of impact	Mitigation measures	Residual impact
Onshore recreational receptors of low sensitivity	N/A	Minor adverse/Negligible
Disruption to inshore and coastal diving	N/A	Minor adverse
Disruption to inshore and coastal watersport	N/A	Minor adverse
Disruption to inshore and coastal angling	N/A	Minor adverse
Disruption to inshore and coastal wildlife tours	N/A	N/A
Disruption to offshore diving	N/A	Negligible
Disruption to offshore watersports	N/A	N/A
Disruption to offshore angling	N/A	Negligible
Disruption to offshore wildlife tours	N/A	Negligible
Operation phase		
Onshore tourism	N/A	No impact
Onshore recreation	N/A	No impact

Description of impact	Mitigation measures	Residual impact
Disruption to inshore and coastal diving (routine operation)	N/A	No impact
Disruption to inshore and coastal watersport (routine operation)	N/A	Negligible
Disruption to inshore and coastal angling (routine operation)	N/A	No impact
Disruption to inshore and coastal wildlife tours (routine operation)	N/A	N/A
Disruption to offshore diving (routine operation)	N/A	No impact
Disruption to offshore watersport (routine operation)	N/A	N/A
Disruption to offshore angling (routine operation)	N/A	No impact
Disruption to offshore wildlife tours (routine operation)	N/A	No impact
Decommissioning phase		
Onshore	As for construction	As for construction
Offshore	As for construction	As for construction

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