DOGGER BANK D WIND FARM

Preliminary Environmental Information Report

Volume 2
Appendix 26.2 Transport Assessment

Document Reference No: 2.26.2
Date: June 2025
Revision: V1

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Document Title:	**Volume 2, Appendix 26.2 Transport Assessment**
Document BIM No.	**PC6250-RHD-XX-ON-RP-EV-0101**
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Prepared For:	**Dogger Bank D Offshore Wind Farm**

Revision No.	Date	Status / Reason for Issue	Author	Checked By	Approved By
V1	25/03/2025	Final	RNE	AT	RH

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Glossary

Term	Definition
Commitment	Refers to any embedded mitigation and additional mitigation, enhancement or monitoring measures identified through the EIA process and those identified outside the EIA process such as through stakeholder engagement and design evolution. All commitments adopted by the Project are provided in the Commitments Register.
Development Consent Order (DCO)	A consent required under Section 37 of the Planning Act 2008 to authorise the development of a Nationally Significant Infrastructure Project, which is granted by the relevant Secretary of State following an application to the Planning Inspectorate.
Effect	An effect is the consequence of an impact when considered in combination with the receptor's sensitivity / value / importance, defined in terms of significance.
Energy Storage and Balancing Infrastructure (ESBI)	A range of technologies such as battery banks to be co-located with the Onshore Converter Station, which provide valuable services to the electrical grid such as storing energy to meet periods of peak demand and improving overall reliability.
Environmental Impact Assessment (EIA)	A process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information and includes the publication of an Environmental Statement.
Environmental Statement (ES)	A document reporting the findings of the EIA which describes the measures proposed to mitigate any likely significant effects.
Impact	A change resulting from an activity associated with the Project, defined in terms of magnitude.
Jointing Bays	Underground structures constructed at regular intervals along the onshore export cable corridor to facilitate the joining of discrete lengths of the installation of cables.
Landfall	The area on the coastline, south-east of Skipsea, at which the offshore export cables are brought ashore, connecting to the onshore export cables at the transition joint bay above Mean High Water Springs.
Link Boxes	Structures housing electrical equipment located alongside the jointing bays in the onshore export cable corridor and the transition joint bay at the landfall, which could be located above or below ground.

Term	Definition
Mitigation	Any action or process designed to avoid, prevent, reduce or, if possible, offset potentially significant adverse effects of a development. All mitigation measures adopted by the Project are provided in the Commitments Register.
Onshore Converter Station (OCS)	A compound containing electrical equipment required to stabilise and convert electricity generated by the wind turbines and transmitted by the export cables into a more suitable voltage for grid connection into Birkhill Wood Substation.
Onshore Converter Station (OCS) Zone	The area within which the Onshore Converter Station and Energy Storage and Balancing Infrastructure will be located in vicinity of Birkhill Wood Substation.
Onshore Development Area	The area in which all onshore infrastructure associated with the Project will be located, including any temporary works area required during construction and permanent land required for mitigation and enhancement areas, which extends landward of Mean Low Water Springs. There is an overlap with the Offshore Development Area in the intertidal zone.
Onshore Export Cable Corridor (ECC)	The area within which the onshore export cables will be located, extending from the landfall to the Onshore Converter Station zone and onwards to Birkhill Wood Substation.
Onshore Export Cables	Cables which bring electricity from the transition joint bay at landfall to the Onshore Converter Station zone (HVDC cables) and from the Onshore Converter Station zone onwards to Birkhill Wood Substation (HVAC cables).
Project Design Envelope	A range of design parameters defined where appropriate to enable the identification and assessment of likely significant effects arising from a project's worst-case scenario. The Project Design Envelope incorporates flexibility and addresses uncertainty in the DCO application and will be further refined during the EIA process.
Study Areas	A geographical area and / or temporal limit defined for each EIA topic to identify sensitive receptors and assess the relevant likely significant effects.
Temporary Construction Compounds	Areas set aside to facilitate the construction works for the onshore infrastructure, which include the landfall construction compound, main and intermediate construction compounds for onshore export cable works and OCS and ESBI construction compounds.
The Applicant	SSE Renewables and Equinor acting through 'Doggerbank Offshore Wind Farm Project 4 Projco Limited'.
The Project	Dogger Bank D (DBD) Offshore Wind Farm Project, also referred to as DBD in this PEIR.
Transition Joint Bay (TJB)	An underground structure at the landfall that houses the joints between the offshore and onshore export cables.

26.2 Transport Assessment

26.2.1 Introduction

1. This appendix to the Dogger Bank D Offshore Wind Farm (hereafter 'the Project' or 'DBD') Preliminary Environmental Information Report (PEIR) supports **Volume 1, Chapter 26 Traffic and Transport**.

2. The purpose of this appendix is to provide the technical inputs to inform the traffic and transport PEIR assessment of the onshore development of the Project during the construction, operation and decommissioning phases. The onshore elements of the Project will include the landfall infrastructure, onshore export cable infrastructure, the Onshore Converter Station (OCS) and Energy Storage and Balancing Infrastructure (ESBI). A full description of the onshore components of the Project is provided in **Volume 1, Chapter 4 Project Description.**

3. Following this introduction, the Transport Assessment (TA) is structured as follows:

    - **Section 26.2.4** provides detail of the derivation of baseline and future year traffic flows;
    - **Section 26.2.5** provides a review of the baseline road safety data;
    - **Section 26.2.6** provides details of the derivation of construction traffic demand and the assignment of this demand to the study area;
    - **Section 26.2.7** provides details of the proposed access strategy including the design of new and temporary points of access to the highway network; and
    - **Section 26.2.8** provides a summary.

26.2.2 Transport Assessment Scope

4. At the second Expert Topic Group meeting for traffic and transport (ETG8), held on 30th September 2024, it was agreed with East Riding of Yorkshire Council (ERYC), Hull City Council and National Highways that **Volume 1, Chapter 26 Traffic and Transport** of the PEIR should be supported by a TA.

5. The TA constitutes an abridged document providing the technical inputs informing the PEIR. This includes establishing baseline traffic flows, baseline road safety data, the derivation and distribution of construction traffic and the access strategy.

6. For the purposes of assessing the impact of the Project on the highway network, the relevant guidance is the 'Travel Plans, Transport Assessment and Statements' (Transport Planning Practice Guidance (PPG)) (Department for Levelling Up, Housing and Communities, 2014).

7. The Transport PPG's key principles have shaped the development of the TA which has in turn, informed the impact assessment contained in **Volume 1, Chapter 26 Traffic and Transport**. In this context, **Table 26.2-1** provides a summary of the requirements of the TA process and where they are considered.

Table 26.2-1 Transport Assessment Requirements

Transport Assessment Requirements	Where Considered in the PEIR
Review of salient policy and guidance	**Section 26.2** of **Volume 1, Chapter 26 Traffic and Transport**
Review of baseline highway conditions	**Section 26.6** of **Volume 1, Chapter 26 Traffic and Transport**
Derivation of baseline traffic flows	**Section 26.2.4** of this appendix
Derivation of future year traffic flows	**Section 26.2.4.2** of this appendix
Review of baseline road safety conditions	**Section 26.2.5** of this appendix
Derivation of construction traffic demand	**Section 26.2.6** of this appendix
Distribution of construction traffic	**Section 26.2.6.4** of this appendix
Access Strategy	**Section 26.2.7** of this appendix
Impact Assessment • Severance • Amenity • Fear and Intimidation • Road Safety (including Hazardous Loads) • Driver Delay (Capacity) • Driver Delay (Geometry) • Driver Delay (Road Closures); and • Abnormal loads	**Section 26.7** of **Volume 1, Chapter 26 Traffic and Transport**
The approach to consideration of cumulative effects	**Section 26.8** of **Volume 1, Chapter 26 Traffic and Transport**

8. The terms heavy vehicles (HV), Heavy Goods Vehicles (HGV) and light vehicles (LV) are used throughout this TA and are defined as follows:

- HV is the term for any vehicle with a gross weight over 3.5 tonnes. This TA also uses the term HV as a proxy for HV and buses / coaches recognising the similar size and environmental characteristics of the respective vehicle types.
- HGV is the term for a commercial vehicle with a gross weight over 3.5 tonnes. Typically, on a construction project, this would refer to tippers, articulated lorries and concrete mixer trucks.
- LV is used as a term to refer to employee vehicle trips and for light commercial vehicles (LCV) deliveries to the Project and describes the range of vehicle types that could be used (e.g. cars, vans, pick-ups, mini buses, etc).

9. The terms HV and HGV can be used interchangeably.

26.2.3 Consultation

10. Topic-specific consultation in relation to the traffic and transport assessment has been undertaken in line with the processes set out in **Volume 1, Chapter 7 Consultation**. A Scoping Opinion from the Planning Inspectorate was received on 2nd August 2024, which has informed the scope of the assessment presented within this appendix and **Volume 1, Chapter 26 Traffic and Transport**.

11. Feedback received through the ongoing Evidence Plan Process (EPP) in relation to ETG8 meetings and wider technical consultation meetings with relevant stakeholders has been considered in the preparation of this appendix.

12. Following statutory consultation on the PEIR, this TA will be updated in full consideration of stakeholder feedback and refinements to the Project Design Envelope.

26.2.4 Baseline Traffic Flows

26.2.4.1 Baseline Traffic Data Collection

13. The Environmental Assessment for Traffic and Movement (EATM) guidelines (IEMA, 2024) is used for the purpose of establishing the potential impacts associated with changes in traffic from the Project. EATM sets out broad thresholds for when changes in total daily traffic flows and HV may be considered significant, in terms of their impacts on:

- Severance;
- Amenity;
- Fear and Intimidation;

- Road Safety (including Hazardous Loads);
- Driver Delay (Capacity);
- Driver Delay (Geometry); and
- Driver Delay (Road Closures).

14. In the context of EATM thresholds, it is necessary to establish the following baseline traffic flows for all links within the Traffic and Transport Study Area:

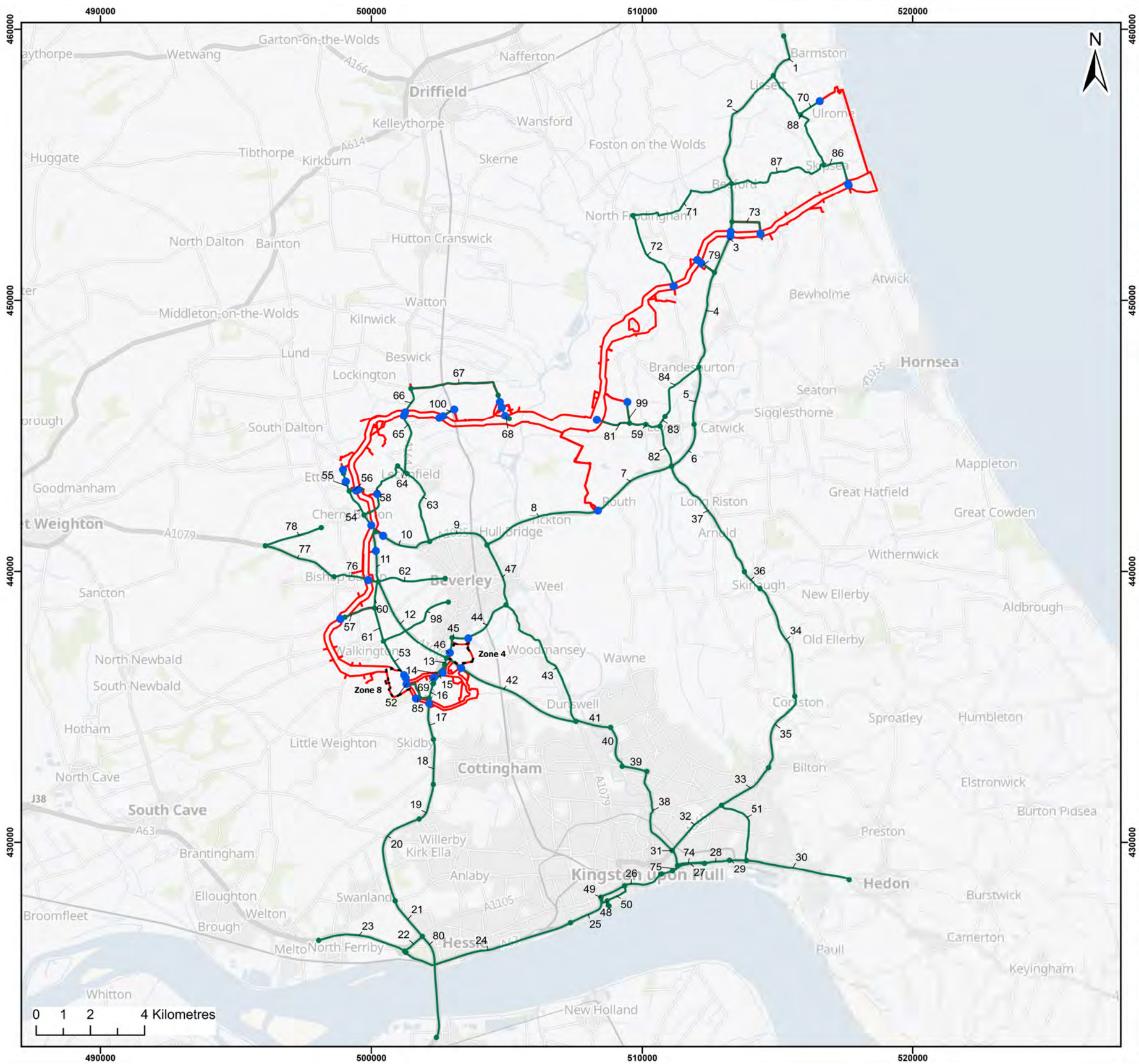
- Annual average daily traffic flows (AADT) (including HV component);
- Annual average weekday traffic flows (AAWT) (including HV component); and
- Peak hour traffic flows (including HV component).

15. The extent of the Traffic and Transport Study Area is shown in **Figure 26.2-1**. The Traffic and Transport Study Area is divided into 91 separate highway sections known as links, which are sections of road with similar characteristics and traffic flows. The 91 links comprise of approximately 120km of highway network.

16. The 91 links are notated 1 to 100, noting that some links have been omitted during ongoing development of the project design. The removed links were associated with additional onshore ECC options that were removed following further site selection refinements leading up to the identification of the Onshore Development Area in the PEIR.

17. The Traffic and Transport Study Area was presented at the second meeting of ETG8 and consequently agreed following consultation (see **Appendix 26.1 Consultation Responses for Traffic and Transport).**

18. Traffic flow data has been captured for all 91 links forming the Traffic and Transport Study Area. The survey types, locations and time periods were consulted on and agreed with ERYC, Hull City Council and National Highways through the second ETG8 meeting (see **Appendix 26.1 Consultation Responses for Traffic and Transport**). The datasets that are used in the assessment are summarised in **Table 26.2-2** and are presented graphically in **Figure 26.2-2**.



Legend:

- Onshore Development Area
- Onshore Converter Station Zone Options
- Links
- Proposed Construction Accesses

Project: Dogger Bank D Offshore Wind Farm

DOGGER BANK WIND FARM

Title: Traffic and Transport Study Area

Figure: 26-2-1

Drawing No: PC6250-RHD-XX-ON-DR-GS-0500

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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Co-ordinate system: British National Grid

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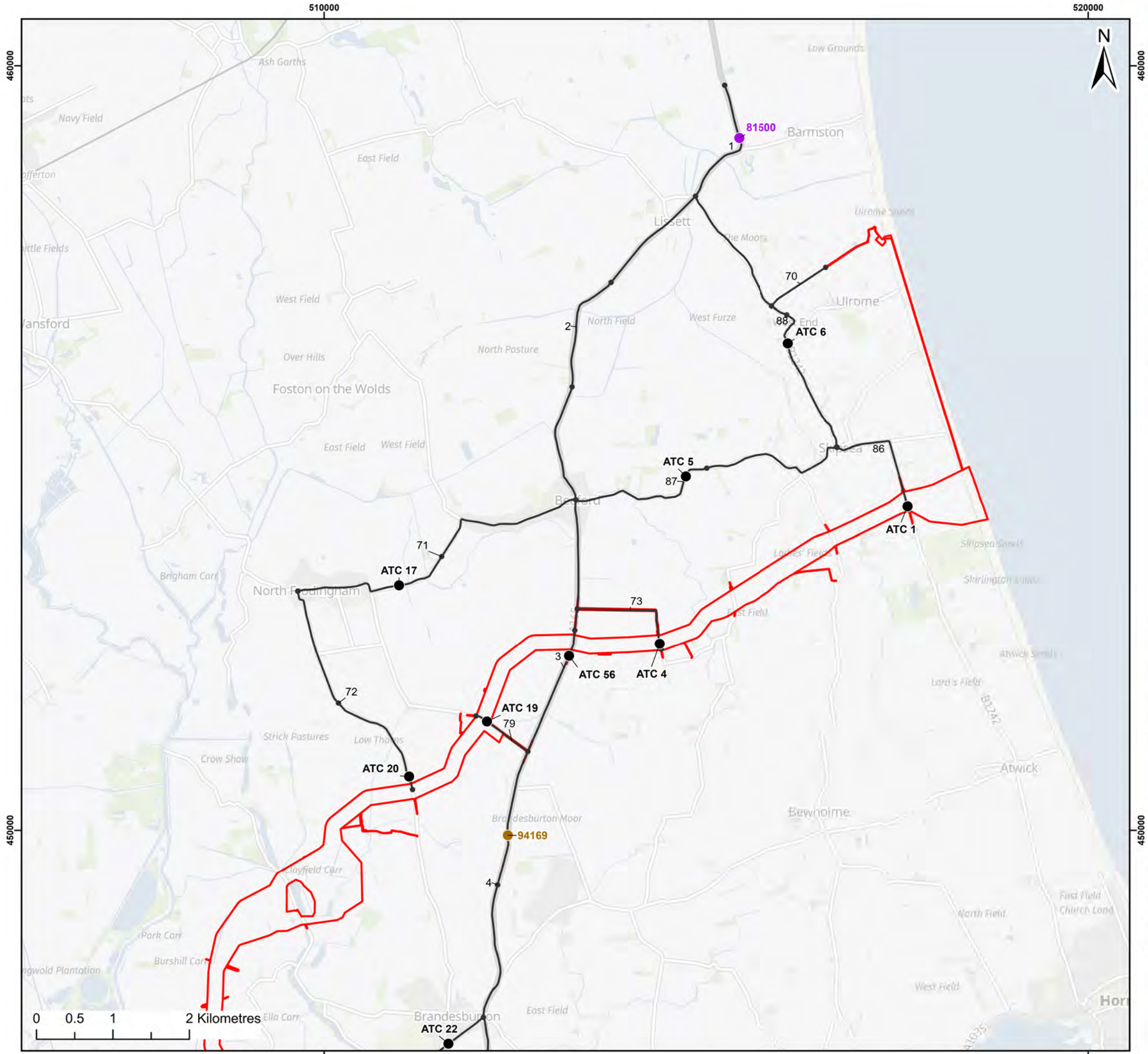

Legend:

- Onshore Development Area
- Links
- Automatic Traffic Counts

Department of Transport traffic counter locations

- 2021
- 2023

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Traffic Survey Locations
- Sheet 1 of 5

Figure: 26-2-2

Drawing No: PC6250-RHD-XX-ON-DR-GS-0501

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Co-ordinate system: British National Grid

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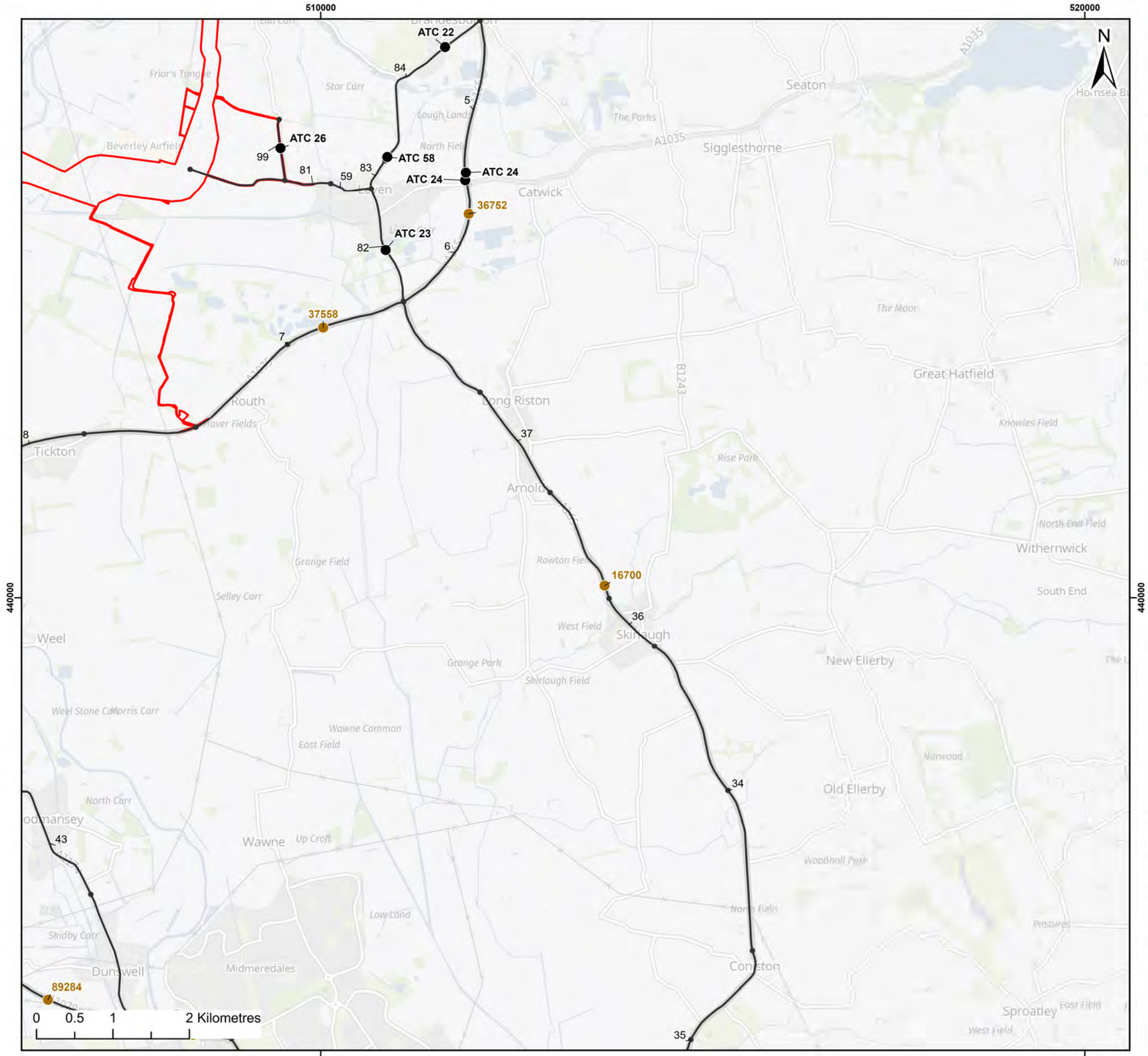

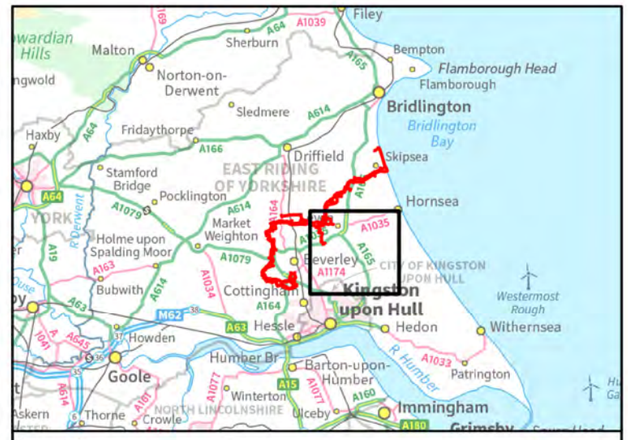

Legend:

- Onshore Development Area
- Links
- Automatic Traffic Counts

Department of Transport traffic counter locations

- 2023

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Traffic Survey Locations
- Sheet 2 of 5

Figure: 26-2-2

Drawing No: PC6250-RHD-XX-ON-DR-GS-0501

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Co-ordinate system: British National Grid

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N

Lund
Lund Wold
Beswick
Lockington
Great West Field
B1248
Holme Wold
Little Wold
Dalton Park
High Wold Fall
South Dalton
South Dalton Wold
Common Wold
Etton Wold
Etton
Cottage Pasture
Scarborough Ing
Arram
Cherry Burton
The Parks
Fairy Ground
Old Gardham Field
Gardham Warren
A1079
Howe Hill Field
Molescroft
Swine Moor
Hull Bridge
Tickton
Bishop Burton
Bishop Burton Wold
Beverley
Weel
Newbald Wold
Walkington
Walkington Wold
Woodmansey
Risby Park
Shiptonthorpe

ATC 57
ATC 28
ATC 29
ATC 32
ATC 31
ATC 33
ATC 30
ATC 35
ATC 43
ATC 44
ATC 39
ATC 36
ATC 37
ATC 47
ATC 53
ATC 51
80461
94172
80459
92094
92096
92095
77576
89313
Zone 4
Zone 8

66 67 68 100 65 64 55 58 56 63 54 78 9 10 11 77 62 76 60 98 57 61 12 47 44 45 46 13 14 15 69 16 52 53 8 43 42

0 0.5 1 2 Kilometres

500000

440000

Legend:

- Onshore Development Area
- Onshore Converter Station Zone Options
- Indicative Birkhill Wood Substation Location
- Links
- Automatic Traffic Counts

Department of Transport traffic counter locations

- 2021
- 2023

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Traffic Survey Locations
- Sheet 3 of 5

Figure: 26-2-2

Drawing No: PC6250-RHD-XX-ON-DR-GS-0501

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Co-ordinate system: British National Grid

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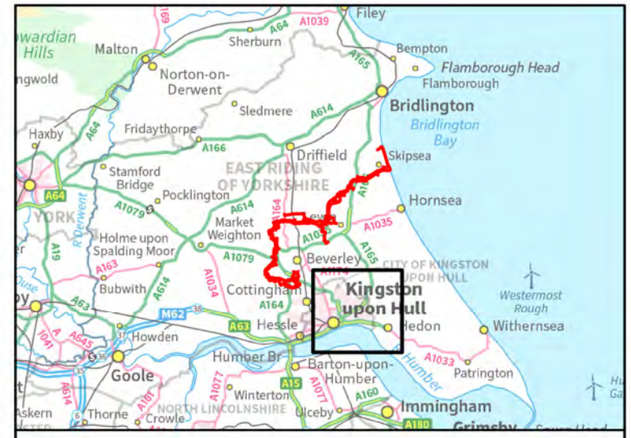

Legend:

- Onshore Development Area
- Links
- Automatic Traffic Counts

Department of Transport traffic counter locations

- 2019
- 2023

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Traffic Survey Locations
- Sheet 4 of 5

Figure: 26-2-2

Drawing No: PC6250-RHD-XX-ON-DR-GS-0501

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Co-ordinate system: British National Grid

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N

Zone 8

16
52
85
56571
17
18
19
20
21
22
23
24
42
80
16592
7979
86062
57832

Little Weighton Common
Riplingham Common
Drewton Wold
Little Weighton
Skidby
Crowle Park
North Moor
Oppy Wood
New Village
Cottingham
Little Wold
Cave Wold
Great Wold
Far Wold
The Warren
Long Wold
Brantingham Wold
Thorpe Wold
Ellerker North Wold
Wauldby Green
South Field
Willerby Bottom
Willerby
Kirk Ella
West Ella
Wolfreton
Brantingham
Brantingham Thorpe Park
Trinity House Land
Elloughton Wold
Welton Wold
Elloughton
Swanland
Anlaby
Anlaby Common
Anlaby Park
Low Field
Northfield
Gipsyville
Welton
Brough
Park Field
South Lawn
North Ferriby
Melton
Welton Common
Ferriby
Hessle
Melton Common
Redcliff Sand
Pudding Pie Sand
Redcliff Middle Sand
Barrow Haven
Barton-on-Humber
B1230
B1231
A63
A1105

0 0.5 1 2 Kilometres

Legend:

- Onshore Development Area
- Onshore Converter Station Zone Options
- Indicative Birkhill Wood Substation Location
- Links

Department of Transport traffic counter locations

- 2019
- 2023

Project:
Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:
Traffic Survey Locations
- Sheet 5 of 5

Figure: 26-2-2
Drawing No: PC6250-RHD-XX-ON-DR-GS-0501

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Co-ordinate system: British National Grid

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Table 26.2-2 Traffic Flow Data Sources

Data Set	Source	Spatial Coverage	Dates	Notes
Traffic flows	Road Traffic Statistics (Department for Transport, 2024)	Link 64	Traffic flows from 2008 surveys were obtained for Link 64	National road traffic statistics provides a summary of traffic flows and vehicle composition (e.g. HV, car, motorcycle) for a range of motorways, 'A' road and minor roads across the UK.
		Links 24, 25 and 26	Traffic flows from 2019 surveys were obtained for these links. Whilst more recent data (2023 data) is available, the data includes periods where traffic flows were impacted due to the A63 Castle Street Improvement works.*	
		Links 1 and 2	Traffic flows from 2021 surveys were obtained for these links.	
		32 of the 91 links within the Traffic and Transport Study Area including Links 4, 6, 7-23, 27-47, 74, 75 and 80	Traffic flows were obtained from 2023 surveys for these links.	
Traffic flows and vehicle speeds	Commissioned Automatic Traffic Counts (ATC)	37 of the 91 links within the Traffic and Transport Study Area including Links 3, 5, 52-58, 60-63, 65-68, 71-73, 76-79, 82-88, 98-100.	Traffic flows and vehicle speeds were obtained for 24 hours a day for seven days between the 11/06/2024 and 18/06/2024	Traffic counts commissioned by the Applicant which provide classified hourly and daily count and speed data. A summary of the ATC survey results is provided as **Annex 26.2.1** of this appendix.
		Links 48 to 51	Traffic flows and vehicle speeds were obtained for 24 hours a day for seven days between the 07/11/2024 and 13/11/2024	

Data Set	Source	Spatial Coverage	Dates	Notes
Traffic flows	Pear Tree Hill	Links 59 and 81	February 2024	24hr AADT flows captured within Appendix 14.1 of the Peartree Hill Solar Farm PEIR (RWE, 2024).
Traffic flows	Estimated	Links 69 and 70	n/a	Rural minor routes with minimal traffic flows (<100 daily flows)
*	It was agreed with highway authorities that the data proposed for Links 24, 25 and 26 was acceptable to use with one caveat. Once the A63 Castle Street Improvement works are complete and traffic reassignment has settled, additional ATC would be undertaken, and a reassessment of the base flows would be captured within the detailed CTMP developed post-consent for the relevant stage of construction works. The CTMP will be secured by a DCO requirement (see Commitment ID CO73 in **Table 26-6** of **Volume 1, Chapter 26 Traffic and Transport**).			

19. The resultant collected baseline flows are presented in **Annex 26.2.2** of this appendix.

26.2.4.2 Future Year Traffic Flows

20. The earliest date that the main onshore construction works would likely start is 2029.

21. In order to consider a worst-case scenario, a reference year for background traffic for 2029 has been derived. The rationale for this is that background traffic flows in later years could be potentially higher and therefore result in a lesser magnitude of change for environmental impacts.

22. To account for sub-regional growth in housing and employment, a proportionate approach to forecasting future traffic growth for the 2029 reference year has been agreed with Hull City Council, ERYC and National Highways at the second ETG8 meeting (see **Appendix 26.1 Consultation Responses for Traffic and Transport**). It was agreed that the baseline flows should be factored to the future year baseline year of 2029 using the growth factors derived from the Trip End Model Presentation Programme (known as TEMPro) Version 8.1.

23. Recognising the different baseline highway characteristics between roads within the Hull City Council administration areas (which includes the National Highways Strategic Road Network) and roads within ERYC administration areas, it was also agreed at the second ETG8 meeting to utilise separate growth factors for the respective areas (see **Appendix 26.1 Consultation Responses for Traffic and Transport**), namely:

    - TEMPro data set 80 for the Kingston upon Hull area and factoring the growth rate using the National Traffic Model NRTP 2022 Core dataset all areas (a combination of urban and rural area types), with each link assigned into either a Trunk, 'A' Road or Minor road type.
    - TEMPro data set 80 for the East Riding of Yorkshire area and factoring the growth rate using the National Traffic Model NRTP 2022 Core dataset all areas, with each link assigned into either a Trunk, 'A' Road or Minor road type.

24. Details of the growth factors that have been applied are provided within **Annex 26.2.3** of this appendix.

26.2.4.3 Summary of Baseline Traffic flows

25. **Annex 26.2.4** of this appendix provides a summary of the forecast future year 2029 traffic flows (including HV component) for each of the links within the Traffic and Transport Study Area.

26.2.5 Baseline Road Safety

26.2.5.1 Introduction

26. To assess whether the Project would have a significant effect on road safety, it is necessary to establish a baseline and identify any inherent road safety issues within the Traffic and Transport Study Area.

27. This review utilises historic collision data obtained from ERYC and Hull City Council (known as STATS19 data). STATS19 includes accidents on the public highway that are reported to or by the police and which involve injury or death. These data reported to or by the police are captured on a document known as a STATS19 form. The form collects a wide variety of information about accidents (such as time, date, location, road conditions).

28. The collision data has been sourced for a five-year period as there can be significant variations in trends from year to year. STATS19 collision data has been obtained from ERYC for the period, 1st January 2018 to 30th June 2024 inclusive and Hull City Council for the period 1st February 2018 to 31st July 2024 inclusive.

29. It was agreed with the highway authorities at the second ETG8 meeting (see **Appendix 26.1 Consultation Responses for Traffic and Transport)** that due to the Covid19 restrictions period between March 2020 and July 2021, these periods should be excluded from the baseline data. The rationale for this is that the reduced traffic flows during this period (due to travel restrictions) could skew the baseline collision data.

30. During the second ETG8 meeting, it was also agreed with the relevant highway authorities that the road safety review should examine the baseline collisions data to identify those areas that are potentially sensitive to changes in traffic (see **Appendix 26.1 Consultation Responses for Traffic and Transport**). It was agreed this should focus on:

- Examining the rate of collisions per length of road in miles (known as collision rates); and
- Reviewing the types of collisions at defined clusters to understand any patterns or trends, especially those involving HV and vulnerable road users (namely cyclists, pedestrians and motorcyclists).

26.2.5.2 Collision Rates

31. Collision rates have been calculated in billion vehicle miles to enable direct comparison with national road safety statistics provided within Road Casualties Great Britain (Department for Transport, 2023). The following formula has been utilised to calculate the collision rate:

$$\text{Collision rate (PIC)} = \frac{\text{Number of recorded collisions} \times 10^9}{1{,}968 \times \text{AADT} \times \text{Length of road (miles)}}$$

where 1,968 is the sample size in number of days over which the collision data has been sourced for the data from both ERYC and Hull City Council (i.e. there are 1,968 days between 1st January 2018 to 1st March 2020 and 1st July 2021 to 21st September 2024).

32. A summary of the analysis is presented in **Table 26.2-3** with exceedances of national averages highlighted in blue, and further details of the derivation are included as **Annex 26.2.5** of this appendix.

Table 26.2-3 Baseline Collision Rates per Link

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
1	A165 north of Allison Lane	155.5	188

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
2	A165 between Allison Lane and Skipsea Road	76.0	188
3	A165 Between Skipsea Road and Grange Road	164.7	188
4	A165 Between Grange Road and Brandesburton Roundabout	246.3	188
5	A165 between A1035 and New Road	175.5	188
6	A1035 between Leven Roundabout and White Cross Roundabout	138.4	188
7	A1035 between White Cross Roundabout and Hall Farm	145.9	188
8	A1035 between Hall Farm and Swinemoor Lane Roundabout	117.1	188
9	A1035 between Swinemoor Roundabout and Driffield Roundabout	161.3	188
10	A1035 between Driffield Roundabout and Dog Kennel Lane Roundabout	208.3	188
11	A1035 between Dog Kennel Lane Roundabout and Killingwoldgraves Roundabout	276.7	188
12	A1035 between Killingwoldgraves Roundabout and Jocks Lodge Roundabout	102.0	188
13	A164 Jocks Lodge between A1079 and A164 northern diverge point	0.0	324
14	A164 Northbound only from southern diverge point	58.9	188
15	A164 southbound only from northern diverge point	0.0	324
16	A164 from Southern diverge point to Dunflat Road	250.2	188

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
17	A164 between Dunflat Road and the B1233	135.1	188
18	A164 between B1233 and Castle Road	180.2	188
19	A164 between Castle Road and the B1232	166.8	188
20	A164 between the B1232 and B1231	207.6	188
21	A164 between the B1231 and Boothferry Road	340.9	188
22	A15 - Boothferry Road	289.9	188
23	A63 - Hull West	114.0	188
24	A63 between Boothferry Road and the A1166	107.9	695
25	A63 between the A1166 and Daltry Street	243.4	695
26	A63 between Daltry Street and the A1165	415.8	695
27	A63 between the A1165 and Southcoates Roundabout	472.4	695
28	A1033 (between Southcoates Roundabout to Northern Gateway	320.3	695
29	A1033 (between Northern Gateway and Marfleet Roundabout)	184.8	695
30	A1033 (between Marfleet Roundabout and B1362)	213.1	695
31	A1033 (between Mount Pleasant North Roundabout and A165 Holderness Road)	1202.5	695
32	A165 Holderness Road (between A1033 and Maybury Road)	5323.2	695

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
33	A165 Holderness Road (between Maybury Road and Main Road)	1317.2	695
34	A165 (between Main Road and Main Street)	115.6	188
35	A165 (between Main Street and Skirlaugh)	192.1	188
36	A165 - Skirlaugh	235.2	188
37	A165 (between Skirlaugh and the A1035)	215.6	188
38	A1033 (between Holderness Road and Sutton Road)	765.7	695
39	A1033 (between Howell Road and Stockholme Road)	1106.1	649
40	A1033 (between Stockholm Road and Roebank Roundabout)	645.0	649
41	A1033 (between Roebank Roundabout and Dunswell Roundabout)	1414.7	649
42	A1079 (between Dunswell Roundabout and Jocks Lodge Roundabout)	100.1	188
43	A1174 (between Dunswell Roundabout and the A164)	385.9	188
44	A164 (between Ward Way and the A1174)	142.0	188
45	A164 (between the A1174 and Jocks Lodge)	213.0	188
46	Jocks Lodge (between Minster Way and the A1079)	0.0	188
47	A1174 (between Dunswell Roundabout and the A164)	273.2	695
48	Neptune Street	0.0	649

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
49	Jackson Street/ Daltry Street	1280.5	649
50	English Street/ Kingston Street/Commercial Road	855.3	649
51	Maybury Road/Marfleet Lane	1888.3	649
52	Coppleflat Lane between A164 to OCS	536.8	188
53	Bentley Lane between OCS and Broadgate	178.9	188
54	B1248 (between the A1035 and Rootas Lane)	307.6	188
55	B1248 (between Rootas Lane and Main Street)	0.0	188
56	Rootas Lane (east)	0.0	188
57	Walkington Heads	505.0	188
58	Leconfield Road / Miles Lane	378.7	188
59	West Street - Leven	0.0	188
60	Killingwoldgraves Lane	394.2	188
61	Coppleflat Lane (between Walkington Heads and Broadgate)	1118.2	188
62	York Road	503.3	188
63	A164 (between Driffiled Road Roundabout and Old Road)	242.5	188
64	Old Road (between A164 and Miles Lane)	0.0	188
65	A164 (between Old Road and Onshore EEC)	157.1	188
66	A164 (between Onshore EEC and Station Road)	491.0	188

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
67	Station Road	0.0	188
68	Aike Lane	0.0	188
69	Manor Farm Cottages	0.0	188
70	North Turnpike	0.0	188
71	B1249 (Bridlington Balk)	2570.2	324
72	North Froddingham Road	812.6	324
73	Dunnington Lane	0.0	324
74	A1033 (between Mount Pleasant North Roundabout and Southcoates Roundabout)	792.9	695
75	A63 (Off ramp to Mount Pleasant North Roundabout)	1432.2	695
76	A1079 (between Killingwolrldgraves Roundabout and west Bishop Burton)	220.3	188
77	A1079 (between Bishop Burton and Highgate)	57.9	188
78	Highgate	0.0	324
79	Grange Road	1347.2	324
80	A15 - Humber Bridge	183.0	188
81	West Street - West of Leven	0.0	324
82	Beverley Road (from A1035 to West Street)	0.0	324
83	North Street (from West Street to Onshore ECC)	1532.1	324
84	New Road (from A165 to Onshore ECC)	203.4	324
85	Dunflat Road	0.0	324

Links	Link Description	Calculated Collision Rate (Collisions per Billion Vehicle Miles)	National Average Collision Rate (Collisions per Billion Vehicle Miles)
86	B1242 (between Cliff Road and the Onshore ECC)	2626.7	324
87	Beeford Road (between the A165 to Bewholme Lane)	1435.5	324
88	B1242 (between the A165 to Skipsea	420.7	324
98	B1230 (Broadgate, East)	203.6	324
99	Heigholme Lane	10079.2	324
100	Scorborough Lane	0.0	324

33. It is evident from **Table 26.2-3** that 41 links have a collision rate that is higher than the national average for comparable road types and may be particularly sensitive to changes in traffic flow / type. The remaining links have collision rates below the national average and are therefore not considered further.

34. **Section 26.2.5.4** provides a review of the types of collisions occurring along the 41 sensitive links to understand any emerging patterns or trends that could potentially be exacerbated by an increase in traffic.

26.2.5.3 Collision Clusters

35. During consultation with the relevant highway authorities at the second meeting of ETG8, it was agreed that the road safety review should also examine the baseline collision data to identify any areas where there are concentrations of collisions (known as collision clusters) (see **Appendix 26.1 Consultation Responses for Traffic and Transport**).

36. Hull City Council provided the following definition for a collision cluster:

- Areas where there have been more than four collisions in three years; or
- Areas where there have been more than three collisions in one year.

37. It is considered that Hull City Council's definition would be equally applicable for determining potential clusters for roads within the administration areas of ERYC and National Highways (where no definition exists).

38. A review of the STATS19 data has identified a total of 62 collision clusters within the Traffic and Transport Study Area. A summary of the 62 collision clusters is presented in **Table 26.2-4.**

39. **Section 26.2.5.4** provides a review of the types of collisions occurring at these 62 cluster sites to understand any emerging patterns or trends that could potentially be exacerbated by an increase in traffic.

Table 26.2-4 Collision Cluster Summary

Cluster ID	Location Description	Number of Collisions
1	Located on Link 6 at the junction between Links 6, 7, 37 and 82.	11 collisions: two serious and nine slight collisions
2	Located on Link 9 at the junction between Grange Way and Ings Road.	Three collisions: one serious and two slight collisions.
3	Located on Link 9 at the junction between Links 9, 10 and 63.	Five collisions: two serious and three slight collisions.
4	Located on Link 29 at the junction between Links 29, 30 and 51.	Seven collisions: two serious and five slight collisions.
5	Located on Link 51 at the junction between Marfleet Avenue, Marfleet Lane and Burma Drive.	Five slight collisions.
6	Located on Link 51 at the junction between Preston Road and Marfleet Lane.	16 collisions: one serious and 15 slight collisions.
7	Located on Link 51 at the junction between Marfleet Lane, Sutton Way and Bessingby Grove.	Six collisions: two serious and four slight collisions.
8	Located on Link 51 at the junction between Marfleet Lane and Beverley Road.	Six slight collisions.
9	Located on Link 51 at the junction between Marfleet Lane and Hopewell Road.	Six collisions: four serious and two slight collisions.
10	Located on Link 51 at the junction between Marfleet Lane and Hebrides Close.	Three slight collisions.
11	Located on Link 33 at the junction between Link 33 and Link 35.	Nine collisions: five serious and four slight collisions.
12	Located on Link 54 at the junction between Links 54 and 58.	Seven collisions: four serious and three slight collisions.

Cluster ID	Location Description	Number of Collisions
13	Located on Link 12 at the junction between Links 11, 12, 60, 62 and 76.	Seven slight collisions.
14	Located on Link 57 at the junction between Links 57, 60 and 61.	Five collisions: one serious and four slight collisions.
15	Located on Link 17 at the roundabout between Links 17 and 18.	Six slight collisions.
16	Located on Link 18 at the junction between the A164, Eppleworth Road and Westfield Road.	Three slight collisions.
17	Located on Link 18 at the roundabout between Links 18 and 19.	Three slight collisions.
18	Located on Link 19 at the roundabout between Links 19 and 20.	Five collisions: one serious and four slight collisions.
19	Located on Link 20 at the junction between Links 20 and 21.	Five collisions: one serious and four slight collisions.
20	Located on Link 21 at the junction between Links 21, 22 and 80.	Seven slight collisions.
21	Located on Link 43 at the junction between Beverley Road and Dunswell Lane.	Six collisions: two serious and four slight collisions.
22	Located on Link 43 at the junction between Beverley Road and The Meadows.	Five collisions: two serious and three slight collisions.
23	Located on Link 43 at the Dunswell Roundabout.	Nine slight collisions.
24	Located on Link 42 at the Dunswell Roundabout.	Three slight collisions.
25	Located on Link 24 beneath the Humber Bridge.	Five collisions: one fatal and four slight collisions.
26	Located on Link 50 at the junction between English Street and St James Street.	Four collisions: one serious and three slight collisions.
27	Located on Link 49 at the junction between Jackson Street and Daltry Street.	Four slight collisions.
28	Located on Link 23 at the junction between the A63 and a service station.	Three slight collisions.

Cluster ID	Location Description	Number of Collisions
29	Located on Link 23 on the A63.	Seven collisions: two serious and five slight collisions.
30	Located on Link 24 on the A63.	Nine slight collisions.
31	Located on Link 25 on the A63.	Three collisions: one fatal and two slight collisions.
32	Located on Link 49 at the roundabout between the A63, Daltry Street, Madeley Street, Hessle Road and Rawling Way.	Seven collisions: one serious and six slight collisions.
33	Located on Link 26 on the A63.	Four collisions: one fatal and three slight collisions.
34	Located on Link 26 on the A63.	Nine collisions: one serious and eight slight collisions.
35	Located on Link 26 on the A63.	Five collisions: one serious and four slight collisions.
36	Located on Link 26 on the A63.	Ten collisions: four serious and six slight collisions.
37	Located on Link 26 at the junction between the A63, Market Place and Queen Street.	Six collisions: one serious and five slight collisions.
38	Located on Link 26 and 27 at the junction between the A63, the A1165 and Plimsoll Way.	21 collisions: three serious and 18 slight collisions.
39	Located on Link 31 at the junction between Links 31, 32 and 38.	25 collisions: five serious and 20 slight collisions.
40	Located on Link 31 at the junction between Mount Pleasant and Ellis Street.	Five collisions: one serious and four slight collisions.
41	Located on Link 31 at the roundabout between Links 31, 74 and 75.	Eight collisions: three serious and five slight collisions.
42	Located on Link 27 at the roundabout between Links 27, 28 and 74.	14 collisions: four serious and ten slight collisions.
43	Located on Link 27 at the roundabout connecting Links 27, 28 and 74.	Nine collisions: two serious and seven slight collisions.
44	Located on Link 30 at the Somerden Roundabout.	Five slight collisions.

Cluster ID	Location Description	Number of Collisions
45	Located on Link 41 at the roundabout connecting Links 41, 42 and 43.	Ten collisions: one serious and nine slight collisions.
46	Located on Link 41 at the Ennerdale Lift Bridge.	Five collisions: one serious and four slight collisions.
47	Located on Link 41 at the A1033/Gibraltar Road/Barnes Way Roundabout.	Four collisions: two serious and two slight collisions.
48	Located on Link 41 at the Roebank Roundabout.	15 collisions: four serious and 11 slight collisions.
49	Located on Link 40 at the Roebank Roundabout.	Four slight collisions.
50	Located on Link 40 at the A1033/Emmerdale Roundabout.	Six collisions: one serious and five slight collisions.
51	Located on Link 39 and 40 at the A1033/Sutton Road/Stockholm Road Roundabout.	Eight collisions: two serious and six slight collisions.
52	Located on Link 39 on Sutton Road.	Seven collisions: one fatal, one serious and five slight collisions.
53	Located on Link 38 at the Sutton Road/Holwell Road Roundabout.	Seven collisions: one serious and six slight collisions.
54	Located on Link 38 at the junction between the A1033 and Ann Watson Street.	Three collisions: two serious and one slight collision.
55	Located on Link 38 at the junction between the A1165 and Ferry Lane.	16 collisions: one serious and 15 slight collisions.
56	Located on Link 38 at the roundabout connecting Mount Pleasant and the A1165.	Five collisions: two serious and three slight collisions.
57	Located on Link 38 at the roundabout connecting Mount Pleasant and James Reckitt Avenue.	Six collisions: three serious and three slight collisions.
58	Located on Link 33 at the roundabout connecting Holderness Road, Diadem Grove, Shannon Road and the B1237.	Six collisions: one serious and five slight collisions.
59	Located on Link 33 on Holderness Road.	Four collisions: one serious and three slight collisions.

Cluster ID	Location Description	Number of Collisions
60	Located on Link 33 at the junction between Holderness Road and Bellfield Avenue.	16 collisions: two serious and 14 slight collisions.
61	Located on Link 33 at the junction between Holderness Road and Marfleet Lane.	12 collisions: one serious and 11 slight collisions.
62	Located on Boothferry Road and Wingfield Farm Roundabout, this cluster is outside of any Links but is located at the roundabout connecting Links 21, 22 and 80.	16 collisions: two serious and 14 slight collisions.

26.2.5.4 Collision Analysis

40. **Section 26.2.5.2** identifies 41 links with a collision rate that is higher than the national average, and **Section 26.2.5.3** identified 62 collision clusters. These locations are considered to be particularly sensitive to changes in traffic flow / type and the following section presents a review of the types of collisions occurring at all identified locations to understand any emerging patterns or trends that could potentially be exacerbated by an increase in traffic.

41. An assessment of the Project's construction traffic upon these links is presented within **Section 26.7.1.5** in **Volume 1, Chapter 26 Traffic and Transport**.

26.2.5.4.1 Link 4 – A165 between Grange Road and Brandesburton Roundabout

42. During the study period, this link experienced 10 reported collisions, seven of which were slight and three that were serious. It is a rural A-road, 2.2-miles long and has a collision rate above the national average. The collisions reported on Link 4 comprise of:

- A serious collision where a vehicle overtook a second vehicle but when manoeuvring back in lane, collided with the front of the vehicle, causing the second vehicle to lose control and overturn. This collision occurred during wet conditions;
- The driver of a vehicle blacked out causing a slight collision. It is not known whether any other vehicles were involved;
- A vehicle lost control and collided with another car on the other side of the road, which in turn collided with a third vehicle. The incident took place during dry conditions and all vehicle types are unknown;
- An intoxicated driver veered into oncoming traffic, colliding with a motorcyclist. The incident took place during dry conditions;
- An unspecified collision involving two vehicles;
- A collision involving two vehicles at a junction. The reason for the collision is unknown but took place in extreme heavy rain;

- A vehicle turned out of a junction, failing to give way, and collided with another vehicle on the carriageway;
- A collision between two motorcycles where one failed to slow to allow the motorbike in front to turn left at a junction;
- A car lost control and veered into the opposite carriageway and onto the grass verge; and
- A rear-end shunt collision between two cars at a roundabout due to a failure to judge speed correctly.

43. Overall, Link 4 shows five loss of control type collisions, two collisions caused by poor lane discipline at the roundabout, two failures to give way, and a rear-end shunt collision. It is assessed that there is an emerging pattern of loss of control collisions, especially at the Brandesburton Roundabout.

26.2.5.4.2 Link 6 – A1035 between Leven Roundabout and White Cross Roundabout

44. Link 6 consists of the A165 between the Leven Roundabout and the White Cross Roundabout. It is a rural A-road, four miles in length and has a collision rate below the national average.

45. There have been six recorded collisions on this link, all but one of which are located on the White Cross Roundabout (Cluster 1). Cluster 1 is located at the intersection of Links 6, 7, 37 and 82. The collisions reported in this cluster comprise of:

- Poor judgement of speed caused a van to collide with a vehicle on exit of the roundabout;
- A rear-end shunt type collision between two cars on approach to the roundabout on the north-eastern arm;
- A failure to give way by a car driver, causing a collision with a cyclist on the roundabout;
- A failure to give way by a car driver, caused a collision with a car on the roundabout.
- A rear-end shunt type collision at the White Cross Roundabout between two vehicles;
- Poor lane discipline at the White Cross Roundabout resulted in a collision between two vehicles;
- A rear-end shunt type collision between a motorbike and a car at the roundabout;
- A driver of a vehicle lost control at White Cross Roundabout, colliding with the central reservation;
- Two instances where poor lane discipline from a vehicle led to a collision with a vehicle also on the roundabout; and
- A motorcyclist lost control of their bike and fell off.

46. In summary, at Cluster 1, there were three collisions caused by a loss of control, three collisions caused by a lack of lane discipline, three rear-end shunts and two collisions caused by a failure to give way at Cluster 1. It is assessed that there is no significant emerging pattern of collisions along Link 6.

26.2.5.4.3 Link 9 – A1035 between Swinemoor Roundabout and Driffield Roundabout

47. The stretch of the A1035 north of Beverley is a rural A-road and is 1.5 miles long and has a collision rate that is below the national average. There are two clusters of collisions recorded on the link: Clusters 2 and 3.

48. Cluster 2, located near the junction with Ings Road and the A1035, consists of:

- Poor observation and judgement of speed at a junction caused a collision where a vehicle failed to give way to another vehicle on the main road;
- An unspecified collision between an unknown number of vehicles; and
- A rear-end shunt type collision between cars, caused by the car in front pulling over to allow an ambulance past and the car behind not reacting quickly enough.

49. Cluster 3 is located on Link 9 on the Driffield Roundabout, as well as on Links 10 and 63. The collisions consist of:

- A failure to give way at a roundabout resulting in a collision between two vehicles;
- A rear-end shunt between two vehicles at the roundabout;
- Poor observation caused a collision between a motorbike and car at a roundabout, where the motorbike rider swerved into the car thinking it was turning left;
- A collision between a motorcycle and a vehicle at a roundabout, caused by the vehicle attempting a U-turn to re-enter the roundabout immediately after coming off; and
- Planks of wood carried on the roof of a vehicle have fallen off and damaged the vehicle travelling behind.

50. To summarise, there were three failures to give way, two rear-end shunts, one unspecified collision, one poor observation, and one collision caused by goods falling off the roof of a vehicle at Clusters 2 and 3. It is assessed that there is no significant emerging pattern of collisions along Link 9.

26.2.5.4.4 Link 10 – A1035 between Driffield Roundabout and Dog Kennel Lane Roundabout

51. This link consists of the A1035 between the Driffield Road Roundabout and the Dog Kennel Lane Roundabout. This link is a rural A-road of 1.4 miles length and has a collision rate higher than the national average. The collisions include:

- A collision caused by the driver of a vehicle veering into oncoming traffic and colliding with an HV;
- A cyclist swerving to avoid contact with a car and sustaining slight injuries in the process;
- Two rear-end shunt collisions at the approach to a junction, with both collisions involving two vehicles;
- A rear-end shunt collision at approach to a junction involving a vehicle and a motorcyclist, who collided with the vehicle in front; and
- An unspecified impact between a cyclist and a car.

52. Cluster 3 is also located on Link 10 and is reported in Link 9. This cluster contains four additional collisions.

53. The collisions outside of Cluster 3 consist of three rear-end shunts, two collisions with cyclists and one instance where poor lane discipline resulted in a collision. It is assessed that there is no significant emerging pattern of collisions along Link 10.

26.2.5.4.5 Link 11 – A1035 between Dog Kennel Lane Roundabout and Killingwoldgraves Roundabout

54. Link 11 is a rural A-road, between Dog Kennel Lane Roundabout and Killingwoldgraves Roundabout, which is 1.2 miles long and has a collision rate above the national average. Eight collisions were recorded along the link of which two were serious and six which were slight. The collisions are as follows:

- Four cases of a loss of control by drivers, resulting in them leaving the carriageway. All of these collisions involved single vehicles;
- A loss of control by the driver of a vehicle after attempting to avoid an object in the carriageway, resulting in the vehicle leaving the carriageway and colliding with a fence. This collision occurred during the hours of darkness with no streetlights present;
- A serious rear-end shunt type collision between two vehicles when one failed to notice the other slowing to turn into a side road; and
- Two rear-end shunt type collisions between a vehicle and a motorbike.

55. To summarise, there were five losses of control and three rear-end shunts on Link 11. It is assessed that as these collisions are distributed along the link, there is no persistent emerging pattern of collisions along Link 11.

26.2.5.4.6 Link 12 – A1035 between Killingwoldgraves Roundabout and Jocks Lodge Roundabout

56. Link 12 is a rural A-road, between Killingwoldgraves Roundabout and the Jock's Lodge Roundabout. The link is 2.4 miles long and has a collision rate below the national average.

57. A total of 10 collisions were recorded along the link, two of which were serious and eight of which were slight.

58. Cluster 13 is located at the Killingwoldgraves Roundabout (at the intersection of Links 11, 12, 60, 62 and 76). The collisions at Cluster 13 consist of:

- A speeding driver of a vehicle lost control and collided with trees at the centre of the Killingwoldgraves Roundabout;
- A driver of a vehicle caused a collision by swerving on the road and causing a rear-end shunt collision between two vehicles behind as they slowed to avoid the swerving vehicle;
- A motorbike stalled on the roundabout, causing it to stop which led to a vehicle crashing into the back of the bike;
- A failure to give way on the roundabout, resulting in a collision between a car and an HV;
- An unspecified collision between a car and cyclist on the roundabout;
- A collision between a vehicle and a motorcyclist on the roundabout, where the vehicle collided with the bike for an unspecified reason; and
- A driver lost control, resulting in their vehicle skidding into a ditch.

59. To summarise, there were two losses of control, two rear-end shunts, two unspecified collisions, one collision due to a failure to give way, one of these collisions involved a cyclist. It is assessed that there no emerging pattern of the collisions along Link 12.

26.2.5.4.7 Link 16 - A164 from Southern Diverge Point to Dunflat Road

60. Link 16 is a section of the A164 south of Jock's Lodge Roundabout. The link is 0.3 miles in length and is a rural A-road with a collision rate above the national average. The road has five recorded collisions, four of which were slight and one which was serious. The nature of the collisions is described below:

- A vehicle failed to slow in response to the vehicles in front, causing a four vehicle rear-end shunt collision;
- A motorcycle rider lost control on loose gravel and fell off their bike;
- A vehicle failed to slow in time, colliding with the car in front;
- One further instance of two vehicles colliding in a rear-end shunt collision due to a failure to brake in time; and

- A vehicle failed to slow in time in response to the vehicles in front so takes evasive action and collides with a tree.

61. It is assessed that the nature of the collisions highlights a pattern of vehicles failing to slow in response to the movement of traffic, commonly resulting in rear-end shunt collisions on Link 16.

26.2.5.4.8 Link 17 - A164 between Dunflat Road and the B1233

62. Link 17 is a section of the A164, a rural A-road of 1 mile in length and has a collision rate below the national average. A total of nine collisions, one fatal, one serious and seven slight, were recorded along Link 17.

63. Cluster 15 is located at the roundabout between Harland Way, the A164 and Main Street (the intersection of Links 17 and 18). The collisions at Cluster 15 include:

- An intoxicated driver of a vehicle collides with a lamppost on the roundabout;
- Three failures to give way at the roundabout, all resulting in a car colliding with a cyclist;
- A vehicle collided with a lamppost on the roundabout after the driver lost control and the vehicle skidded; and
- A rear-end shunt on approach to the roundabout, involving a car colliding with a cyclist.

64. The collisions within Cluster 15 consist of two losses of control, three failures to give way to a cyclist and a rear-end shunt involving a cyclist. It is assessed that there is an emerging pattern of collisions between vehicles and cyclists at the roundabout on Link 17.

26.2.5.4.9 Link 18 - A164 between B1233 and Castle Road

65. Link 18 consists of a section of the A164, a rural A-road from Cottingham to Skidby and has a collision rate below the national average. Three clusters are however located on Link 18 (Clusters 15, 16 and 17).

66. Cluster 15 is located at the roundabout between Harland Way, the A164 and Main Street (the intersection of Links 17 and 18). These collisions are reported at Link 17.

67. Cluster 16 is located where the A164 crosses over Westfield/Eppleworth Road. The collisions at Cluster 16 consists of:

- A driver losing of control of their vehicle and causing a collision with the wall of a bridge;
- A collision caused by a vehicle attempting to overtake at the same time as a vehicle in front turns into a junction.
- A rear-end shunt between three vehicles; and

- An unspecified collision between an unknown number of vehicles.

68. Cluster 17 is located on the roundabout connecting the A164 and Castle Road (the intersection of Links 18 and 19). The collisions at Cluster 17 comprise of:

- The driver of a vehicle attempted to negotiate a roundabout at speed, clipping the kerb and rolling onto its side;
- A rear-end shunt type collision involving two vans and two cars that was caused by a driver who was distracted by using their phone; and
- The driver of one vehicle pulled out in front of another vehicle that was in their blind spot. As a result, the second vehicle had to take evasive action and eventually collided with the back of the first vehicle.

69. In summary, there were two collisions caused by a loss of control, two rear-end shunts, one unspecified collision and two collisions caused by poor observation. It is assessed that there is no significant emerging pattern of the collisions on Link 18.

26.2.5.4.10 Link 20 - A164 between the B1232 and B1231

70. Link 20 is located on the A164, north-west of Willerby, and the rate of collisions is above the national average. The road is 2.4 miles long and is a rural A-road.

71. Cluster 18 is located on Link 20. The collisions at this cluster include:

- A rear-end shunt collision on approach to the roundabout, involving a car and a vehicle;
- A driver losing control due to a medical episode, resulting in a collision between two cars on the roundabout;
- Two different rear-end shunt collisions between two cars that were attempting to manoeuvre away from an ambulance on the roundabout; and
- A collision between a pedestrian and a car at a crossing, where the pedestrian's foot was run over.

72. Cluster 19 is located at the junction between the B1231 and the A164, with collisions on both Links 20 and 21. The collisions for this cluster include:

- An instance where a moped lost control and the rider fell off due to the collapse of the rear wheel mounting;
- A vehicle performed a U-turn into the path of another vehicle, causing a collision;
- An unspecified collision between a motorcyclist and a vehicle at a roundabout;
- A rear-end shunt between two vehicles; and
- A loss of control at a roundabout due to the driver understeering, resulting in the vehicle leaving the carriageway and colliding with trees.

73. The remaining collisions along Link 20 consist of:

- Two rear-end shunt type collisions on a roundabout between two vehicles;
- The driver of a vehicle made a U-turn and was hit by another vehicle, causing it to spin and collide with a second vehicle;
- A failure to give way resulted in a collision between two vehicles at a junction;
- Two instances where a motorcyclist lost control, causing them to fall off their bike. One lost control overtaking traffic and the other lost traction on the road at a roundabout;
- A driver was distracted and collided with the rear of a vehicle in front, which swerved and hit a third vehicle;
- A rear-end shunt type collision involving four vehicles;
- A rear-end shunt between two vehicles that were attempting to manoeuvre away from an ambulance; and
- A rear-end shunt between two vehicles that were attempting to manoeuvre away from a police car.

74. To summarise, there were 10 rear-end shunt type collisions, five losses of control, two dangerous U-turns, one failure to give way, a collision with a pedestrian and an unspecified collision. It is assessed that there is an emerging pattern of rear-end shunt and loss of control type collisions on Link 20.

26.2.5.4.11 Link 21 - A164 between the B1231 and Boothferry Road

75. Link 21 is a section of the A164 located between an unnamed roundabout at the intersection of the A164 and the B1231, and the Wingfield Farm Roundabout. The road is a rural A-road and is a mile long and the collision rate is above the national average.

76. There is a cluster of collisions (Cluster 19) at the junction between the B1231 and the A164 (Links 20 and 21). This collisions at this cluster are considered within Link 20.

77. Cluster 62 is on the eastern arm of the roundabout at the intersection of Links 21, 22 and 80. A total of 16 collisions occurred at this arm consisting of:

- 14 rear-end shunts: nine collisions between two vehicles, two collisions between two cars, a collision between a tipper lorry and a vehicle, a collision between a car and a van and a collision between a car and a vehicle;
- A pedestrian stepping into the road without looking, causing a collision with a vehicle; and
- A driver losing control due to a medical episode, resulting in the vehicle rolling back into the vehicle behind.

78. The remaining collisions on Link 21 include:

- A driver of a car attempted a U-turn in slow moving traffic, colliding with a motorbike attempting to overtake;
- Eight instances of rear-end shunt type collisions due to a failure to slow in time, on approach to the Wingfield Farm Roundabout. Two of these collisions involved two cars and four additional collisions occurred between two vehicles, one collision occurred between three vehicles and one collision involved four vehicles in a rear-end shunt; and
- Two vehicles lost control on roundabout and collided with a barrier.

79. To summarise, there were 17 rear-end shunt type collisions, four losses of control, poor observation when performing a U-turn and a collision caused by poor observation when performing a manoeuvre. It is assessed that there is an emerging pattern of rear-end shunt type collisions on approach to the Wingfield Farm Roundabout.

26.2.5.4.12 Link 22 – A15 – Boothferry Road

80. Link 22 is located on the A15 Boothferry Road. This is a rural A-road and is 0.5 miles long and has a collision rate above the national average. A total of nine collisions were recorded during the study period, one collision was serious and eight were slight. The collisions along Link 22 consist of:

- Five rear-end shunt type collisions occurred. All collisions were between two vehicles and three of these collisions involved two cars;
- The driver of a vehicle caused a rear-end shunt type collision with another vehicle in stationary traffic due to accidently pressing the accelerator instead of the brake;
- Poor lane discipline resulting in a collision between a vehicle and a motorcycle;
- A motorcyclist lost control and fell off their bike due to a damp and greasy road surface; and
- A collision with a road sign due to a driver taking evasive action to avoid colliding with another car who swerved in front of them.

81. To summarise, there were six instances of rear-end shunt type collisions, one example of a loss of control and poor lane discipline causing a collision, and a collision caused by a driver taking evasive action to avoid a collision with the vehicle in front. It is assessed that there is a slight emerging pattern of rear-end shunt type collisions along Link 22.

26.2.5.4.13 Link 23 – A63 – Hull West

82. Link 23 is located on the A63 north of North Ferriby. This link is 2.1 miles long, is a rural A-road and has a collision rate below the national average.

83. Cluster 28 is located on this link and consists of three rear-end shunts. One collision involved two vehicles, one involved a car and a van, and the final collision was between a motorcycle and a vehicle.

84. Cluster 29 is located on the approach to two slip roads for the A15. The collisions comprised of:

- A pedestrian struck by a vehicle in a serious collision which occurred at nighttime with streetlighting;
- An intoxicated driver of a car swerved to avoid an animal in the road, colliding with a tree;
- A three-car rear-end shunt;
- A rear-end shunt in slow moving traffic between two vehicles;
- A driver lost control of their vehicle due to the wet road surface and collided with a barrier;
- A three-car collision caused by the vehicle in front losing control and colliding with the central reservation. A rear-end shunt occurred between the two vehicles travelling behind the first vehicle and this caused one of the vehicles to spin and collide with a fourth vehicle; and
- A driver collided with a barrier and another vehicle while taking evasive action to avoid colliding with a vehicle in front that had slowed down.

85. To summarise, there were five rear-end shunts, two collisions involving multiple vehicles colliding in reaction to a vehicle in front, one collision due to an intoxicated driver, one loss of control collision and a collision with a pedestrian. It is assessed that there is a slight emerging pattern of rear-end shunt collisions on Link 23.

26.2.5.4.14 Link 24 – A63 between Boothferry Road and the A1166

86. Link 24 consists of the A63 between the St Andrew's Quay Roundabout and the A15 junction. Link 24 is a A-road and is 4 miles long and has a collision rate below the national average.

87. Cluster 25 is located where the A63 and the Humber Bridge cross. The collisions for this link comprised of:

- A driver losing control at a bend in the road and colliding with the central reservation, causing the vehicle to roll;
- A car aquaplaning and colliding with the central reservation;
- A motorcyclist lost control turning a corner and collided with the central reservation, resulting in fatal injuries;
- One unspecified collision involving an unknown number of vehicles; and
- A rear-end shunt between two vehicles in slow moving traffic.

88. Cluster 30 is located on the A63 near the Priory Way exit of the A63 and consists of:

- Three rear-end shunts in slow moving traffic;
- A scooter rider stalled their vehicle, which caused the back wheel to lock and resulting in the rider falling off;
- A motorbike was filtering through traffic when a car changed lanes and collided with the motorbike. The bike then collided with the rear of an HV, resulting in the rider falling off their bike.
- The driver of a car took evasive action to avoid a collision with an HV that was moving into their lane and collided with the central reservation; and
- A collision between an HV and a car, caused by the HV changing lanes and colliding with the car.

89. To summarise, there were four rear-end shunt collisions, two collisions caused by a driver's poor observation when changing lanes, three collisions due to a loss of control, two collisions due to poor lane discipline and an unspecified collision. It is assessed that there is a slight emerging pattern of rear-end shunt type collision along Link 24.

26.2.5.4.15 Link 25 - A63 between the A1166 and Daltry Street

90. Link 25 is an urban A-road one mile long. It is located from Saint Andrews Quay to the Hessle Road/Rawling Way/A63/Daltry Street/Madeley Street Roundabout. Link 25 has a collision rate below the national average.

91. Cluster 31 is located on Link 25 on the A63 near St Andrew's Dock. This consists of three collisions:

- A motorcyclist lost control, colliding with road signs and a lamppost, with the rider suffering fatal injuries;
- A rear-end shunt collision, where a car braked suddenly and an HV collided with the rear of the car; and
- An unspecified collision, where the vehicle left the carriageway.

92. To summarise, there was a loss of control, a rear-end shunt and an unspecified collision. This suggests that there is no emerging pattern of collisions on Link 25.

26.2.5.4.16 Link 26 - A63 between Daltry Street and the A1165

93. Link 26 is an urban A-road located between the Mount Pleasant North Roundabout and the A63/Commercial Road junction. The link is 1.5 miles long and collision rate is below the national average. There are six collision clusters (33, 34, 35, 36, 37, 38) on this link.

94. Cluster 33 is located on Link 26. The collisions at this cluster comprised of:

- A pedestrian ran across the road, colliding with a vehicle and suffering fatal injuries;
- A motorcyclist lost control and fell off their bike;
- A rear-end shunt between two vehicles; and
- A vehicle failed to give way at a junction, resulting in a collision with a HV on the main carriageway.

95. Cluster 34 is located west of the A63/Ferensway junction. The collisions consisted of:

- A collision caused by poor lane discipline between two vehicles;
- An HV collided with a traffic signal, causing debris to come loose and strike a pedestrian waiting to cross the road;
- An intoxicated pedestrian fell into the side of a slowly moving vehicle;
- A rear-end shunt between a car and a motorcyclist;
- A three car rear-end shunt;
- A five-vehicle rear-end shunt;
- A police car with the sirens on turned right, colliding with a vehicle in the right lane;
- An unspecified collision with an unknown number of vehicles involved; and
- An HV changed lane, colliding with a cyclist.

96. Cluster 35 is located at the Ferensway junction. The collisions consisted of:

- One collision caused by an HV changing lanes and colliding with a vehicle;
- A collision between a car and a vehicle at a junction with broken traffic signals, where two vehicles attempted to navigate the junction at the same time;
- A collision at a roundabout due to a failure to give way to the vehicle already on the roundabout;
- A pedestrian had stumbled in the central reservation and fell into the road and was hit by a vehicle; and
- A pedestrian crossing the road was struck by a motorcyclist.

97. Cluster 36 is located between Murdoch's Connection Bridge and Vicar Lane. The collisions at this cluster consisted of:

- A collision between a cyclist and a vehicle;
- An intoxicated pedestrian stepped into the road and was hit by a vehicle;
- Two collisions where a pedestrian ran into the road in front of a vehicle;
- A collision with a cyclist and a vehicle at a pedestrian crossing;
- A collision with a pedestrian at a crossing, where a vehicle was shunted forward into the pedestrian;
- The rider of an electric scooter was driving on the pavement and fell off into the side of a passing HV;

- Two rear-end shunts: one between two vehicles in heavy traffic and the other as an HV changed lanes and collided with the back of a vehicle; and
- An unspecified collision involving a car and an HV.

98. Cluster 37 is located at the junction between the A63, Market Place and Queen Street. The collisions at this cluster consisted of:

- A failure to give way to a vehicle on the main carriageway caused the second vehicle to take evasive action and collide with the central reservation;
- A collision involving a pedestrian and a vehicle at a crossing, caused by the pedestrian who stepped into the road when the cars had a green signal;
- A collision with a pedestrian and a vehicle at a crossing;
- A vehicle attempted to overtake an HV carrying an abnormal load by mounting the central reservation but collided with the HV when attempting to merge back into lane; and
- Two collisions between cyclists and cars: one occurred at a crossing and the other was a rear-end shunt with the vehicle colliding with the cyclist.

99. Cluster 38 is located on both Link 26 and 27. The collisions recorded in the cluster consist of:

- One rear-end shunt between two vehicles at traffic signals;
- Two collisions caused by poor lane discipline, one involving a motorcycle and a car, and the second collision involving two vehicles;
- Two collisions between two cars at a junction, when both have attempted to navigate it at the same time;
- A vehicle failed to stop at a red signal and collided with another vehicle at the junction;
- Three collisions with cyclists on the roundabout. This includes two vehicles changing lanes and colliding with a cyclist, and an HV colliding with a bike;
- Four rear-end shunt type collisions. Two collisions involved two vehicles colliding, one collision was between two cars and the final collision was a rear-end shunt involving a motorcycle and a car;
- Two collisions caused by poor lane discipline: one collision consisted of a collision between two cars and the other involved two vehicles;
- Four failures to give way resulting in a collision. Three collisions involved two vehicles and another collision involved three vehicles;
- One unspecified collision between a car and a van; and
- One collision with a pedestrian and a vehicle.

100. To summarise there were 11 rear-end shunts, 12 collisions with pedestrians, four collisions with cyclists, eight collisions due to poor lane discipline, 12 collisions caused by a failure to give way, one collision caused by a loss of control, six unspecified collisions and one other type of collision.

101. It is assessed that there is pattern of rear-end shunts, failures to give way and collisions with pedestrians along Link 26.

26.2.5.4.17 Link 27 - A63 between the A1165 and Southcoates Roundabout

102. Link 27 is an urban A-road and is located between the Southcoates Roundabout and the Mount Pleasant North Roundabout. The link is 1.1 miles long and has a collision rate below the national average.

103. Cluster 38 is located on both Link 26 and 27 and the collisions in the cluster are reported under Link 26.

104. Cluster 42 is located on the Southcoates Roundabout, with collisions on both Links 27 and 74. The collisions consist of:

- Four rear-end shunts: two collisions occurred between two vehicles, another occurred between three vehicles and the fourth collision involved two cars;
- One collision caused by poor lane discipline, resulting in a collision between two vehicles;
- Two failures to give way resulting in a collision between two vehicles in the first collision and three vehicles in the second collision;
- One collision caused by a loss of control by a driver of a vehicle that collided with the kerb; and
- One collision caused by a loss of control, involving a single vehicle that was taking evasive action to avoid a collision with another vehicle.
- Three instances of poor lane discipline leading to a collision (one collision between a car and a HV, and the other two collisions between two cars);
- A rear-end shunt between two vehicles; and
- A head on collision between two vehicles caused by a driver on the wrong side of the road.

105. To summarise, there were five rear-end shunts, two failures to give way, two losses of control, four instances of poor lane discipline and one collision caused by a driver on the wrong side of the road. It is assessed that there is a slight emerging pattern of rear-end shunt collisions along Link 27.

26.2.5.4.18 Link 28 - A1033 between Southcoates Roundabout to Northern Gateway

106. Link 28 is located between the Southcoates and Northern Gateway Roundabouts. The link is 0.6 miles long and has a collision rate below the national average.

107. Cluster 43 is located on the Southcoates Roundabout. The collisions that this cluster consisted of:

- Five rear-end shunts: three collisions involving two vehicles, one collision involving a motorcycle and an HV and another collision involving two cars;

- Two collisions caused by a loss of control: one by a moped driver and the other by two vehicles;
- One collision with a pedestrian and a vehicle; and
- A collision between a car and a motorcycle due to poor lane discipline.

108. To summarise, there were five rear-end shunts, three collisions caused by a loss of control, two collisions with a pedestrian, a collision caused by poor lane discipline and two unspecified collisions. It is assessed that there is a slight emerging pattern of rear-end shunt collisions on Link 28.

26.2.5.4.19 Link 30 - A1033 between Marfleet Roundabout and B1362

109. Link 30 is located from the Marfleet Roundabout to the A1033/New Road Roundabout. The link is an urban A-road and is 2.4 miles long and the collision rate is below the national average.

110. Cluster 44 is located at the Somerden Roundabout on this link. The relevant collisions consisted of:

- A rear-end shunt at the traffic signals on the approach to the roundabout, involving a car and a vehicle;
- A collision with a vehicle and the centre of the roundabout due to the driver suffering from a medical episode, which caused them to lose control of the vehicle;
- A collision caused by a vehicle undertaking another vehicle on the roundabout;
- A collision with a cyclist using a pedestrian crossing and a vehicle; and
- An unspecified collision between two vehicles.

111. Cluster 4 is present on Marfleet Roundabout with collisions on both Links 30 and 51. The relevant collisions to this link are:

- A collision between two cars, caused by one vehicle changing lanes and colliding with the other;
- A collision between a cyclist and a vehicle where the vehicle did not give way;
- Four rear-end shunts on approach to the roundabout. Two of these were between two cars, one collision was between two vehicles and one collision was between three cars; and
- A failure to give way at the roundabout, resulting in a collision between two vehicles.

112. To summarise, there were five rear-end shunt type collisions, one loss of control, two collisions with a cyclist, two instances of poor lane discipline leading to a collision, one unspecified collision and one failure to give way resulting in a collision. It is assessed that there is an emerging pattern of rear-end shunts on this link, particularly at Cluster 4.

26.2.5.4.20 Link 31 - A1033 between Mount Pleasant North Roundabout and A165 Holderness Road

113. Link 31 is located from the Mount Pleasant Roundabout to the Mount Pleasant/Holderness Road junction and is 0.4 miles long. This link has a collision rate above the national average.

114. Cluster 39 is located at the Holderness Road/Mount Pleasant junction at the intersection of Links 31, 32 and 38. The collisions relevant to this link consist of:

- Seven collisions with cyclists: two involving taxis, two with cars, one with a HV and two with unspecified vehicles;
- A collision with an intoxicated pedestrian crossing the road in front of a vehicle;
- A collision caused by a failure to give way at a junction between a car and a van;
- Four collisions between two vehicles at the junction;
- A pedestrian who fell over into the path of a bus;
- Five rear-end shunt type collisions: one involving a collision between two cars, one collision between a car and an HV, one between a car and a van and two between two unspecified vehicles;
- One failure to give way by a motorbike at the junction, resulting in a collision with a car;
- A collision between an ambulance and a vehicle at the junction;
- Three collisions between pedestrians attempting to cross the road and vehicles;
- An unspecified collision between a car and a vehicle.

115. Cluster 40 is also located on Link 31 at the junction between Holderness Road and Ellis Street. The five recorded collisions consist of:

- Three collisions with pedestrians: one where a child ran into the road in front of a car and two collisions between a pedestrian and a vehicle; and
- Two rear-end shunts between a car and a stationary car waiting at traffic signals.

116. Cluster 41 is located at the Mount Pleasant North Roundabout with collisions on Links 31 and 74. The collisions relevant to this link include:

- A driver approached the roundabout at speed, resulting in a collision with the centre of the roundabout;
- A collision between a motorbike and a car;
- Two collisions between cyclists and cars on the roundabout;
- A collision with a car and cyclist, caused by the car failing to give way to the cyclist on the roundabout;
- A collision with a cyclist crossing the road as a vehicle exits the roundabout;

- A rear-end shunt on the approach to the roundabout between two vehicles; and
- An unspecified collision between two cars travelling in the same direction on the roundabout.

117. The remaining collision on the link consists of one unspecified collision between a car and a pedestrian.

118. To summarise, there were 11 collisions with cyclists, nine collisions with pedestrians, seven collisions caused by a failure to give way, eight rear-end shunt collisions, one collision caused by a loss of control and three unspecified collisions. It is assessed that there is an emerging pattern of collisions between vehicles and cyclists and pedestrians along Link 31.

26.2.5.4.21 Link 32 - A165 Holderness Road between A1033 and Maybury Road

119. Link 32 comprises of A165/Holderness Road between the Mount Pleasant/Holderness Road junction to Maybury Road. The link is an urban A-road and is 1.4 miles long and has a collision rate above the national average. During the five-year study period there were 186 collisions reported. These consisted of 42 serious and 144 slight collisions, which are summarised below:

- 60 collisions between a vehicle and a cyclist;
- 40 failures to give way resulting in a collision;
- 21 collisions between a vehicle and a pedestrian;
- 27 rear-end shunts;
- 14 injuries to passengers on a bus, such as due to the bus stopping suddenly;
- 13 instances where poor lane discipline led to a collision;
- Seven unspecified collisions; and
- Four losses of control leading to a collision.

120. It is assessed that there is a pattern of collisions along Link 32 involving collisions between vehicles and pedestrians and cyclists, generally where cars have failed to give way to cyclists when at a junction.

26.2.5.4.22 Link 33 - A165 Holderness Road between Maybury Road and Main Road

121. Link 33 comprises of the A165/Holderness Road between Maybury Road and the Holderness Road/Main Road/Shannon Road/Ganstead Lane Roundabout junction. Link 33 is an urban A-road and is 1.4 miles long and has a collision rate above the national average.

122. Cluster 11 is located at the Holderness Road/Main Road/Shannon Road/ Ganstead Lane Roundabout, with collisions on both Links 33 and 35. The relevant collisions to this link include:

- A collision where a moped rider failed to give way to a car on the roundabout, leading to a collision;
- A collision with a pedestrian crossing the road and a vehicle;
- A collision with a cyclist crossing the road and a vehicle, caused by the cyclist failing to check the road was clear;
- A collision between a car and an HV, caused by the HV failing to check the road was clear before changing lanes;
- Two failures to give way resulting in a collision. The first collision involved two vehicles and the second involved a vehicle and a motorcycle;
- One collision between a car and a cyclist;
- One driver losing control of their vehicle on the roundabout; and
- A rear-end shunt, involving two vehicles.

123. Cluster 58 is located at the roundabout connecting Holderness Road, Diadem Grove, Shannon Road and the B1237. The collisions consisted of:

- Four collisions with cyclists: three collisions were with a car and the fourth was with a van;
- An intoxicated driver failed to navigate the roundabout at speed and collided with the centre of the roundabout; and
- A rear-end shunt between two cars.

124. Cluster 59 is located south-west of the roundabout connecting Holderness Road, Diadem Grove, Shannon Road and the B1237. The collisions consisted of:

- A collision between a pedestrian and an ambulance;
- An unspecified collision between a bus and a cyclist;
- A rear-end shunt between two cars after the first car braked suddenly; and
- A collision between a bike and a car.

125. Cluster 60 is located at the Holderness Road/Bellfield Avenue. The collisions consisted of:

- Five collisions between a cyclist and vehicles (one of which was a bus);
- Four instances where a failure to give way resulted in a collision;
- Two rear-end shunts between vehicles;
- Two unspecified collisions;
- One loss of control from the driver of a vehicle leading to a collision with street furniture and a van;
- A passenger exited a coach from the emergency exit at the back because the normal door was broken. However, since the drop was five feet, they landed awkwardly and injured their ankle; and

- A collision occurred when a bus passenger fell after the bus braking abruptly.

126. Cluster 61, located at the junction between Holderness Road and Bellfield Avenue, consisted of:

- Seven collisions caused by a failure to give way at the junction: one collision between a car and a moped, two collisions between two cars, four between two vehicles, one collision between a tipper lorry and a car and one collision between a vehicle and a motorcycle;
- Two rear-end shunts: one between two vehicles and the other between a van and a car; and
- One collision between a vehicle and a cyclist.

127. The remaining collisions consisted of:

- Eight collisions between a vehicle and a cyclist;
- Three collisions between a vehicle and a pedestrian;
- A failure to give way resulting in a collision between a motorcycle and a vehicle;
- Two losses of control leading to a collision, with both collisions involving a single vehicle;
- Two instances where poor lane discipline led to a collision: one collision was between a car and a vehicle and the second collision was between a vehicle and a motorcycle;
- A rear-end shunt between two vehicles due to the driver of the second vehicle applying the accelerator instead of the brake;
- A collision between a pedestrian and an HV, where the pedestrian crossed through stop-start traffic and was hit by the HV;
- Two rear-end shunt collisions: one collision between two cars and a collision between a car and a motorcycle;
- Two collisions where a bus passenger fell after the bus braked abruptly; and
- A collision where a bus passenger fell when entering the bus.

128. To summarise, there were 22 collisions with cyclists, 15 collisions caused by a failure to give way, 10 rear-end shunts, three collisions caused by poor lane discipline, five collisions caused by a loss of control, five collisions with pedestrians, five other collisions and two unspecified collisions. It is assessed that there is an emerging pattern of collisions involving cars and cyclists, generally caused by a failure to give way along Link 33.

26.2.5.4.23 Link 35 - A165 between Main Street and Skirlaugh

129. Link 35 is a rural A-road that is 1.9 miles long and has a collision rate above the national average. This link is located between Conniston and the Ganstead Lane/Main Road/Holderness Road/Shannon Road Roundabout.

130. A total of 17 collisions were recorded along Link 35 of which 11 were classified as slight, five serious and one fatal.

131. Cluster 11 has been identified at the Holderness Road/Main Road/Shannon Road/Ganstead Lane Roundabout (Links 33 and 35). These collisions are reported under Link 33.

132. The collisions outside Cluster 11 consisted of:

- Two incidents of failing to give way, each collision involved two vehicles;
- Three rear-end shunts: two collisions between two vehicles and the third collision involved four vehicles;
- Two incidents where poor lane discipline led to a collision;
- Two collisions involving s cyclist and a car due to poor lane discipline;
- One driver losing control of their vehicle and colliding with a lamppost;
- A collision with a cyclist and a vehicle; and
- A fatal collision between a vehicle and a pedestrian after the vehicle mounted the kerb/footway at speed and collided with the pedestrian.

133. To summarise there were four failures to give way resulting in a collision, four rear-end shunts, three collisions with a cyclist, two incidents where poor lane discipline led to a collision, two losses of control, and a collision with a pedestrian. It is assessed that there is no significant emerging pattern of collisions on Link 35.

26.2.5.4.24 Link 36 – A165 – Skirlaugh

134. This link is through the centre of Skirlaugh and is 0.5 miles long. The A165 is a rural A-road and the collision rate is higher than the national average. A total of two collisions were recorded: one slight and one serious. These comprised of:

- A rear-end shunt type collision which occurred between two vehicles at a zebra crossing. The first vehicle collided with a pedestrian who was crossing the road; and
- At a different crossing, a three vehicle rear-end shunt collision occurred.

135. Two rear-end shunt collisions occurred at crossings on this link. It is assessed that there is a slight emerging pattern of collisions at zebra crossings on Link 36.

26.2.5.4.25 Link 37 – A165 between Skirlaugh and the A1035

136. Link 37 is along the stretch of the A165 from Skirlaugh to the White Cross Roundabout. The rural A-road is 3 miles long and the rate of collisions along the link is higher than the national average. The collisions along Link 37 comprised:

- A loss of control from the driver of a vehicle when turning in wet, muddy conditions;

- A rear-end shunt type collision between two vehicles and a car when waiting to turn;
- A collision between a car and motorbike out of a junction;
- A collision between two vehicles when one came out of a junction;
- A motorcyclist lost control and collided with another motorbike;
- Two occasions where a driver of a vehicle lost control and entered a field; and
- A rear-end shunt type collision between two vehicles due to a dog in the road.

137. Cluster 1 is also located at the intersection of Link 6 and 37 at the Whitecross Roundabout. These collisions are reported in Link 6.

138. To summarise, there were two rear-end shunt type collisions, four losses of control and two failures to give way at Link 37. It is assessed that there is a slight emerging pattern of collisions caused by a loss of control.

26.2.5.4.26 Link 38 - A1033 (between Holderness Road and Sutton Road)

139. Link 38 is an urban A-road that is 2.1 miles long and has a collision rate above the national average. The link is located between the Holderness Road/Mount Pleasant junction and the Sutton Road/Holwell Road Roundabout.

140. Cluster 39 is also located at the intersection of Links 31, 32 and 38, the Holderness Road/Mount Pleasant junction. These collisions are reported in Link 31.

141. Cluster 53 is located at the Sutton Road/Holwell Road Roundabout. The collisions consisted of:

- Two unspecified collisions between a vehicle and a car;
- Poor lane discipline leading to a collision between a car and a vehicle;
- An HV failed to give way to a vehicle on the main carriageway, causing the driver of the vehicle to stop suddenly leading to head injuries;
- One collision between a cyclist and a car at a crossing;
- One rear-end shunt between two vehicles as they approached the roundabout; and
- One motorcyclist who lost control and fell off their bike.

142. Cluster 54 is located at the junction between the A1033 and Ann Watson Street. The collisions consisted of:

- A collision between a HV and a cyclist where the HV was not within their lane;
- A driver of a vehicle had a medical episode, causing them to collide with a wall; and

- A driver entered a car park colliding head on with another vehicle due to poor observation.

143. Cluster 55 is located at the roundabout between the A1165 and Ferry Lane. The collisions consisted of:

- Six collisions between a cyclist and a vehicle;
- Two collisions caused by poor lane discipline: one collision between a vehicle and a motorcycle and a collision between two vehicles;
- A cyclist lost control of their bike and fell off;
- A driver cut across a lane at the roundabout, colliding with another vehicle;
- Two rear-end shunts involving two vehicles on the roundabout;
- A driver lost control after colliding with the kerb which caused the vehicle to crash into a road sign;
- Two losses of control resulting in a collision; and
- Two rear-end shunts occurred on the approach to the roundabout: one between two cars and another between a vehicle and a scooter.

144. Cluster 56 is located at the Mount Pleasant/A1165/Cleveland Street Roundabout. The collisions consisted of:

- Three collisions with cyclists;
- A collision caused by a parked car at the exit of the roundabout which caused a vehicle to swerve into another lane where it collided with another vehicle; and
- A rear-end shunt between two cars in traffic.

145. Cluster 57 is located at the roundabout connecting Mount Pleasant and James Reckitt Avenue. The collisions consisted of:

- Five collisions between vehicles and cyclists on the roundabout; and
- A failure to give way at the roundabout, causing a collision between two cars.

146. The remaining collisions consisted of:

- Nine rear-end shunt type collisions;
- Three collisions between a vehicle and a pedestrian;
- Six collisions between a vehicle and a cyclist;
- An unspecified collision between two cars;
- A pedestrian who fell over when entering a stationary bus;
- A collision between two vehicles caused by one vehicle overtaking and misjudging the distance required;
- Two instances of poor lane discipline on the roundabout resulting in a collision between two vehicles;
- Poor lane discipline causing two collisions: one between an HV and a car, and another between a motorcycle and a van;

- A failure to give way at a junction resulting in a collision between two vehicles; and
- A motorcyclist was filtering through traffic when the rider lost control and collided with a stationary vehicle.

147. To summarise, there were 16 rear-end shunts, 22 collisions with cyclists, four collisions with pedestrians, eight collisions caused by poor lane discipline, seven collisions caused by a loss of control, four unspecified collisions and three collisions caused by a failure to give way. It is assessed that there is an emerging pattern of collisions with cyclists and rear-end shunts along Link 38.

26.2.5.4.27 Link 39 - A1033 between Howell Road and Stockholme Road

148. Link 39 comprises the A1033 Sutton Road between the Holwell Road/Sutton Road Roundabout and the Sutton Road/Ennerdale (A1033) Roundabout. Link 39 is an urban A-road and is 0.6 miles long and has a collision rate above the national average.

149. Cluster 51 is located at the roundabout connecting Sutton Road, the A1033 and Stockholm Road, with collisions also on Link 40. The collisions on Link 39 consisted of:

- Six collisions between vehicles and cyclists;
- A rear-end shunt involving three vehicles on the roundabout; and
- A vehicle failed to give way to a motorcycle at the roundabout, forcing the motorcyclist to take evasive action which caused them to fall off their bike.

150. Cluster 52 is located on Sutton Road on the approach to the Sutton Road/Holwell Road Roundabout. The collisions consisted of:

- A fatal collision between a car and a pedestrian on the carriageway, which occurred during the hours of darkness with streetlights present and lit;
- One instance where poor lane discipline led to a collision between a car and a motorcycle;
- A rear-end shunt involving two cars and a vehicle;
- Three collisions between vehicles and with cyclists; and
- A collision with a pedestrian crossing the road and a vehicle.

151. The remaining collisions consist of:

- Three collisions between a vehicle and a cyclist, with one of these vehicles being a motorcycle;
- One collision between a pedestrian and a vehicle;
- Three rear-end shunts between vehicles;
- Four failures to give way, resulting in a collision: one collision involving an HV and two cars, one involving a motorcycle and a vehicle, one involving a car and a vehicle and the final collision involving two vehicles;

- One unspecified collision between a vehicle towing a caravan and another vehicle; and
- A fatal collision caused by a loss of control by a car driver who left the carriageway, no other information was given.

152. To summarise, there were 12 collisions with cyclists, three collisions with pedestrians, five rear-end shunts, one collision caused by poor lane discipline, five collisions caused by a failure to give way, one loss of control and an unspecified collision. It is assessed that there is an emerging pattern of collisions between vehicles and cyclists along Link 39.

26.2.5.4.28 Link 40 - A1033 between Stockholm Road and Roebank Roundabout

153. Link 40 comprises the A1033 from the Ennerdale Roundabout to the Roebank Roundabout. Link 40 is an urban A-road and is one mile long and has a collision rate below the national average.

154. Cluster 49 is located at the Roebank Roundabout and contains the following collisions:

- Two collisions between cars and cyclists; and
- Two rear-end shunts between vehicles.

155. Cluster 50 is located at the A1033/Thomas Clarkson Way/Emmerdale Roundabout. The collisions consisted of:

- Two losses of control, with each collision involving a single car;
- One instance of poor lane discipline leading to a collision between two cars;
- A rear-end shunt between a car and a van; and
- Two collisions between cyclists and cars.

156. Cluster 51 is located at the roundabout connecting Sutton Road, the A1033 and Stockholm Road, with collisions also on Link 39. The collisions in this cluster are recorded on Link 39.

157. There was a total of four collisions between vehicles and cyclists, three rear-end shunts, two losses of control leading to a collision and one instance where poor lane discipline led to a collision. It is assessed that whilst there is slight pattern of collisions involving cyclists, there is no significant emerging pattern to the location of these collisions.

26.2.5.4.29 Link 41 - A1033 between Roebank Roundabout and Dunswell Roundabout

158. Link 41 comprises the A1033 from the Roebank Roundabout to the Dunswell Roundabout. Link 41 is an urban A-road and is 0.8 miles long and has a collision rate above the national average. During the study period, there has been a total of 40 collisions reported on Link 41: nine serious collisions and 31 slight collisions, with no fatal collisions reported.

159. Cluster 45 is located at the Dunswell Roundabout on Link 41. The collisions within this cluster consisted of:

- Five rear-end shunts;
- Three collisions between cyclists and cars;
- One failure to give way resulting in a collision involving two vehicles; and
- Poor lane discipline leading to one collision between two vehicles.

160. Cluster 46 is located on the Ennerdale Lift bridge. The collision consisted of:

- Three rear-end shunts: two involving two vehicles and the third involving three vehicles;
- A collision with a pedestrian who ran into the road and was struck by a vehicle; and
- A collision between a motorbike and a cyclist crossing the road.

161. Cluster 47 is located on the Raich Carter Way/Gibraltar Road/Barnes Way Roundabout. The collisions at this cluster consisted of:

- A rear-end shunt caused by a motorcycle colliding with a car on the approach to the roundabout;
- A failure to give way to a motorcycle already on the roundabout from an approaching car;
- A collision between a cyclist and a car on the roundabout; and
- A motorcyclist lost control when navigating the roundabout and came off their bike.

162. Cluster 48 is located at the Roebank Roundabout. The collisions at this cluster consisted of:

- Four collisions with cyclists: three with a vehicle and one with a car;
- Poor lane discipline leading to a collision on four occasions. Two collisions occurred between two vehicles, one involved a van and a vehicle, and another involved a motorcycle and a vehicle;
- Four rear-end shunts: three involving two vehicles and the fourth involving two cars;
- Two collisions with pedestrians; and
- One loss of control collision.

163. The remaining collisions along Link 41 consisted of:

- Four rear-end shunt type collisions; and
- Two collisions due to poor lane discipline.

164. To summarise, there were 17 rear-end shunts, 11 collisions with a cyclist, one collision with a pedestrian, seven collisions caused by poor lane discipline, two collisions caused by a failure to give way and two caused by a loss of control. It is assessed that this is an emerging pattern of rear-end shunt collisions and collisions with cyclists along Link 41.

26.2.5.4.30 Link 42 – A1079 between Dunswell Roundabout and Jocks Lodge Roundabout

165. Link 42 is the A1079 between Dunswell Roundabout and Jock's Lodge Roundabout and is a rural A-road. The link has a collision rate below the national average.

166. Cluster 24 is located on the Dunswell Roundabout on Link 42. The collisions consisted of three rear-end shunts on the approach to the roundabout.

167. It is assessed that there is no significant emerging pattern of collisions on Link 42.

26.2.5.4.31 Link 43 - A1174 between the Dunswell Roundabout and the A164

168. Link 43 is a rural A-road and is 3.3 miles long with a collision rate above the national average. The link is located between the Dunswell Roundabout and the Eastfields Road/A164/Hull Road Roundabout. A total of 35 collisions were recorded in the study period, of which 25 collisions were slight and ten were serious.

169. Cluster 21 is located along Link 43 at the A1174/Dunswell Lane junction. The collisions at this cluster consisted of:

- Three collisions involving a cyclist and a vehicle;
- Failure of a vehicle to give way at a junction, resulting in a collision with another vehicle;
- A rear-end shunt involving three vehicles; and
- A vehicle veered into the opposite carriageway and collided with an oncoming vehicle.

170. Cluster 22 is located along Link 43 between the A1174 and the junction with the Meadows and Dene Close. The collisions at this cluster consisted of:

- A cyclist rode into the back of a bus;
- A collision between a vehicle and a cyclist at a junction;

- A collision between a vehicle and a cyclist due to the vehicle reversing into the cyclist;
- A pedestrian who stepped into the road and was hit by a cyclist; and
- A pedestrian who stepped into the road and was hit by a vehicle.

171. Cluster 23 is along located along Link 43 on the Dunswell Roundabout. The collisions at this cluster consisted of:

- Seven rear-end shunts on approach to the roundabout;
- A rear-end shunt between a vehicle and a cyclist; and
- Poor lane discipline leading to a collision between a car and a van on the roundabout.

172. The remaining collisions along Link 43 consisted of:

- Six rear-end shunt type collisions;
- Three collisions between cyclists and cars at junctions;
- One occasion where poor lane discipline led to a collision with an oncoming vehicle;
- A driver lost control, causing a collision with the central reservation and causing another vehicle to take evasive action and leave the carriageway;
- A driver of a car swerved into oncoming traffic for an unspecified reason and collided with another car. A van, not noticing that traffic had slowed down, then swerved into an oncoming car to avoid a rear-end shunt;
- A collision between a cyclist and a car caused by poor lane discipline;
- Two cyclists colliding with each other when one is travelling in the wrong direction on a cycle path;
- A vehicle veered onto the path, colliding with a pedestrian; and
- A motorcyclist fell off their bike due to mud on the road.

173. To summarise, there were 19 rear-end shunts, 11 collisions with cyclists, four collisions due to poor lane discipline, three collisions with pedestrians, two collisions due to a loss of control, one collision due to a failure to give way and one unspecified collision. It is assessed that there is an emerging pattern of rear-end shunts and collisions with cyclists (particularly at the Dunswell Roundabout).

26.2.5.4.32 Link 45 – A164 between the A1174 and Jock's Lodge

174. Link 45 is located between the Ward Way/A164 Roundabout and the Lincoln Way/A164/Shepherd Lane Roundabout. The link is a rural A-road of 0.4 miles in length with a collision rate above the national average. The collisions along Link 45 comprised of:

- A rear-end shunt collision on the approach to a roundabout involving two cars; and
- A rear-end shunt type collision on the carriageway involving two vehicles.

175. It is assessed that two rear-end shunts at discrete geographical locations would not indicate an emerging pattern of collisions.

26.2.5.4.33 Link 49 – Jackson Street/Daltry Street

176. Link 49 is an urban road located south of the A63/Clive Sullivan Way and leading to a slip road onto the A63. The road is 0.2 miles long and has a collision rate above the national average.

177. A total of six collisions were recorded during the study period, of which five were slight and was one serious.

178. Cluster 27, which consists of the following collisions, is located on Link 49 at the junction between Daltry and Jackson Street:

- Three incidents of a vehicle turning into oncoming traffic at the roundabout; and
- A rear-end shunt type collision at the roundabout involving two vehicles.

179. Cluster 32 is located on Link 49. One of these collisions is located on Link 49 and the other six are located just outside of the link. The collisions in this cluster consisted of:

- Four rear-end shunts: two of these involved two cars and two involved a car and a vehicle;
- An intoxicated driver who failed to negotiate a roundabout and collided with the barrier;
- A collision between a car and a cyclist at a roundabout, caused by the car failing to give way; and
- A van failed to give way to a car already on the roundabout, and caused a collision.

180. The remaining collision along Link 49 consists of a rear-end shunt type collision on the carriageway involving two vehicles.

181. To summarise, there were five rear-end shunts, a collision between a car and cyclist, a loss of control and four failures to give way. It is assessed that there is no emerging pattern of collisions along Link 49.

26.2.5.4.34 Link 50 – English Street/Kingston Street/Commercial Road

182. Link 50 is an urban road located between Daltry Street and the Kingston Street/Commercial Road/Manor House Street Roundabout. The road is 0.6 miles long and has a collision rate that is above the national average.

183. A total of nine collisions were recorded during the study period, these include eight slight collisions and one serious collision.

184. Cluster 26 is located on Link 50 at the junction between English and St James Street. The collisions at this cluster consisted of:

- An unspecified two-car collision;
- A collision between a vehicle turning left and a cyclist on the inside of the lane;
- A driver failed to give way coming out of a side road, and collided with an oncoming vehicle; and
- A vehicle failed to give way at a junction, and caused a cyclist to collide with the kerb.

185. The remaining collisions along Link 50 consisted of:

- A collision on the roundabout, occurring due to a vehicle colliding with the nearside of another vehicle already on the roundabout;
- An unspecified collision between a car and a motorcyclist;
- A collision between a pedestrian and a car;
- A near miss collision between a car with a trailer and a cyclist; and
- A pedestrian crossing the road was hit by a car because the low sun obscured the driver's vision.

186. To summarise, there were four collisions caused by a failure to give way, two collisions with pedestrians, two unspecified collisions and one collision with a cyclist. It is assessed that there is no significant emerging pattern to the type and location of collisions along Link 50.

26.2.5.4.35 Link 51 – Maybury Road/Marfleet Lane

187. Link 51 is an urban road 1.7 miles long, between A165/Holderness Road and the Marfleet Roundabout. The link has a collision rate above the national average. There are seven different clusters (4, 5, 6, 7, 8, 9, 10) of collisions present on this link.

188. Cluster 4 is located on the Marfleet Roundabout with collisions also on Link 30. The collisions in this cluster are recorded on Link 30.

189. Cluster 5 is located on Marfleet Avenue/Lane between the junctions with Burma Drive and Marfleet Avenue. The collisions at this cluster consisted of:

- A collision between a cyclist and a vehicle;
- Three failures to give way, leading to a collision. One collision was between a car and a motorcyclist, another was between two cars and the other was between two unspecified vehicles; and
- An unspecified collision between two cars.

190. Cluster 6 is located at the junction between Marfleet Lane and Preston Road. The collisions at this cluster consisted of:

- Two rear-end shunt collisions, both between two cars;
- Four collisions between cars and cyclists;
- Three collisions between vehicles and pedestrians;
- Five failures to give way between vehicles;
- A car being pursued by police was driving on the wrong side of the road and collided head-on with oncoming traffic; and
- One example of poor lane discipline resulting in a collision between two vehicles.

191. Cluster 7 is located at the junction between Marfleet Lane and Bessingby Grove and Sutton Way. The collisions at this cluster consisted of:

- A collision between two cyclists and a car and a second collision between a cyclist and a police car;
- One loss of control collision involving two vehicles;
- One failure to give way at a junction involving a car and a vehicle;
- One unspecified collision between a motorcycle and a vehicle; and
- One failure to give way involving a motorcycle and a vehicle.

192. Cluster 8 is located at the junction between Marfleet Lane and Staveley Road. The collisions at this cluster consisted of:

- One collision with a pedestrian and a vehicle;
- One collision with a cyclist and a vehicle;
- One collision with a cyclist and a HV;
- One collision due to a loss of control involving one car;
- Failure to give way leading to a collision between two cars; and
- One rear-end shunt between two cars.

193. Cluster 9 is located on Marfleet Lane between the junction with Maybury Road and Hopewell Road. The collisions at this cluster consisted of:

- One failure to give way, involving two vehicles;
- Two collisions between a motorcycle and a car;
- A moped collided with the rear of a car and caused the rider to fall off;
- A collision with a cyclist and a vehicle at a crossing; and
- A collision with a cyclist and a vehicle.

194. Cluster 10 is located at the junction between Maybury Road and Hebrides Close. The collisions at this cluster consisted of:

- One collision with a pedestrian who ran into the road and a car; and
- Two collisions between cyclists and cars.

195. The remaining collisions along Link 51 consisted of:

- Seven collisions between vehicles and pedestrians;
- Seven collisions involving cyclists: one collision with a van, one collision with a motorcycle, one collision with a vehicle and four collisions with a car;
- One failure to give way at a junction leading to a collision between two vehicles;
- A failure to give way involving a car and a motorcycle;
- A motorcyclist lost control and collided with a stationary car;
- A collision between a mobility scooter and a car;
- A rear-end shunt involving a motorcycle and a second vehicle;
- A rear-end shunt between two vehicles;
- Poor lane discipline leading to a collision between a motorcycle and a car;
- A collision between a reversing car and a mobility scooter;
- A collision caused by the driver of a car losing control; and
- A passenger fell off their motorcycle when manoeuvring around a vehicle.

196. To summarises, along Link 51, there were 15 collisions due to a failure to give way, nine rear-end shunts, 20 collisions between a vehicle and a cyclist, 12 collisions between a vehicle and a pedestrian, two unspecified collisions, six collisions due to a loss of control, two collisions due to poor lane discipline and five other types of collisions. It is assessed that the nature of the collisions along this link highlights an emerging pattern of collisions involving cyclists and pedestrians as well as failure to give-way at junctions.

26.2.5.4.36 Link 52 – Coppleflat Lane between A164 to OCS

197. Link 52 is located off the A164 and is one mile long. The rural road has a collision rate above the national average.

198. A total of four recorded collisions, two slight and two serious were recorded during the study periods. These consisted of:

- A motorcyclist fell off at a bend in the road due to muddy conditions;
- A car crossed onto the opposite side of the road on a bend, and collided with another car;
- A motorcyclist and a vehicle collided when at a bend in the road; and
- A vehicle lost control at a bend, turning on its side in a verge.

199. It should be noted that all four collisions occurred at the same bend in the road. It is therefore assessed that there is an emerging pattern to the location of the loss of control collisions on Link 52.

26.2.5.4.37 Link 54 – B1248 between the A1035 and Rootas Lane

200. Link 54 connects Rootas Lane and the Dog Kennel Lane Roundabout. The rural A-road is 1.1 miles long and has a collision rate above the national average. Eight collisions occurred on Link 54, including four slight and four serious collisions.

201. Cluster 12 is also located on this link at the junction between the B1248 and Main Street. The collisions at this cluster included:

- Three rear-end shunt type collisions at the junction; and
- Four failures to give way at the junction. Two of these collisions were between two vehicles, one was between a van and car and the final collision was between a car and a motorbike.

202. The remaining collision along Link 54 (outside the cluster) consists of a rear-end shunt between two vehicles.

203. To summarise, there were four failures to give way resulting in a collision and four rear-end shunts. It is assessed that there is a slight emerging pattern of failure to give way/rear-end shunt collisions at the junction fit he B1248 and Main Street.

26.2.5.4.38 Link 57 – Walkington Heads

204. Link 57 is a rural road from the Newbald Road/Coppleflat Lane/Walkington Heads junction to just west of the Walkington Heads/Dale Gate junction. The link is 1.2 miles long and has a collision rate above the national average.

205. Cluster 14 is located at the junction between Walkington Heads, Coppleflat Lane and Newbald Road, with collisions on Links 57 and 61. The relevant collisions on this link are:

- A rear-end shunt type collision caused by a car colliding with the back of a stationary car waiting to turn into the junction;
- A collision with a cyclist and a vehicle at the junction;
- A failure of a driver to give way at the junction, resulting in a collision between two vehicles;
- Two collisions at the junction caused by a failure to give way: one between a vehicle and a bus and the second between a vehicle and a motorcyclist.

206. The remaining collisions along Link 57 consisted of:

- A rear-end shunt type collision between two vehicles, where one was waiting to turn into a junction;
- A collision at a junction between two cars where one failed to give way; and
- Two vehicles collided when one was unable to stop at a junction due to wet conditions, causing it to skid and collide with the other vehicle on the main carriageway.

207. To summarise, there were a number of collisions at the Newbald Road/Coppleflat Lane/Walkington Heads junction, including two rear-end shunts, a collision with a cyclist, four failures to give way and a loss of control. It is assessed that there is a slight emerging pattern of collisions caused by a failure to give way at the junction.

26.2.5.4.39 Link 58 – Leconfield Road/Miles Lane

208. Link 58 is a rural road of 1.6 miles in length and has a collision rate above the national average. The link is located between Cherry Burton and Leconfield. Four collisions were recorded during the study period, three of which were slight and one was serious. The collisions consisted of:

- A collision between a car with a horse box trailer and a cyclist on a narrow lane;
- Two incidents where a vehicle travelling around the bend too quickly caused the vehicle to slip and turn on its side or roof; and
- A vehicle negotiated a bend too quickly and collided with a bush on the side of the road.

209. It should be noted that three collisions occurred at the same bend in the road. It is therefore assessed that there is a slight emerging pattern to the location of the loss of control collisions on Link 58.

26.2.5.4.40 Link 60 – Killingwoldgraves Lane

210. Link 60 is a rural road from Coppleflat Lane/Walkington Heads/Newbald Road junction to the Killingwoldgraves Roundabout. The link is 0.6 miles long and has a collision rate above the national average.

211. The collisions along Link 60 consisted of:

- A driver of a vehicle had a medical episode, causing them to swerve off the road into a ditch; and
- A motorcyclist lost control at a bend in the road, causing them to hit the kerb and fall off their bike.

212. Cluster 14 is also located at the Killingwoldgraves Roundabout at the intersection of links 57, 60 and 61. The collision at this Cluster are considered under Link 57.

213. Noting there were just two along Link 60, it is assessed that there is no emerging pattern of collisions.

26.2.5.4.41 Link 61 - Coppleflat Lane between Walkington Heads and Broadgate

214. Link 61 is a rural road of 0.8 miles in length with a collision rate above the national average. The link is located between the Coppleflat Lane/Walkington Heads/Newbald Road junction and the B1230/Coppleflat Lane junction.

215. The collisions along Link 61 consisted of:

- A collision occurred when a vehicle attempted to pull over on the opposite side of the road at the same time the vehicle behind was overtaking;
- A head on collision between two vehicles caused by a vehicle on the wrong side of the road; and
- A collision with a cyclist, caused by a car attempting to overtake with insufficient room.

216. Cluster 14 is also located at the junction between Walkington Heads, Coppleflat Lane and Newbald Road, at the intersection of Links 57, 60 and 61. The collision at this Cluster are considered under Link 57.

217. To summarise, there were two collisions caused by poor lane discipline and a collision with a cyclist. It is assessed that there is no significant emerging pattern of along Link 61.

26.2.5.4.42 Link 62 – York Road

218. Link 62 comprises the A1174 between the Killingwoldgraves Roundabout to the edge of the Traffic and Transport Study Area on the outskirts of Beverley. Link 62 is a rural A-road and is 1.3 miles long and has a collision rate above the national average.

219. The reported collisions along Link 62 comprised of:

- Two collisions between vehicles and reportedly intoxicated pedestrians;
- A collision with a vehicle and a pedestrian that stepped into the road;
- A collision between a car and a cow on the road, which occurred during darkness with no streetlights present.
- A vehicle collided with a road sign for unspecified reasons; and
- A failure to give way at a junction caused an oncoming motorcycle to take evasive action, resulting in a collision with both the vehicle and a parked vehicle.

220. Cluster 13 is also located at the Killingwoldgraves Roundabout. The collisions at this cluster are reported under Link 12.

221. To summarise, there were three collisions with pedestrians, a collision with a cow, a failure to give way and an unspecified collision. It is assessed that there is no significant emerging pattern of collisions along Link 62.

26.2.5.4.43 Link 63 - A164 between Driffield Road Roundabout and Old Road

222. Link 63 is an A-road connecting Leconfield and Beverley. The link is 1.8 miles long and the rate of collisions is higher than the national average.

223. The collisions along Link 63 consisted of:

- A bus took evasive action to avoid a collision, causing a passenger to fall from their seat;
- Two instances of poor lane discipline leading to a collision between two vehicles;
- A car hit the kerb, causing them to lose control and for the car to roll twice;
- A collision between a car and a pedestrian; and
- A rear-end shunt involving three vehicles.

224. Cluster 3 is also located on Link 63 and the collisions in this cluster are reported under Link 9.

225. To summarise, there was one rear-end shunt, a collision with a pedestrian, two collisions due to poor lane discipline, one collision due to a loss of control and an injured bus passenger. It is assessed that there is no significant emerging pattern of collisions along Link 63.

26.2.5.4.44 Link 66 - A164 between Onshore ECC and Station Road

226. This link is a rural A-road located on the A164 south of Station Road. The road is 0.6 miles long and has a has a collision rate above the national average. There were five recorded collisions for the period, four of which were slight and one was serious. The collisions consisted of:

- Poor lane discipline led to a driver in a vehicle colliding with a barrier at a bend in the road;
- A driver of a vehicle lost control navigating a bend in the road, resulting in a collision with the barrier;
- A driver of a vehicle lost control during wet conditions at nighttime. No streetlights were present;
- A cyclist leaned on a van whilst stationary and fell off when the van started moving; and
- A near miss collision at a junction between two cars due to poor observation.

227. To summarise, there were three collisions caused by a loss of control, one collision caused by poor lane discipline, a collision due to poor observation. It is assessed that there is no significant emerging pattern of collisions long Link 66.

26.2.5.4.45 Link 71 – B1249 Bridlington Balk

228. Link 71 is located between Beeford and North Frodingham on the B1249. The road is 0.5 miles long and has a collision rate above the nation average. A total four collisions were recorded, of which three were slight and one was serious. The collisions along Link 71 consisted of:

- An intoxicated driver in a vehicle collided with a wall and buildings;
- A driver of a vehicle collided with a parked vehicle when overtaking due to becoming distracted;
- A cyclist turned right at a junction whilst being overtaken by a car, causing them to fall off their bike; and
- A collision at a junction due to poor observation between a car and a vehicle with a trailer.

229. To summarise, two collisions occurred due to a driver losing control and two collisions occurred due to poor observation. It is assessed that there is no significant emerging pattern of collisions along Link 71.

26.2.5.4.46 Link 72 – North Frodingham Road

230. Link 72 is located on Cross Lane, south of North Frodingham. The link is 2.7 miles long and has a collision rate above the national average. A total of seven collisions were recorded, of which one was fatal, two were serious and four were slight. The collisions along Link 72 consisted of:

- A driver of a vehicle lost control, rolling the vehicle into a verge;
- A driver of a car lost control whilst overtaking, colliding head on with an oncoming car. Drivers in both cars suffered fatal injuries;
- A driver lost control whilst driving at night with no street lighting present. The vehicle collided with a telegraph pole in a serious collision;
- A driver of a vehicle lost control on a shallow bend, falling into a ditch;
- A driver lost control during icy conditions, resulting in the car skidding into a ditch;
- A driver lost control of their car during icy conditions; and
- A vehicle failed to negotiate a bend in the road, crossed into oncoming traffic and collided head-on with a second vehicle.

231. To summarise, all seven collisions were caused by a loss of control. It is therefore assessed that there is an emerging pattern of loss of control collisions along Link 72.

26.2.5.4.47 Link 74 - A1033 between Mount Pleasant North Roundabout and Southcoates Roundabout

232. Link 74 is a rural A-road located between the Mount Pleasant North Roundabout and the Southcoates Roundabout. This link has a collision rate above the national average.

233. Cluster 41 is located at the Mount Pleasant North Roundabout with collisions on Links 31 and 74. The collisions in this cluster are reported under Link 31.

234. Cluster 42 is located on the Southcoates Roundabout, with collisions on both Links 27 and 74. The collisions in this cluster are reported under Link 27.

235. The remaining collisions along Link 71 consisted of:

- Two collisions between cyclists and cars;
- Two rear-end shunt type collisions between two vehicles;
- One collision where a vehicle collided with a parked vehicle;
- One collision caused by the driver of a moped losing control; and
- One collision between two vehicles caused by poor observation at a junction.

236. To summarise, there were a total of two collisions with cyclists, two rear-end shunts, two collisions due to poor observation and a collision due to a loss of control. It is therefore assessed that there is no significant emerging pattern of collisions along Link 74.

26.2.5.4.48 Link 75 - A63 Off Ramp to Mount Pleasant North Roundabout

237. Link 75 is a rural A-road 0.2 miles in length and has a collision rate above the national average. The link is a slip road off the A63 and the Mount Pleasant North Roundabout. There was one slight collision and a fatal collision during the study. The collisions along Link 75 consist of:

- A fatal incident where a motorcyclist had a medical episode, causing them to come to a slow stop and collapse on the grass verge; and
- A cyclist took evasive action to avoid a vehicle on the roundabout, which caused them to fall off their bike.

238. To summarise, there was a collision caused by a loss of control due to a medical episode and a failure to give way. It is therefore assessed that there is no significant emerging pattern of collisions along Link 75.

26.2.5.4.49 Link 76 - A1079 between Killingwoldgraves Roundabout and West Bishop Burton

239. Link 76 is a rural A-road of one mile in length and has a collision rate above the national average. The link is located from the A1079/Finkle Street junction to the Killingwoldgraves Roundabout.

240. Cluster 13 is also located at the Killingwoldgraves Roundabout, with these collisions reported under Link 12. The remaining collisions along Link 76 consist of:

- A bus braked heavily to avoid a child that had run into the road, causing a head injury to a passenger;
- An unspecified collision between two cars; and
- Two incidents where the driver's failure to give way at a junction resulted in a collision with a vehicle, and a motorbike.

241. To summarise, there were two collisions caused by a failure to give way, an unspecified collision and an injured bus passenger. It is therefore assessed that there is no significant emerging pattern of collisions along Link 76.

26.2.5.4.50 Link 79 – Grange Road

242. Link 79 is located off the A165 and is 0.5 miles long. The rural road has one recorded collision and has a collision rate above the national average rate.

243. The collision was slight and resulted from the driver of a car losing control in icy conditions, causing them to skid and land on the vehicle's side in a ditch. It is therefore assessed that there is no significant emerging pattern of collisions along Link 79.

26.2.5.4.51 Link 80 – A15 – Humber Bridge

244. Link 80 is located over the Humber River, ending at the Wingfield Farm Roundabout. The link is an urban A-road and is 2.4 miles long. The rate of collisions is below the national average.

245. Cluster 20 is located on the Wingfield Farm roundabout and consisted of:

- Six rear-end shunts between vehicles; and
- One collision caused by poor lane discipline and involving two vehicles.

246. To summarise, there were six rear-end shunts and a collision caused by poor lane discipline. It is therefore assessed that there is slight emerging pattern of rear-end shunt collisions along Link 80.

26.2.5.4.52 Link 83 – North Street from West Street to Onshore ECC

247. Link 83 is a rural road located north of the North/East/South/West Street junction in Leven. The link is 0.3 miles long and has a collision rate above the national average. One slight collision and one serious collision were recorded along the link during the study period. The collisions consisted of:

- A rear-end shunt at a roundabout between two vehicles; and
- A serious collision between a speeding vehicle and a cyclist who came out of a junction.

248. It is assessed that there is no significant emerging pattern of collisions along Link 83.

26.2.5.4.53 Link 86 – B1242 between Cliff Road and the Onshore ECC

249. Link 86 is a rural B-road, located from the B1242/1249/Back Street junction in Skipsea to the B1242. The road is 0.1 miles long and has a collision rate above the national average. Two slight collisions were recorded along the link.

250. The collisions consist of two failures to give way at a junction by a van or an unspecified vehicle, resulting in a collision with an oncoming vehicle. It is assessed that there is no significant emerging pattern of collisions along Link 86.

26.2.5.4.54 Link 87 – Beeford Road between the A165 to Bewholme Lane

251. Link 87 is a rural B-road located from the B1242/1249/Back Street junction in Skipsea to the B1249/A165 junction in Beeford. The link has a collision rate above the national average.

252. A total of 11 collisions were recorded along the link, of which ten were slight and one was fatal. The collisions consisted of:

- A speeding vehicle collided with another car that was performing a three-point turn;
- A motorcyclist who dismounted for unknown reasons;
- Four instances of a car driver having lost control navigating bends in the road;
- A driver of a vehicle swerved to avoid a deer, causing the vehicle to hit a fence and flip onto its roof;
- A driver of a vehicle lost control in icy conditions, landing in a ditch;
- A fatal collision caused by a vehicle navigating a bend on the wrong side of the road, causing a head on collision with an oncoming vehicle;
- A motorcyclist lost control on a bend, impacting with a metal pole; and
- A vehicle collided with a parked vehicle.

253. To summarise, there were seven collisions caused by a loss of control, one caused by a failure to give way, two caused by poor lane discipline and one caused by unspecified reasons. It is assessed that there is emerging pattern of loss of control collisions along Link 87.

26.2.5.4.55 Link 88 – B1242 between the A165 to Skipsea

254. Link 88 consists of the B1242 between Skipsea and the A165 at Lissett. It is a rural local road and is 2.5 miles in length and has a collision rate above the national average.

255. A total of seven collisions were recorded along Link 88, of which four were classified as slight and three serious. The collisions consist of:

- A collision between a car and a motorcycle;
- A collision between a car and two pedestrians who were on the footway. This collision occurred during the hours of darkness with no streetlighting present;
- A motorcycle braked to avoid a collision with an oncoming vehicle, and fell off their bike in the process;
- Two instances where cars travelling in opposite directions collided at a bend in the road;
- A driver lost control of their vehicle on a bend, coming to a stop in a field; and
- A collision between an overtaking vehicle and a stationary vehicle.

256. To summarise, the collisions comprised of two losses of control, a collision between a car and two pedestrians, an unspecified collision, and two collisions caused by poor lane discipline. It is assessed that there is no significant emerging pattern of collisions along Link 88.

26.2.5.4.56 Link 99 – Heigholme Lane

257. Link 99 is a rural road of 0.5 miles and has a collision rate above the national average. The link is located off Carr Lane, near Leven and one serious collision was recorded during the study period.

258. The collisions involved a motorcyclist losing control and entering a ditch. It is assessed that there is no significant emerging pattern of collisions along Link 99.

26.2.6 Construction Trip Generation and Assignment

26.2.6.1 Introduction

259. The traffic generation that has informed the assessment presented in **Volume 1, Chapter 26 Traffic and Transport** was derived and undertaken by way of a 'first principles' approach. The first principles approach generates traffic volumes from an understanding of material quantities and personnel numbers required for the Project and converts these metrics into vehicle trips.

260. The Applicant has developed the methodologies and quantities that underpin the construction traffic forecasts for the Project's onshore infrastructure.

261. A realistic worst-case traffic demand scenario has been developed by examining:

- The likely minimum construction programme duration (and therefore maximum activity intensity);
- Peak demand for materials and personnel;
- Likely mode share; and
- The assignment of traffic.

262. The assumptions that underpin the worst-case scenario are discussed below and have been developed with input from the Applicant. The Applicant has substantial experience gained through the construction of previous offshore wind projects of a similar scope and scale.

26.2.6.2 Development Scenario

263. This section provides details of the rationale for the selected worse case construction scenarios that are assessed within **Volume 1, Chapter 26 Traffic and Transport**.

264. **Volume 1, Chapter 4 Project Description** identifies that two OCS zones (Zone 4 and Zone 8) remain under consideration to maintain flexibility at this stage, but one zone will be taken forward to development. The two development scenarios considered in the PEIR with respect to the OCS zone are:

- Infrastructure located in OCS Zone 4 to be built on agricultural land south of Beverley at the junction between Beverley Road (A164) and Beverley Bypass (A1079); or
- Infrastructure located in OCS Zone 8 to be built on agricultural land west of Bentley and west of Beverley Road (A164).

265. Two types of onshore export cable systems will be required for the Project. These are up to 500kV High Voltage Direct Current (HVDC) cables and 400kV High Voltage Alternating Current (HVAC) cables The primary method of cable installation for both types of cables will be ducted cable installation.

266. The HVDC export cable system will comprise a maximum of one circuit laid in two trenches from the Transition Joint Bay (TJB) at landfall (south of Skipsea) through to the OCS zone. The circuit will contain two HVDC power cables and one fibre optic cable. The HVDC cable corridor will be approximately 50km in length.

267. The HVAC export cable system will comprise a maximum of four circuits laid in four trenches from the OCS zone to the grid connection point at Birkhill Wood Substation. Each circuit will contain three HVAC power cables and one fibre optic cable. The HVAC cable corridor will be approximately 5km in length..

268. In addition to the two OCS zone options, two corridor sections have been retained in the onshore ECC to maintain flexibility for routeing the onshore export cables into / out of OCS Zones 4 and 8. Hereafter, the northern corridor section is referred to as "Onshore ECC Section 14N", and the southern corridor section is referred to as "Onshore ECC Section 14S". Section 14N is being considered for both OCS Zones 4 and 8, while Section 14S only applies to OCS Zone 8. Only one of these corridor sections will be taken forward to development, depending on the selected OCS zone.

269. In order to ensure that an inclusive assessment has been undertaken, construction traffic demand for both scenarios has been derived by the Applicant. These traffic flows are summarised in **Table 26.2-5** per section (reflecting the extent of the Project's onshore infrastructure that can be served from each access). The extent of each section is depicted graphically within **Figure 26.2-3** and described further in **Table 26.2-26**.

270. Details of the derivation of traffic flows (summarised in **Table 26.2-5**) are provided within **Annex 26.2.6**. It can be noted from **Table 26.2-5** that the traffic flows are identical between both construction scenarios. However, the assignment of traffic to the OCS zones will be different. Further detail is provided in **Section 26.2.6.4**.

Table 26.2-5 Summary of Vehicle Trips Per Scenario

Section	Section Description	Development Scenarios			
		Zone 4 Peak Daily Vehicle Trips		Zone 8 Peak Daily Vehicle Trips	
		LV	HV	LV	HV
Onshore ECC Section 1	Section 1 comprises of the landfall and onshore ECC from the landfall to Link 86 (B1242).	44	54	44	54

Section	Section Description	Development Scenarios			
		Zone 4 Peak Daily Vehicle Trips		Zone 8 Peak Daily Vehicle Trips	
		LV	HV	LV	HV
Onshore ECC Section 2	Section 2 comprises of the onshore ECC between Link 86 and Link 73 (Dunnington Lane).	81	72	81	72
Onshore ECC Section 3	Section 3 comprises of the onshore ECC between Link 73 and Link 79 (Grange Road).	81	53	81	53
Onshore ECC Section 4	Section 4 comprises of the onshore ECC between Link 79 and Link 72 (Frodingham Road).	81	32	81	32
Onshore ECC Section 5	Section 5 comprises of the onshore ECC between Link 72 and Hempholme Lane.	81	55	81	55
Onshore ECC Section 6	Section 6 comprises of the onshore ECC from Hempholme Lane to approximately 200m south of New Road.	81	42	81	42
Onshore ECC Section 7	Section 7 comprises of the onshore ECC from 200m south of New Road to the Holderness Drain	88	56	88	56
Onshore ECC Section 8	Section 8 comprises of the onshore ECC from between Holderness Lane to approximately 85m west of Link 68 (Aike Lane)	81	47	81	47
Onshore ECC Section 9	Section 9 comprises of the onshore ECC from 85m west of Link 68 to the Scorborough Beck and the Beverley to Bridlington Railway line.	111	38	111	38
Onshore ECC Section 10	Section 10 comprises of the onshore ECC between the Beverley to Bridlington Railway line and Bealey's Beck.	88	56	88	56
Onshore ECC Section 11	Section 11 comprises of the onshore ECC between Bealey's Beck and Hudson Way.	88	57	88	57

Section	Section Description	Development Scenarios			
		Zone 4 Peak Daily Vehicle Trips		Zone 8 Peak Daily Vehicle Trips	
		LV	HV	LV	HV
Onshore ECC Section 12	Section 12 comprises of the onshore ECC between Hudson Way and Link 57 (Walkington Heads).	88	57	88	57
Onshore ECC Section 13	Section 13 comprises of the onshore ECC between Link 57 and Link 52 (Coppleflat Lane) and OCS Zone 8.	88	60	88	60
Onshore ECC Section 14N (HVAC / HVDC)*	Section 14N comprises of the onshore ECC between Link 52 and OCS Zone 4. The onshore ECC continues onward from Zone 4 to Birkhill Wood Substation.	85	66	85	66
Onshore ECC Section 14S (HVAC)*	Section 14S comprises of the onshore ECC between Link 52 and Birkhill Wood Substation.	81	78	81	78
OCS - Zone 4**	Contained within Section 14N	396	192	396	192
ESBI – Zone 4**	Contained within Section 14N	260	40	260	40
OCS - Zone 8**	Contained within Section 13	396	192	396	192
ESBI – Zone 8**	Contained within Section 13	260	40	260	40
Totals		1,820	988	1,820	988

* The worst-case traffic flows between 14N and 14S are included within 'Totals' row for the Project.

** Only one OCS and ESBI traffic flows are included within 'Totals' row for the Project.

510000

520000

460000

450000

N

AP1

AP2

AP3

MCC 5

AC1 - East

AC1 - West

AC2 - West

AC2 - East

AP4

AP5

AP6

AP7

MCC 1A

ICC1

AP8

MCC 1B

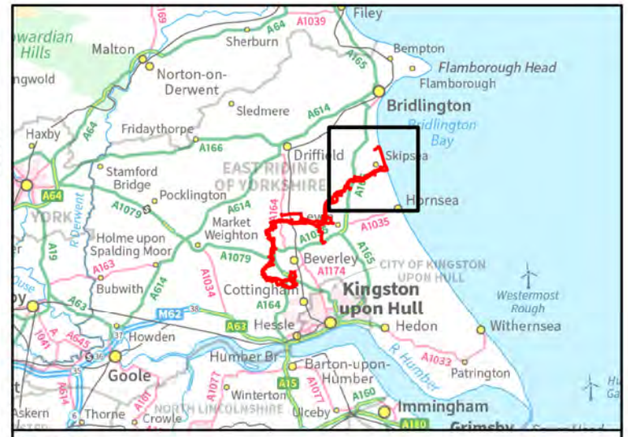
AP9

AP10

AP11

AC3 - East

0 0.5 1 2 Kilometres



Legend:

- Onshore Development Area
- Proposed Haul Road Crossings
- Proposed Construction Accesses

Indicative Temporary Construction Compound Locations

- Intermediate Construction Compound for Onshore Export Cable Works
- Main Construction Compound for Onshore Export Cable Works
- Landfall Construction Compound

Indicative Onshore Export Cable Corridor Sections

- Section 1
- Section 2
- Section 3
- Section 4
- Section 5
- Section 6

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Construction Accesses, Haul Road Crossings, Temporary Construction Compounds and Onshore Export Cable Route Sections - Sheet 1 of 3

Figure: 26-2-3

Drawing No: PC6250-RHD-XX-ON-DR-GS-0502

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	03/04/2025	JH	AG	A3	1:50,000
01	23/01/2025	JH	AG	A3	1:50,000

Co-ordinate system: British National Grid

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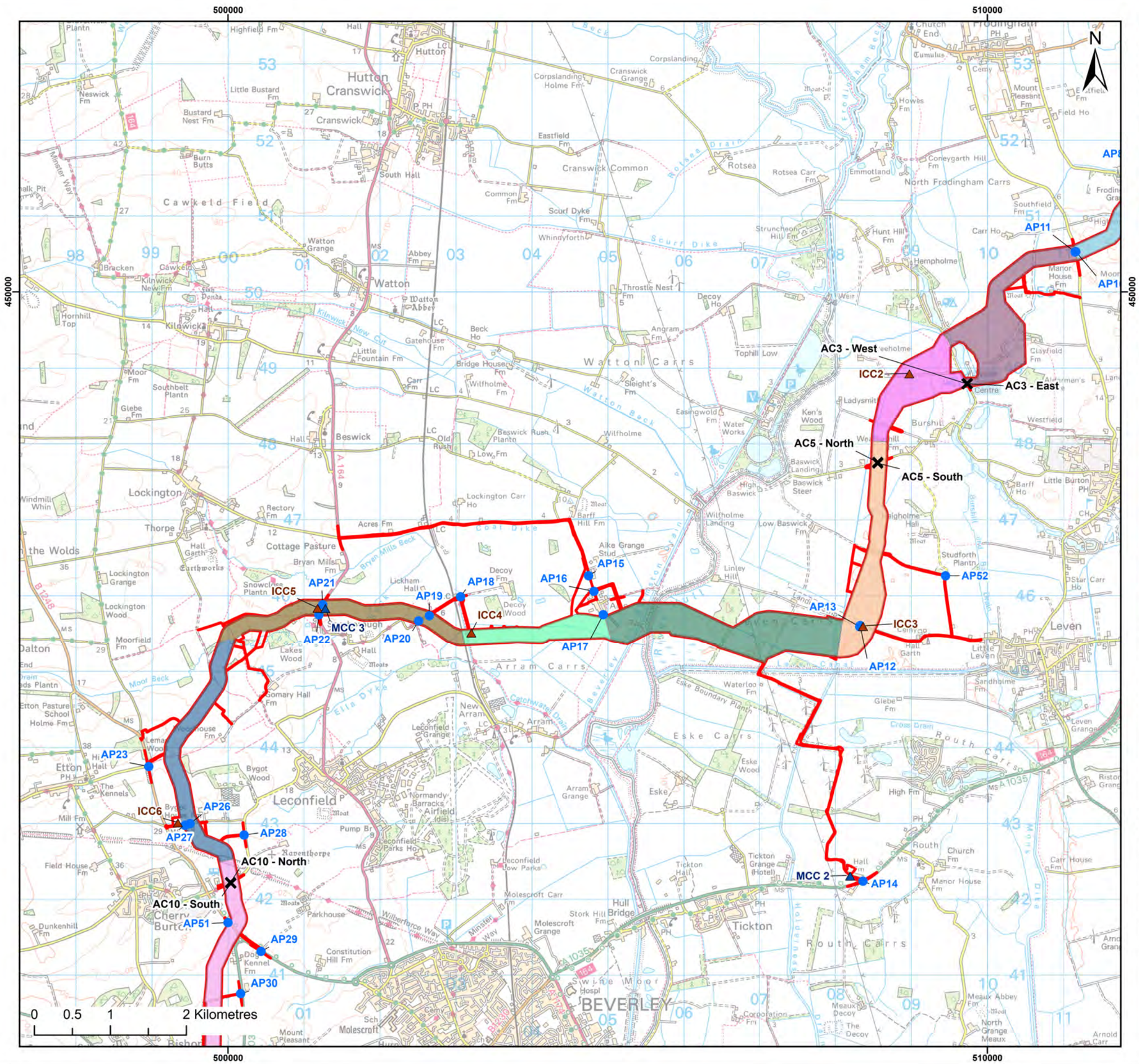

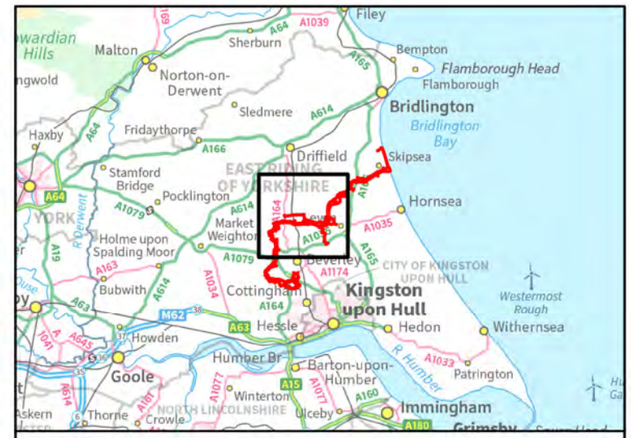

Legend:

- Onshore Development Area
- Proposed Haul Road Crossings
- Proposed Construction Accesses

Indicative Temporary Construction Compound Locations

- Intermediate Construction Compound for Onshore Export Cable Works
- Main Construction Compound for Onshore Export Cable Works

Indicative Onshore Export Cable Corridor Sections

- Section 4
- Section 5
- Section 6
- Section 7
- Section 8
- Section 9
- Section 10
- Section 11
- Section 12

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Construction Accesses, Haul Road Crossings, Temporary Construction Compounds and Onshore Export Cable Route Sections - Sheet 2 of 3

Figure: 26-2-3

Drawing No: PC6250-RHD-XX-ON-DR-GS-0502

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	03/04/2025	JH	AG	A3	1:50,000
01	23/01/2025	JH	AG	A3	1:50,000

Co-ordinate system: British National Grid

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500000

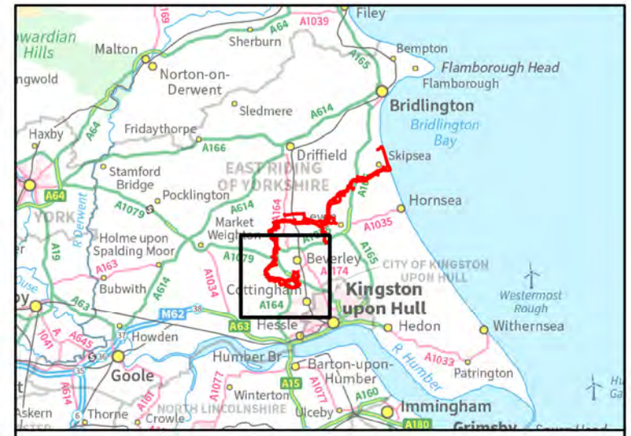
440000

430000

ICC6
AP26
AP27
AP28
AC10 - North
AC10 - South
AP51
AP29
AP30
ICC7
AP36
AP37
AC13 - West
AC13 - East
AP40
AP41
AC15 - North
AC15 - South
AC16 - North
AC16 - South
AC17 - East
AC17 - West
AC18 - West
AC18 - East
Zone 8
AP42b
AP43
MCC 4A
AP42a
MCC 4B
AP44
AP45
AP47
AP48
AP49b
Zone 4
AP49a
AP50
ICC8
AP46
MCC 2
AP14

N

0 0.5 1 2 Kilometres



Legend:

- Onshore Development Area
- Onshore Converter Station Zone Options
- Indicative Birkhill Wood Substation Location
- Proposed Haul Road Crossings
- Proposed Construction Accesses

Indicative Temporary Construction Compound Locations

- Intermediate Construction Compound for Onshore Export Cable Works
- Main Construction Compound for Onshore Export Cable Works

Indicative Onshore Export Cable Corridor Sections

- Section 11
- Section 12
- Section 13
- Section 14N
- Section 14S

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Construction Accesses, Haul Road Crossings, Temporary Construction Compounds and Onshore Export Cable Route Sections - Sheet 3 of 3

Figure: 26-2-3

Drawing No: PC6250-RHD-XX-ON-DR-GS-0502

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	03/04/2025	JH	AG	A3	1:50,000
01	23/01/2025	JH	AG	A3	1:50,000

Co-ordinate system: British National Grid

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26.2.6.3 Material and Personnel Demand

271. **Section 26.2.6.2** details the worst-case traffic demand per section from scenarios that are subject to detailed assessment within the PEIR (see **Volume 1, Chapter 26 Traffic and Transport**)

272. The following section therefore outlines how the traffic generation that has informed the assessment (presented in **Volume 1, Chapter 26 Traffic and Transport**) has been derived.

273. **Annex 26.2.6** details the forecast quantity of materials and plant movements associated with HV and LV trips that could be expected for each of the onshore construction activities for the Project.

274. To ensure that minor omissions of design changes can be accommodated within the assessed traffic flows, the following approach has been applied:

- An appropriate level of contingency (reflecting the uncertainties in the design) has been applied to all HV and LV trips. Full details are contained within **Annex 26.2.6**;
- HGV and employee movements have been averaged over 5.5 working days rather than six as a worst case scenario; and
- The personnel movements contained within the total LV movements within **Annex 26.2.6** have been based upon one employee to one vehicle, where in reality, many construction employees may car-share, or travel in contractor provided minibuses. The DCO application will be supported by an Outline Construction Traffic Management Plan (CTMP) (see Commitment ID CO73, in **Table 26-6** of **Volume 1, Chapter 26 Traffic and Transport**) that will contain a range of measures to encourage and promote a reduction in single occupancy vehicle trips amongst construction employees. The Outline CTMP will inform the development of the detailed CTMP post-consent, which will be secured in a DCO requirement.

275. Having derived the total traffic flow for the Project (**Annex 26.2.6**), these movements have been distributed into 14 discrete onshore ECC sections reflecting the extent of the Project's onshore infrastructure that can be served from each access. The extent of each section is depicted graphically within **Figure 26.2-3** and described further in **Table 26.2-26.**

276. To develop the construction programme, industry guidance for productivity has been utilised to forecast the shortest realistic construction duration for the Project and therefore maximum intensity.

277. **Annex 26.2.7** disaggregates the Project's total construction traffic demand (contained in **Annex 26.2.6**) by section and programme to provide total daily HV and LV trips per week.

278. It can be observed from **Annex 26.2.7** that construction traffic demand fluctuates according to the intensity of activities that are occurring at any point in the programme.

279. It can be observed from **Annex 26.2.7** that the most intense period of construction activity would be a peak of 811 LV trips in month 19 and 425 HV trips in month 4.

280. The selection of a discrete peak month per mode would not include a tolerance for 'real-time' programme changes (e.g. slippage/acceleration) and when the trips are assigned, could underestimate impacts on the local highway network. Therefore, to consider a worst case, the peak trips per section are assumed to occur at the same time.

281. The selection of the peak demand per section (selecting orange highlighted cells in **Annex 26.2.7**) would provide tolerance for any slippage/acceleration in individual sections and generate a theoretical worst case scenario week for the purposes of examining the potential impacts upon the local road network.

282. The use of a theoretical worst case scenario week for the Project results in a peak of:

- 1,820 LV trips per day, compared to the peak 811 LV trips per day in month 19; and
- 988 HV trips per day, compared to the peak of 425 HV trips per day in month 4.

283. These peaks are therefore adopted for the purposes of considering a worst-case scenario on the local road network. This method has the advantage of assessing the peak impact on all local links and is therefore appropriate for applying EATM screening for environmental impacts.

284. However, there is a drawback in that the potential combined traffic flows on the main A road (the 'collector roads') are unrealistically overestimated by assigning traffic flows for 14 sections of peak activity concurrently. Traffic flows have therefore been capped at the worst-case peak month of month 4 when there could be 425 HV trips per day for the Project.

285. No cap has been applied to LV trips. However, it should be noted that the LV numbers do not include difficult to predict trips between the Project's accesses (e.g. site supervision) or off-peak deliveries/servicing to site (e.g. small plant deliveries, office cleaning) as these would be of an incidental magnitude and unlikely to lead to significant effects.

26.2.6.4 Construction Traffic Assignment

286. Having derived the works case traffic demand per section, it is necessary to assign the construction traffic to the highway network.

287. A two-stage process to assigning construction traffic movements has been adopted. The first stage assigns traffic from each section to a corresponding access or accesses (known as a destination), and the second stage assigns traffic from the destination to its origin.

26.2.6.4.1 Construction Traffic Assignment (Destinations)

288. The destination for all construction traffic will be the temporary construction accesses (noted as AP) from the highway network to the respective sections. **Table 26.2-26** describes the proposed approach to the assignment of the peak construction traffic demand (**Annex 26.2.7**) per section to a corresponding access (destination). **Figure 26.2-3** depicts the proposed construction accesses.

Table 26.2-26 Proposed Accesses and Associated Sections

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
Onshore ECC Section 1	Section 1 comprises of the landfall and onshore ECC from the landfall to Link 86 (B1242).	44	54	Traffic accessing Section 1 would travel to AP2 on the B1242 (Link 86). AP2 would serve as access to the landfall construction compound.	For project flexibility and potential impact assessments, 100% of HV traffic travelling to AP2 is assigned via the B1242 (Link 88) from the north and via the B1259 (Link 87) from the west. The Project has committed that no HV traffic would travel to AP2 from the south, i.e. from the direction of Atwick and Hornsea. This is captured within the draft version of the **Outline Construction Traffic Management Plan** (document reference 8.15) provided with the PEIR and will be secured in a DCO requirement (see **Table 26-6** and **Table 26-35** in **Volume 1, Chapter 26 Traffic and Transport**, Commitment ID CO73 and CO111). 100% of total LV traffic to Section 1 is assigned to AP2.
Onshore ECC Section 2	Section 2 comprises of the onshore ECC between Link 86 and Link 73 (Dunnington Lane).	81	72	Two accesses are proposed for Section 2. One access (AP3) is proposed to the east on the B1242 (Link 86) and a second access (AP4) to the west via Dunnington Lane (Link 73). To allow construction traffic to travel east/west along the temporary haul road from AP3 or AP4 and cross over Brewholme Lane and Dunnington Lane, crossing points AC1 and AC2 would be provided. No construction traffic would be permitted to access or egress onto the public highway at AC1 or AC2.	For project flexibility and potential impact assessments, 100% of HV traffic travelling to AP3 is assigned via the B1242 (Link 88) from the north and via the B1259 (Link 87) from the west. Traffic would travel to AP4 from the west via Link 73 to the A165. The Project has committed that no HV traffic would travel to AP3 from the south, i.e. from the direction of Atwick and Hornsea. This is captured within the draft version of the **Outline Construction Traffic Management Plan** (document reference 8.15) provided with the PEIR and will be secured in a DCO requirement (see **Table 26-6** and **Table 26-35** in **Volume 1, Chapter 26 Traffic and Transport**, Commitment ID CO73 and CO111). 50% of total LV traffic to Section 2 is assigned to AP3 and 50% towards AP4.
Onshore ECC Section 3	Section 3 comprises of the onshore ECC between Link 73 and Link 79 (Grange Road).	81	53	Three access options to Section 3 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • One access (AP5) is proposed to the east via Dunnington Lane (Link 73). • Accesses AP6 and AP7 would be direct from the A165 (Link 3). There is potential for AP7 to serve as access to a main construction compound (MCC1a). AP6 would serve as access to an intermediate construction compound (ICC1). • The fourth access (AP8) is proposed to the southeast via Grange Road (Link 79).	Three Section 3 access routes are proposed at PEIR stage: • 100% of HV traffic would travel to AP5 from the west via Link 73 to the A165. No HV traffic would access from the south. • 100% of HV traffic would travel to AP6 and AP7 from the south via Link 3 (A165). No HV traffic would travel from the north. • 100% of HV traffic would travel to AP8 from the southeast via Link 79. No HV traffic would access from the northwest. To assess the impact of MCC1a, 100% of total LV traffic is assigned to AP7 with 25% assigned to AP5, 25% to AP6 and 25% to AP8.
Onshore ECC Section 4	Section 4 comprises of the onshore ECC between Link 79 and Link 72 (Frodingham Road).	81	32	Three access options to Section 4 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders:	Three Section 4 access routes are proposed at PEIR stage: • 100% of HV traffic would travel to AP7 from the south via Link 3 (A165). No HV traffic would travel from the north.

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
				• Access AP7 would be direct from the A165 (Link 3) routing along Section 3's temporary haul road. • The second access (AP9) is proposed to the northeast via Grange Road (Link 79). • The third access (AP10) is proposed to the south via Brandesburton Road (Link 72). There is potential for AP7 or AP9 to serve as access to a main construction compound (MCC1a or MCC1b).	• 100% of HV traffic would travel to AP9 from the southeast via Link 79. No HV traffic would access from the northwest. • 100% of HV traffic would travel to AP10 from the north via Links 71 (Brandesburton Road) and Link 72 (B1249). No HV traffic would access from the south. To assess the impact of MCC1a or MCC1b, 100% of total LV traffic is assigned to AP7 and AP9 with 33% assigned to AP10.
Onshore ECC Section 5	Section 5 comprises of the onshore ECC between Link 72 and Hempholme Lane.	81	55	Three access options to Section 5 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • Access AP7 would be direct from the A165 (Link 3) routing along Section 3 and 4's temporary haul road. • The second access (AP9) is proposed to the northeast via Grange Road (Link 79), routing along Section 4's temporary haul road. • The third access (AP11) is proposed to the north via Brandesburton Road (Link 72). There is potential for AP7 or AP9 to serve as access to a main construction compound (MCC1a or MCC1b).	Three Section 5 access routes are proposed at PEIR stage: • 100% of HV traffic would travel to AP7 from the south via Link 3 (A165). No HV traffic would travel from the north. • 100% of HV traffic would travel to AP9 from the southeast via Link 79. No HV traffic would access from the northwest. • 100% of HV traffic would travel to AP11 from the north via Links 71 (Brandesburton Road) and Link 72 (B1249) to the A165. No HV traffic would access from the south. To assess the impact of MCC1a or MCC1b, 100% of total LV traffic is assigned to AP7 and AP9 with 33% assigned to AP11.
Onshore ECC Section 6	Section 6 comprises of the onshore ECC from Hempholme Lane to approximately 200m south of New Road.	81	42	Three access options to Section 6 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • Access AP7 would be direct from the A165 (Link 3) routing along Section 3, 4 and 5's temporary haul road. • The second access (AP9) is proposed to the northeast via Grange Road (Link 79), routing along Section 4 and 5's temporary haul road. • The third access (AP11) is proposed to the north via Brandesburton Road (Link 72) There is potential for AP7 or AP9 to serve as access to a main construction compound (MCC1a or MCC1b). To allow construction traffic to travel north/south between Section 5 and Section 6 along the temporary haul road and divert to a suitable crossing point over Hempholme Lane, crossing point AC3 would be provided. To allow construction traffic to travel north/south within Section 6 along the temporary haul road, crossing point AC4 would be provided. No construction traffic would be permitted to access or egress onto the public highway at AC3 or AC4.	Three Section 6 access routes are proposed at PEIR stage: • 100% of HV traffic would travel to AP7 from the south via Link 3 (A165). No HV traffic would travel from the north. • 100% of HV traffic would travel to AP9 from the southeast via Link 79. No HV traffic would access from the northwest. • 100% of HV traffic would travel to AP11 from the north via Links 71 (Brandesburton Road) and Link 72 (B1249) to the A165. No HV traffic would access from the south. To assess the impact of MCC1a or MCC1b, 100% of total LV traffic is assigned to AP7 and AP9 with 33% assigned to AP11.

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
Onshore ECC Section 7	Section 7 comprises of the onshore ECC from 200m south of New Road to the Holderness Drain	88	56	Seven access options to Section 7 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders • Access AP7 would be direct from the A165 (Link 3) routing along Section 3, 4, 5 and 6's temporary haul road. • The second access (AP9) is proposed to the northeast via Grange Road (Link 79), routing along Section 4, 5 and 6's temporary haul road. • The third access (AP11) is proposed to the north via Brandesburton Road (Link 72) routing along Section 4, 5 and 6's temporary haul road. • The fourth access (AP52) is proposed to the east via Heigholme Lane (Link 99). • The fifth and sixth accesses AP12 and AP13 are proposed to the north (AP12) and to the south (AP13) via West Street / private track (Link 81). • The seventh and final access (AP14) is from the south at the Rough Farm access off the A1035. There is potential for AP7 or AP9 to serve as access to a main construction compound (MCC1a or MCC1b). AP14 would serve as access to a main construction compound (MCC2). To allow construction traffic to travel north/south within Section 7 along the temporary haul road, crossing points AC5 and AC6 (private road) would be provided. No construction traffic would be permitted to access or egress onto the public highway at AC5 or AC6 (private road).	Seven Section 7 access routes are proposed at PEIR stage: • 100% of HV traffic would travel to AP7 from the south via Link 3 (A165). No HV traffic would travel from the north. • 100% of HV traffic would travel to AP9 from the southeast via Link 79. No HV traffic would access from the northwest. • 100% of HV traffic would travel to AP11 from the north via Links 71 (Brandesburton Road) and Link 72 (B1249) to the A165. No HV traffic would access from the south. • 100% of HV traffic would travel to AP52 from the east via Link 99 (Heigholme Lane). For project flexibility and potential impact assessments, 100% of HV traffic is assigned to both Link 82 (Beverley Road) from the south and Link 84 from the north (New Road). Both links connect to the A165. • 100% of HV traffic would travel to AP12 and AP13 via Link 81 (West Street / Carr Lane) from the east. For project flexibility and potential impact assessments, 100% of HV traffic is assigned to both Link 82 (Beverley Road) from the south and Link 84 from the north (New Road). Both links connect to the A165. • 100% of HV traffic would travel to AP14 from the south directly from the A1035 (Link 7). To assess the impact of MCC1a, MCC1b and MCC2, 100% of total LV traffic is assigned to AP7, AP9 and AP14 respectively. The remaining accesses AP11, AP12, AP13 and AP52 are each assigned 14% of total LV traffic.
Onshore ECC Section 8	Section 8 comprises of the onshore ECC from between Holderness Lane to approximately 85m west of Link 68 (Aike Lane)	81	47	Two access options to Section 8 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • One access (AP14) is from the south at the Rough Farm access off the A1035. AP14 would serve as access to a main construction compound (MCC2). • For the second access, the Applicant is considering two options (AP16 or AP17). o AP16 to the north off Link 68 (Aike Lane) would require a temporary haul road which would utilise AC7 (private road) crossing point across Aike Lane to connect into Section 8. o AP17 is proposed off Link 68 to the south of Aike.	Two Section 8 access options routes are proposed: • 100% of HV traffic would travel to AP14 from the south directly from the A1035 (Link 7). • 100% of HV traffic would travel to AP16 or AP17 via Link 67 (Aike Lane) from the north which provides a link to the A164. 100% of total LV traffic to Section 8 is assigned to AP14 and 50% towards AP16/AP17.

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
Onshore ECC Section 9	Section 9 comprises of the onshore ECC from 85m west of Link 68 to the Scorborough Beck and the Beverley to Bridlington Railway line.	111	38	Two access options to Section 9 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • One access (AP21) is from the west directly from the A164 (Link 66). HV traffic would route east along the temporary haul road and then rejoin the public highway on Scorborough Lane (Link 100) at AP20. Traffic would route northeast for 470m on Scorborough Lane allowing access over the Beverley to Bridlington Railway line at the existing level crossing. Construction traffic would leave Scorborough Lane at AP18 to connect to Section 9. AP18 would serve as access to an intermediate construction compound (ICC4). • For the second access, the Applicant is considering two options (AP15 or AP17). o AP15 is proposed west off Link 68 (Aike Lane) AP15 would require a temporary haul road (600m) to connect into Section 9. o AP17 is proposed off Link 68 to the south of Aike.	Two Section 9 access options routes are proposed with 100% of HV traffic accessing at both accesses: • Access to AP21 would be provided direct from the A164 (Link 66). • Access to AP15 or AP17 would be via Link 67 (Aike Lane) which provides a link to the A164 (Link 66). All HV traffic would approach from the south on the A164 (Link 66), no HV traffic would travel from the north. 100% of total LV traffic to Section 9 is assigned to AP21 and 50% towards AP15/AP17.
Onshore ECC Section 10	Section 10 comprises of the onshore ECC between the Beverley to Bridlington Railway line and Bealey's Beck.	88	56	Two accesses are proposed for Section 10: • One access (AP21) is from the west directly from the A164 (Link 66). HV traffic would route east along the temporary haul road and then rejoin the public highway on Scorborough Lane (Link 100) at AP20. Construction traffic would route northeast for 150m on the public highway and re-enter Section 10 at AP19 to allow access west of the Beverley to Bridlington Railway line. • One access (AP22) is from the east directly from the A164 (Link 66). AP21 would serve as access to an intermediate construction compound (ICC5). AP22 would serve as access to a main construction compound (MCC3).	Two Section 10 access routes are proposed with 100% of HV traffic accessing at both accesses: • Access to AP21 and AP22 would be provided direct from the A164 (Link 66). All HV traffic would approach from the south on the A164 (Link 66), no HV traffic would travel from the north. 100% of total LV traffic to Section 10 is assigned to AP21 and 100% to AP22.
Onshore ECC Section 11	Section 11 comprises of the onshore ECC between Bealey's Beck and Hudson Way.	88	57	Three access options to Section 11 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • One access, AP23 is from the west off the B1248 (Link 55). Construction traffic would require travelling approximately 300m on a temporary haul road to connect into Section 11 to the east. • AP26 and AP27 allow direct access north and south respectively off Link 56 to Section 11. AP26 serves an intermediate construction compound (ICC6).	Three Section 11 access options routes are proposed: • 100% of HV construction traffic would travel to AP23 from the south via the B1248 (Link 55) which connects to the A1035. No HV construction traffic would travel from the north. • 100% of HV construction traffic would travel to AP26 and AP27 northwards on the B1248 then eastwards on Link 56. No HV construction traffic would access from the east. • 100% of HV construction traffic would travel to AP28 from the south on Miles Lane (Link 58) via the B1248. No HV traffic would travel from the north.

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
				• The third access is AP28 which allows accesses west off Link 58 to Section 11.	100% of total LV traffic to Section 11 is assigned to AP26 and 25% to AP23, 25% to AP27 and 25% to AP28.
Onshore ECC Section 12	Section 12 comprises of the onshore ECC between Hudson Way and Link 57 (Walkington Heads).	88	57	Five access options to Section 12 are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • AP29 would access north off the A1035 (Link 10). Construction traffic would require travelling northwest approximately 360m on a temporary haul road to connect into Section 12 from the south. To allow construction traffic to travel north along the temporary haul road from AP29 and cross over Miles Lane, crossing point AC10 would be provided. No construction traffic would be permitted to access or egress onto the public highway at AC10. • AP30 would west off the A1035 (Link 11). Construction traffic would require travelling northwest approximately 250m on a temporary haul road to connect into Section 12 from the east. • AP36 and AP37 would access directly into Section 12 north and south respectively off the A1079 (Link 76). AP36 would serve an intermediate construction compound (ICC7). • AP40 would access directly north into Section 12 from Walkington Heads (Link 57). To allow construction traffic to travel south from AP29 and north from AP37 along the temporary haul road, crossing point AC13 would be provided to cross over Finchcroft Lane. No construction traffic would be permitted to access or egress onto the public highway at AC13. • AP51 would access west off the B1248 (Link 54). Construction traffic would require travelling.	Five Section 12 access options routes are proposed: • 100% of HV construction traffic would travel to AP29 from the west via the A1035 (Link 10). No HV construction traffic would travel from the east. • 100% of HV construction traffic would travel to AP30 from the south on the A1035. No HV traffic would travel from the north. • 100% of HV construction traffic would approach AP36 and AP37 from the east on the A1079 (Link 76). No HV construction traffic would travel from the northwest from Market Weighton. • 100% of HV construction traffic would approach AP40 via the A1079 from the south, before heading south on Killingwordgrave Lane (Link 60) to the junction with Walkington Heads (Link 57). No HV construction traffic would travel from the west on Walkington Heads. • 100% of HV traffic would travel to AP51 from the south on the B1248 (Link 54). No HV traffic would travel from the north. 100% of total LV traffic to Section 12 is assigned to AP36 and 15% to each of the remaining accesses AP29, AP30, AP37, AP40 and AP51.
Onshore ECC Section 13	Section 13 comprises of the onshore ECC between Link 57 and Link 52 (Coppleflat Lane) and OCS Zone 8.	88	60	Three accesses are proposed for Section 13 at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • AP41 would access directly south into Section 13 from Walkington Heads (Link 57). • Access AP42a is from the east direct from Coppleflat Lane (Link 52) and would serve as the primary operational access for OCS Zone 8. • Access AP42b is from the east direct from Coppleflat Lane (Link 52) and would serve as the primary construction access for OCS Zone 8 and potentially serve a main construction compound (MCC4b). AP42b would be retained during the operational phase for any potential future abnormal indivisible load (AIL) access only.	Two Section 13 access options routes are proposed: • 100% of HV construction traffic would approach AP40 via the A1079, before heading south on Killingwordgrave Lane (Link 60) to the junction with Walkington Heads (Link 57). No HV construction traffic would travel from the west on Walkington Heads. • 100% of HV construction traffic would travel to AP42a and A42b from the south on Dunflat Road and Coppleflat Lane. No HV traffic would travel from the north. 50% of total LV traffic to Section 13 is assigned to AP41 and 100% to AP42a and AP42b. 100% of LV traffic to the OCS and ESBI is assigned to AP42a and AP42b.

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
				To allow construction traffic to travel south from AP41 and north from AP42b along the temporary haul road, the following crossing points would be provided: • AC15 would be provided to cross Middlehowe Road. • AC16 would be provided to cross the B1230. • AC17 would be provided to cross Little Weighton Road. • AC18 would be provided to cross Risby Lane No construction traffic would be permitted to access or egress onto the public highway at AC15, AC16, AC17 or AC18.	
Onshore ECC Section 14N (HVAC / HVDC)	Section 14N comprises of the onshore ECC between Link 52 and OCS Zone 4. The onshore ECC continues onward from Zone 4 to Birkhill Wood Substation.	741	298	Six access options to Section 14N are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders: • Access AP43 is from the west direct from Coppleflat Lane (Link 52) and would serve a main construction compound (MCC4a). • AP46 located on Manor Farm Cottages (Link 69) would access directly from the new Jock's Lodge Junction Improvement Scheme (East Riding of Yorkshire Council, 2025a). • AP48 would access directly off the new Jock's Lodge Junction Improvement Scheme (East Riding of Yorkshire Council, 2025a) via a left turn in and left turn out onto Link 15. • One of two options currently exist to enable construction and operational access to OCS Zone 4, AP49a would access from the north direct from the A164 Roundabout junction with Ward Way. • The second of two options to enable construction and operational access to OCS Zone 4, AP49b would access from the west directly off the new Jock's Lodge Junction Improvement Scheme via a left turn in and left turn out onto Link 46. • AP50 is proposed in the same location as the proposed access to the Hornsea Project Four Offshore Wind Farm's onshore substation (from the A1079). AP50 could therefore provide a temporary connection to the new Hornsea Project Four access, or in the event that Hornsea Project Four doesn't come forward, provide a new access adopting the consented Hornsea Project Four onshore substation access designs. AP50 would serve an intermediate construction compound (ICC8).	Five Section 14N access options routes are proposed with 100% of HV traffic accessing each access: • 100% of HV construction traffic would travel to AP43 from the south on Dunflat Road and Coppleflat Lane. No HV traffic would travel from the north. • Access to AP46 would be provided via the new Jocks Lodge Junction Improvement Scheme approaching from the south. Traffic would require turning into the access and left turning out of the access onto Link 14. • Access to AP48 would be provided via the new Jocks Lodge Junction Improvement Scheme approaching from the south. Traffic would require turning into the access and left turning out of the access onto Link 14. • Access to AP49a and AP49b would be provided via the new Jocks Lodge Junction Improvement Scheme approaching from the south. Traffic to AP49a would require turning south from the A164 roundabout junction with Ward Way. Traffic to AP49b would require turning left into the access and left turning out of the access onto link 46. No HV traffic would travel from the east along Link 44 (A164). • Access to AP50 would be provided direct from the A1079. The assessment assigns 100% of total LV traffic to AP43, AP48 and AP50 with 33% to AP46. 100% of LV traffic to the OCS and ESBI is assigned to AP49a and AP49b.
Onshore ECC Section 14S (HVAC)	Section 14S comprises of the onshore ECC between Link 52 and Birkhill Wood Substation.	736	310	Four access options to Section 14S are proposed at PEIR stage. Further refinement of the access strategy will be considered post-PEIR in consultation with stakeholders:	Five Section 14S access options routes are proposed:

Section	Description of Section	Peak Daily Trips per Section		Access Strategy	Route
		LV	HV		
				• Access AP42a is from the east direct from Coppleflat Lane (Link 52) and would serve as the primary operational access for OCS Zone 8. • Access AP42b is from the east direct from Coppleflat Lane (Link 52) and would serve as the primary construction access for OCS Zone 8 and potentially serve a main construction compound (MCC4b). AP42b would be retained during the operational phase for any potential future AIL access only. • AP44 and AP45 would access directly into Section 14S north and south respectively off Dunflat Road (Link 85). • AP47 would access off the new Jock's Lodge Junction Improvement Scheme (East Riding of Yorkshire Council, 2025b) via a left turn in and left turn out onto Link 17 (A164) and cross over the proposed agricultural and equestrian track into Section 14S. This allows the only access into the east side of the A164 for Section 14S.	• 100% of HV construction traffic would travel to AP42a and AP42b from the south on Dunflat Road and Coppleflat Lane. No HV traffic would travel from the north. • 100% of HV construction traffic would approach AP44 and AP45 from the east on Dunflat Road. No HV traffic would travel from the west. HV construction traffic would travel to AP47 via the A164 from the south and perform a U-turn manoeuver at the Jock's Lodge Roundabout coming back southbound on the A164 followed by a left turn into AP47. The assessment assigns 100% of total LV traffic to AP42a and AP42b with 25% to each of AP44, AP45 and AP47.

26.2.6.4.2 Construction Traffic Assignment (Origins)

289. At the time of drafting the PEIR, early contractor involvement is not able to inform the supply chain for materials and workforce, as the procurement process has not yet commenced. Therefore, for the purpose of the assessment, traffic distribution is based upon worst-case assumptions for HV distribution, utilising assumed supply chain origins and refined socio-economics data to identify skills and employee origins for employees.

26.2.6.4.2.1 HV Assignment

290. Bulk materials such as concrete, stone and aggregate would make up the majority of total HV trips for the Project. A review of the potential supply chain within the Traffic and Transport Study Area indicates that while there are a number of local suppliers that may meet some of the demand for the Project, they are unlikely to meet the substantive material demands required of the Project.

291. It has therefore been assumed that for the purpose of a worst-case HV assessment, HVs have been distributed towards the ports of Hull (Queen Elizabeth and King George Docks) located along the A63 and A1033 corridor and the Albert Docks off Neptune Street. To ensure a worst-case assessment, 100% of HV traffic has been assigned to all A63 and A1033 links, i.e. 100% of the Project's daily HV traffic has been assigned to Links 23, 24, 25, 26, 27, 28, 29, and 30. In addition to 100% of daily traffic assigned to minor Links to 48, 49 and 50. All links are detailed in **Figure 26.2-1** .

292. It has also been assumed that as a worst-case 100% of HV traffic would travel north from the A63 / A1033 (Links 13, 14, 15, 16, 17, 18, 19, 20, 21 and 80) and 100% would also travel north via the A1033 / A1079 (Links 31, 38, 39, 40, 41 and 42).

293. In addition to assigning 100% of HV traffic north from the A62 / A1033 corridor via the A164 and A1033 / A1079, a proportion of the total daily HV traffic has also been assigned via the A165. Traffic is assigned to the A165 (Links 33, 34, 35, 36, 37 and 51) as an alternative for HV travelling to accesses north of the A165 (i.e. accesses AP1 to AP14). The assignment therefore assigns 100% of the HV traffic travelling to accesses is AP1 to AP14 to the A164, A1033 / A1079 and A165.

294. The assessment strategy is not intended to preclude the local supply chain, rather trips from any local suppliers (such as quarries) within the Traffic and Transport Study Area would be captured within extant permissions and baseline traffic flows and therefore are not assessed separately.

26.2.6.4.2.2 LV Assignment

295. To inform the potential distribution of construction employees for the Project, the availability of local labour in rented accommodation has been reviewed as part of the socio-economic study to inform the potential employee distribution.

296. The types of specialist skills required for projects such as DBD means that construction personnel often have to be drawn from across the country (referred to as in-migrant labour) and not necessarily from local labour sources.

297. The socio-economic EIA specialists have estimated that 70% of the workforce would be drawn from the local area (known as 'resident' labour). The remaining 30% of the workforce would be sourced from a distance beyond a reasonable daily commute (referred to as 'in-migrant' labour).

298. For the purpose of a proportional assessment for measuring journey times for employees, a single centroid located to the South of Beverley at the intersection of the A1079 and A164 has been selected.

299. Those personnel who are not local (in-migrant) labour, i.e. beyond a reasonable daily commute (up to a 60-minute drive), are likely to base themselves within temporary local accommodation.

300. The distribution of local hotel accommodation per postcode cluster is outlined within **Annex 26.2.8** of this appendix. The distribution of hotel bed spaces per postcode cluster has been factored using a gravity model, whereby the number of bed spaces is divided by the journey time from the centroid (taken from the Google Maps route planner during a 7am to 8am neutral weekday).

301. **Annex 26.2.8** also assigns each postcode cluster a point of entry onto the highway network to inform the distribution of employees.

302. The distribution of residents within the local area with the relevant skill sets has been examined. The number of residents working in the construction sector per postcode within the region has been informed by Table QS605EW (Industry) derived from the 2011 Census (Office for National Statistics, 2011). The distribution of local employees per postcode cluster is outlined within **Annex 26.2.9** of this appendix.

303. Local employees have been factored using a gravity model, whereby the number of employees is divided by the journey time from the centre of the postcode cluster to the centroid (taken from the Google Maps route planner during a 7am to 8am neutral weekday). **Annex 26.2.10** of this appendix also assigns each postcode cluster a point of entry onto the Traffic and Transport Study Area to inform the distribution of local employees.

26.2.6.5 Construction Traffic Assignment Summary

304. The assignment of peak daily LV trips per access from their respective origin point of entry to the Traffic and Transport Study Area (outlined in **Annex 26.2.8** and **Annex 26.2.9**) to their respective destination (outlined in **Table 26.2-26**) is detailed within **Annex 26.2.10**.

305. The assignment of peak HV trips per access from their respective origin point of entry to the Traffic and Transport Study Area (the A63 and A1033) to their respective destination (outlined in **Table 26.2-26**) is detailed within **Annex 26.2.11** of this appendix.

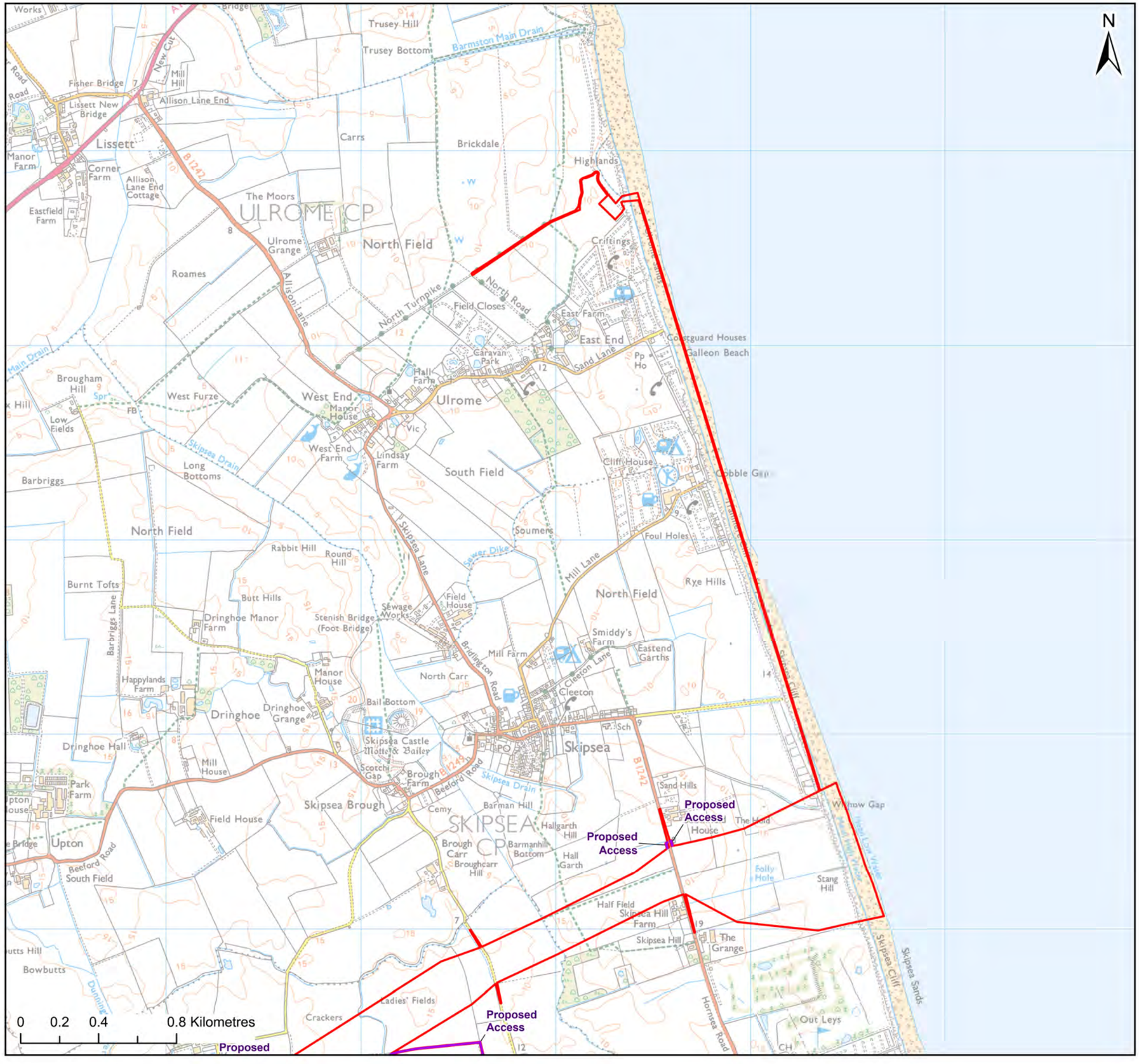
306. **Annex 26.2.12** of this appendix provides a summary of the forecast worst-case peak daily HV and LV trips on each of the links within the Traffic and Transport Study Area for the Project.

26.2.7 Access Strategy

26.2.7.1 Introduction

307. The proposed construction access strategy for the Project is described in **Table 26.2-26,** and the approximate location of the proposed accesses and crossings are shown on **Figure 26.2-3**.

308. During the operational phase, traffic movements associated with the landfall and onshore ECC would be limited to periodic inspection / maintenance activities at the TJB / jointing bay and link box locations. Access to each field parcel at the landfall and along the onshore ECC is available from the identified operational side accesses using existing field entry points where possible or accessing from road crossings. Due to the limited nature of these activities, the TA and draft Outline CTMP (document reference 8.15) does not consider operational accesses for the landfall and onshore ECC. The operational accesses identified within the Onshore Development Area are shown on **Figure 26.2-4**.



Legend:

- Onshore Development Area
- Proposed Operational Accesses for the Onshore Export Cable Corridor

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Operational Accesses
- Sheet 1 of 7

Figure: 26-2-4

Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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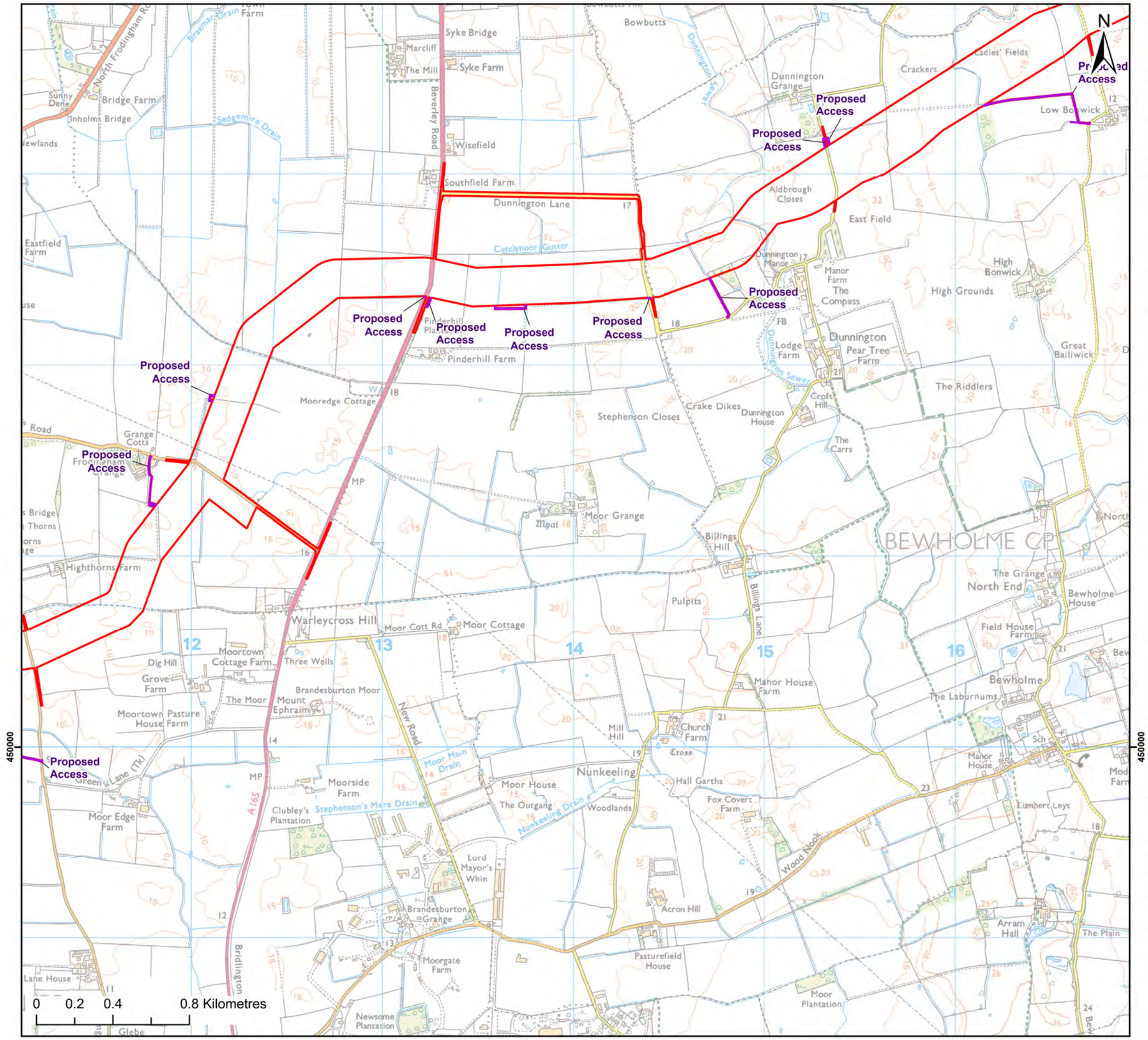

Legend:

🟥 Onshore Development Area

🟪 Proposed Operational Accesses for the Onshore Export Cable Corridor

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Project:

Dogger Bank D
Offshore Wind Farm

Title:

Proposed Operational Accesses
- Sheet 2 of 7

Figure: 26-2-4

Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

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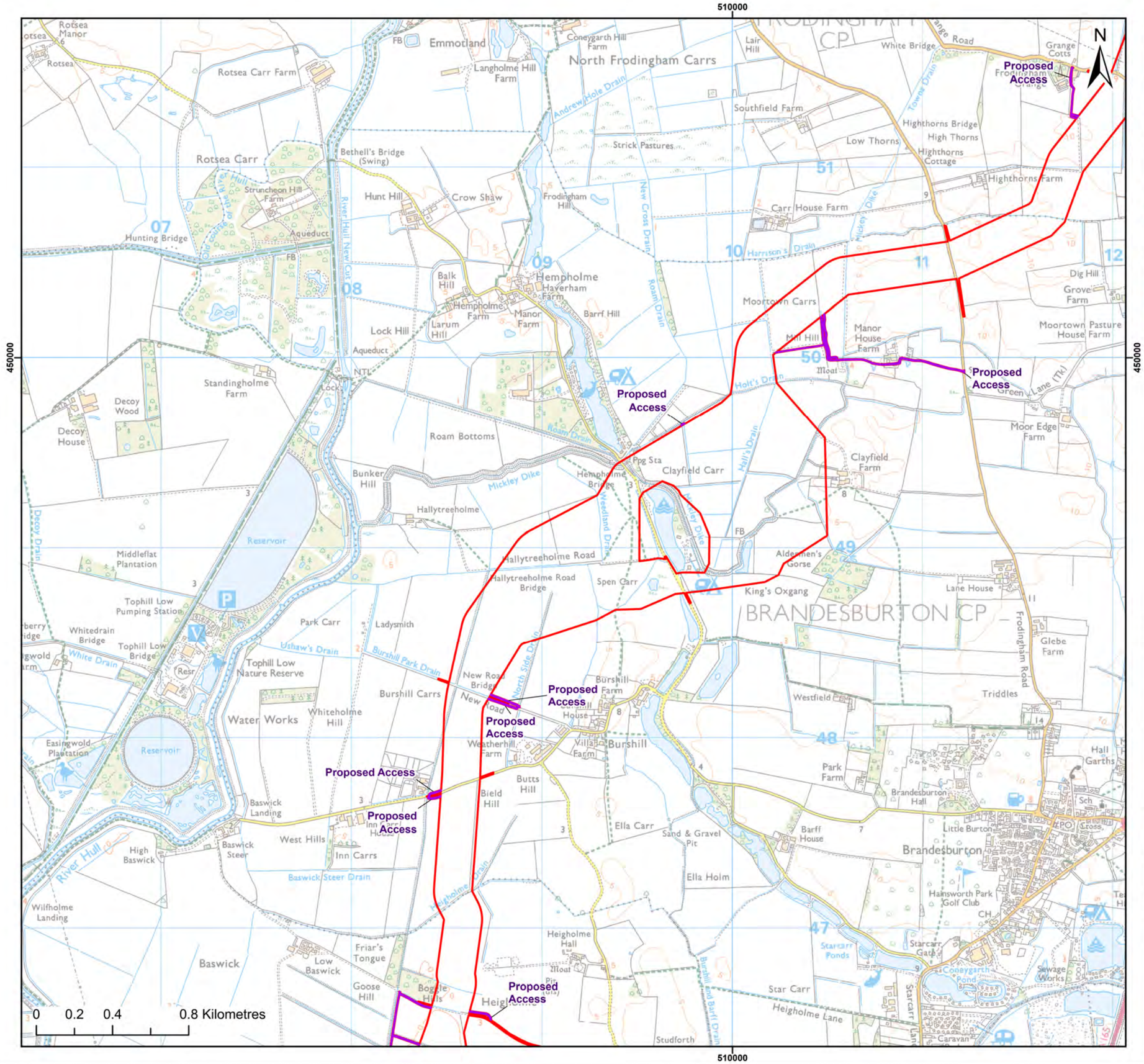

Legend:

- Onshore Development Area
- Proposed Operational Accesses for the Onshore Export Cable Corridor

Project:

Dogger Bank D
Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Operational Accesses
- Sheet 3 of 7

Figure: 26-2-4

Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

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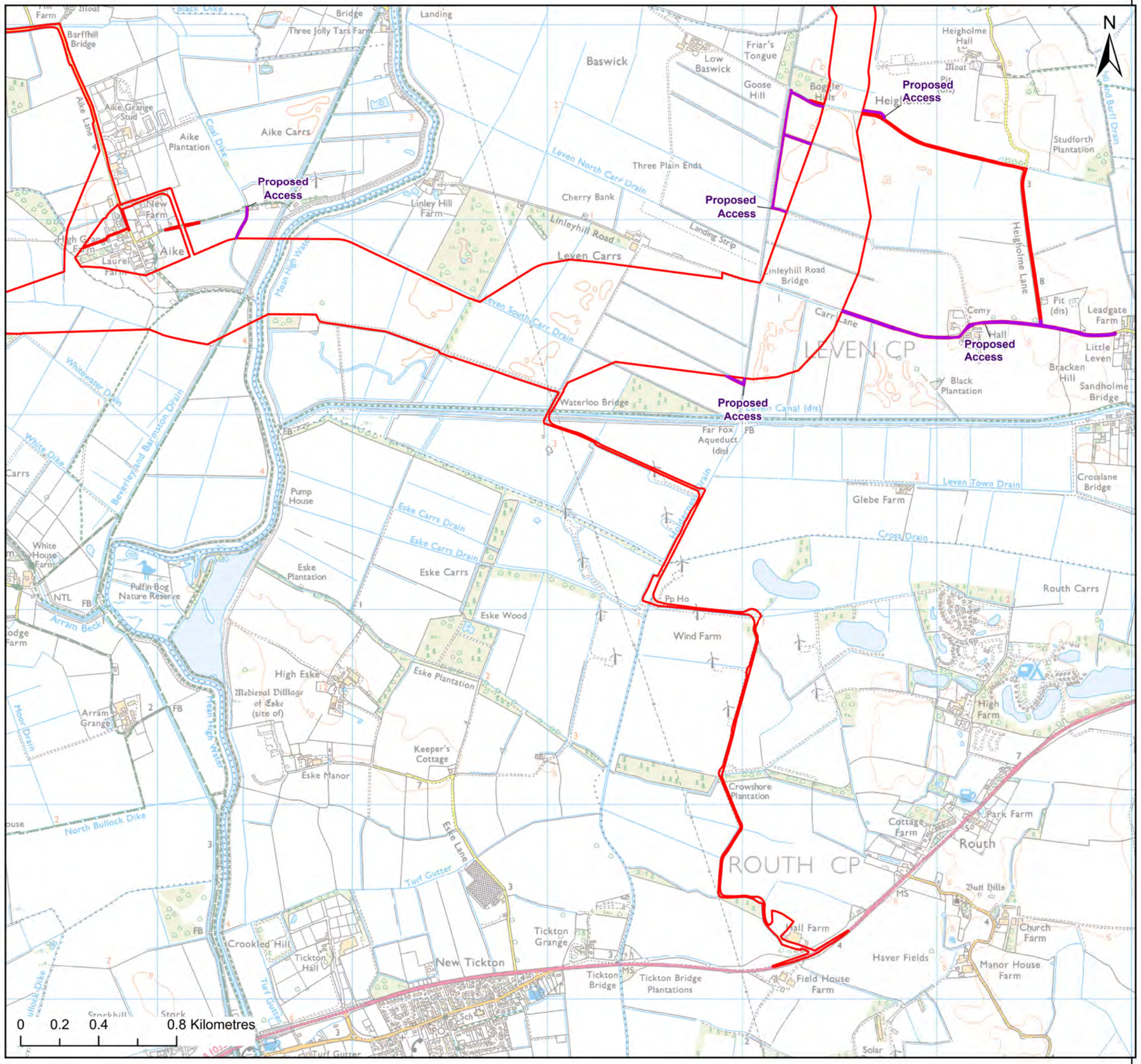

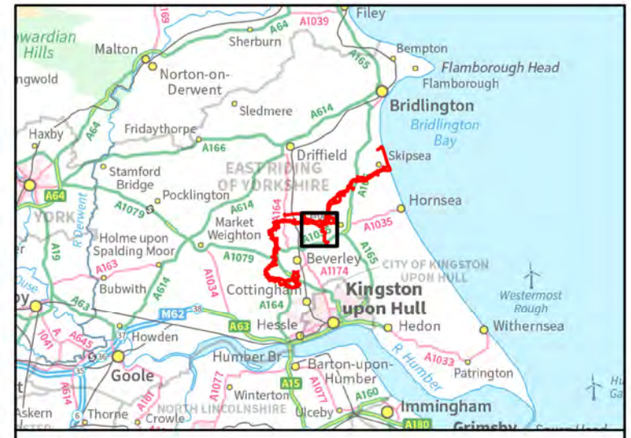

Legend:

- Onshore Development Area
- Proposed Operational Accesses for the Onshore Export Cable Corridor

Project: Dogger Bank D Offshore Wind Farm

DOGGER BANK WIND FARM

Title: Proposed Operational Accesses - Sheet 4 of 7

Figure: 26-2-4

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Legend:

Onshore Development Area

Proposed Operational Accesses for the Onshore Export Cable Corridor

Project:

Dogger Bank D Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Operational Accesses - Sheet 5 of 7

Figure: 26-2-4

Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

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Co-ordinate system: British National Grid

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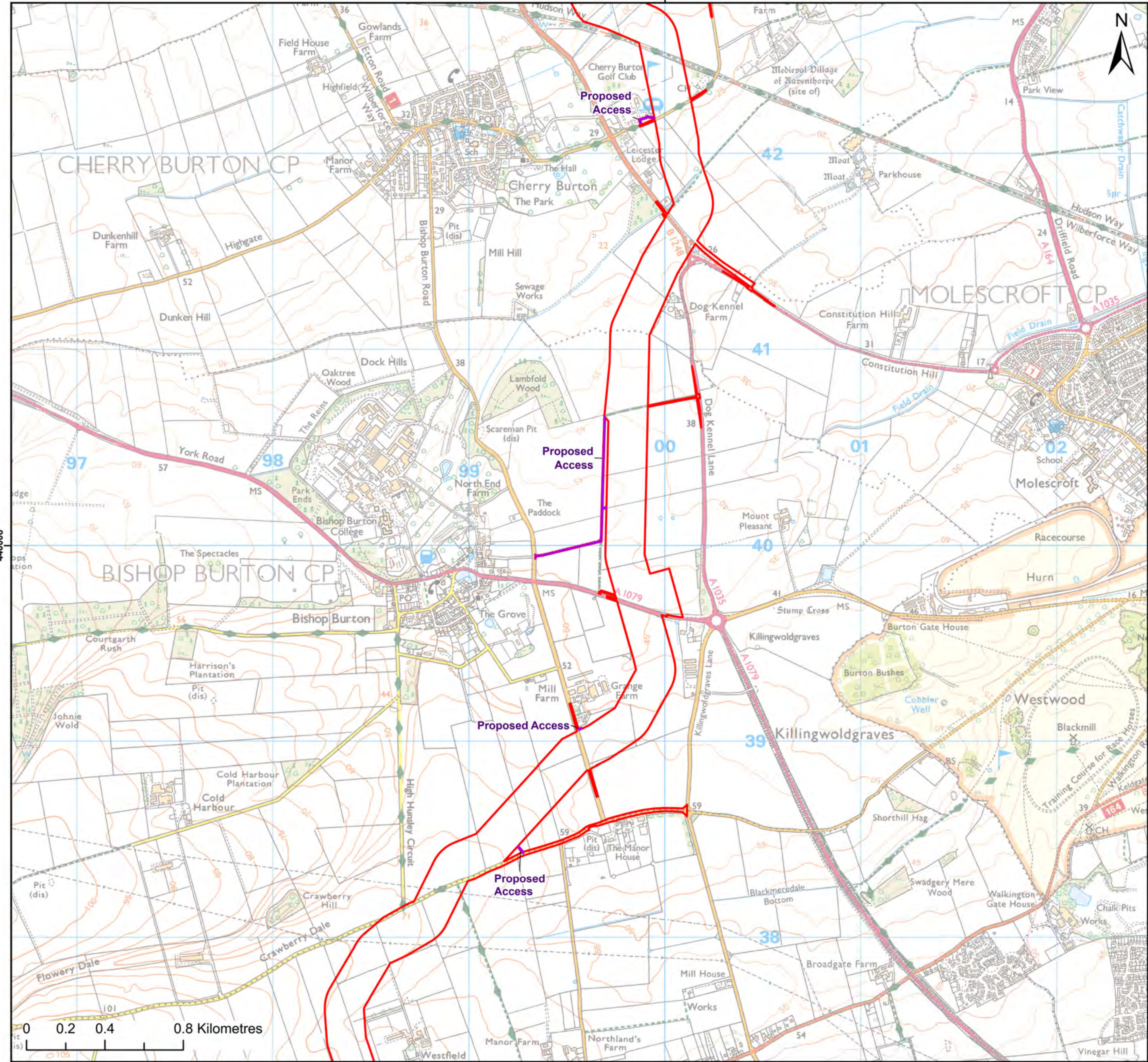

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BISHOP BURTON CP
MOLESCROFT CP
Cherry Burton
Cherry Burton Golf Club
Leicester Lodge
The Hall
The Park
Manor Farm
Gowlands Farm
Field House Farm
Highfield
Etton Road
Wilberforce Way
Dunkenhill Farm
Highgate
Dunken Hill
Mill Hill
Sewage Works
Bishop Burton Road
Dock Hills
Oaktree Wood
Lambfold Wood
Scaremen Pit (dis)
York Road
The Reins
Park Ends
Bishop Burton College
North End Farm
The Paddock
The Spectacles
Bishop Burton
The Grove
Courtgarth Rush
Harrison's Plantation
Johnie Wold
Mill Farm
Grange Farm
Cold Harbour Plantation
Cold Harbour
High Hunsley Circuit
Crawberry Hill
Crawberry Dale
Flowery Dale
Manor Farm
Westfield
Northland's Farm
Works
Mill House
Broadgate Farm
Blackmeredale Bottom
Swadgery Mere Wood
Walkington Gate House
Chalk Pits
Vinegar Hill
Shorthill Hag
Killingwoldgraves
Killingwoldgraves Lane
Burton Bushes
Cobbler Well
Westwood
Blackmill
Training Course for Race Horses
Burton Gate House
Stump Cross
Hurn
Racecourse
Mount Pleasant
Dog Kennel Lane
Dog Kennel Farm
Constitution Hill Farm
Constitution Hill
Field Drain
Molescroft
School
Hudson Way
Wilberforce Way
Driffield Road
Parkhouse
Moat
Medieval Village of Raventhorpe (site of)
Park View
Catchwater Drain
B1248
A1079
A1035
A164
97
98
99
00
01
02
42
41
40
39
38
0 0.2 0.4 0.8 Kilometres

Malton
Norton-on-Derwent
Sherburn
Filey
Bempton
Flamborough Head
Flamborough
Bridlington
Bridlington Bay
Sledmere
Driffield
Skipsea
EAST RIDING OF YORKSHIRE
Hornsea
Stamford Bridge
Pocklington
Market Weighton
Holme upon Spalding Moor
Beverley
Cottingham
Kingston upon Hull
CITY OF KINGSTON UPON HULL
Hedon
Withernsea
Hessle
Howden
Goole
Humber Br
Barton-upon-Humber
Patrington
Winterton
Immingham
NORTH LINCOLNSHIRE
Thorne
Bubwith

Legend:

- Onshore Development Area
- Proposed Operational Accesses for the Onshore Export Cable Corridor

Project:

Dogger Bank D Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Operational Accesses - Sheet 6 of 7

Figure: 26-2-4

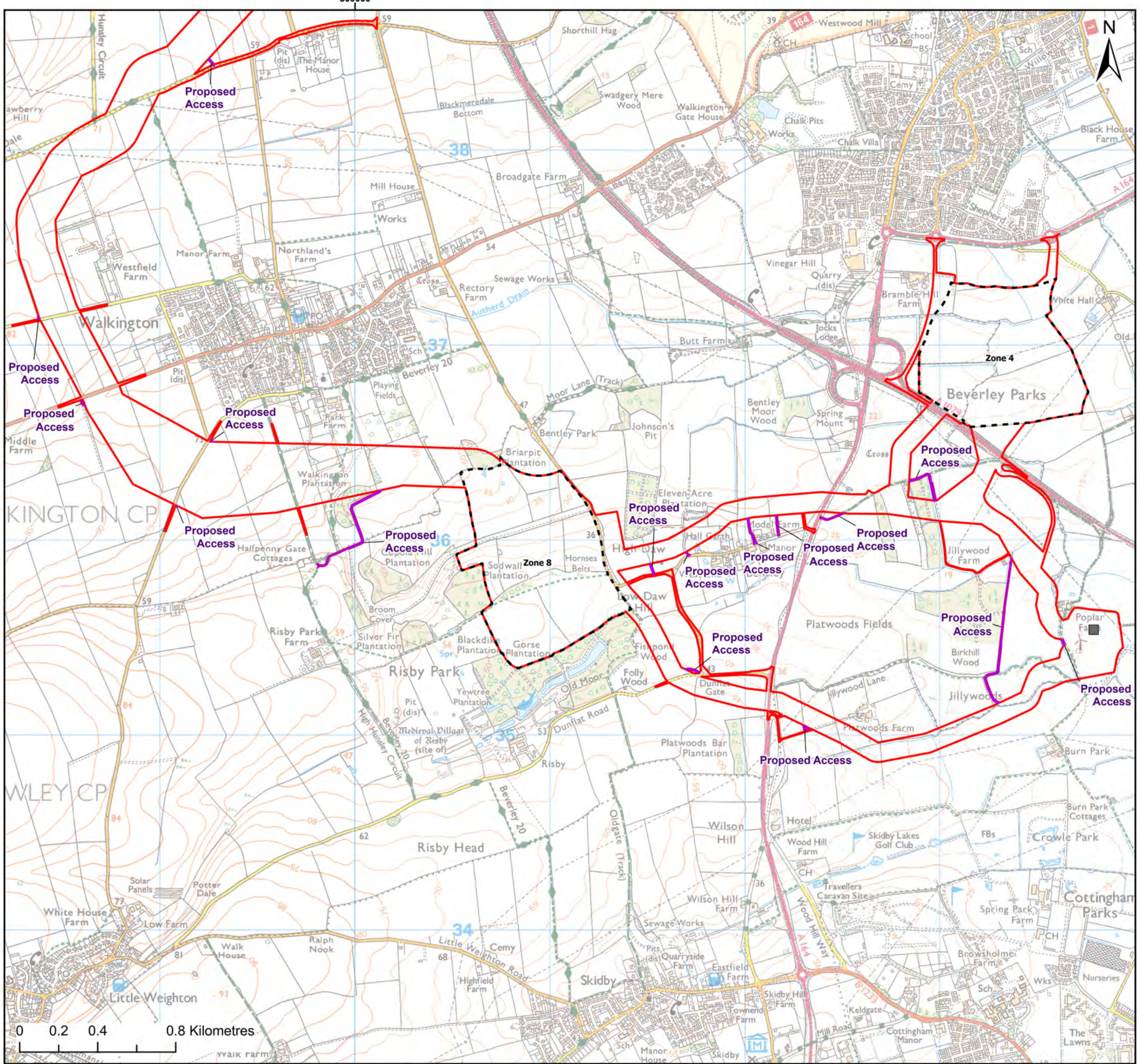
Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	07/05/2025	JH	AG	A3	1:20,000
02	03/04/2025	JH	AG	A3	1:20,000

Co-ordinate system: British National Grid

sse Renewables

equinor



Legend:

- Onshore Development Area
- Onshore Converter Station Zone Options
- Indicative Birkhill Wood Substation Location
- Proposed Operational Accesses for the Onshore Export Cable Corridor

Project:

Dogger Bank D Offshore Wind Farm

DOGGER BANK WIND FARM

Title:

Proposed Operational Accesses - Sheet 7 of 7

Figure: 26-2-4 | Drawing No: PC6250-RHD-XX-ON-DR-GS-0491

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	07/05/2025	JH	AG	A3	1:20,000
02	03/04/2025	JH	AG	A3	1:20,000

Co-ordinate system: British National Grid

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26.2.7.2 Onshore Export Cable Corridor and Landfall Accesses

309. It is proposed that (with the exception of accesses to the OCS zone) all construction accesses and crossings would be temporary and following completion of the construction works will be removed.

310. The access strategy for these accesses has incorporated a range of indicative outline access design concepts, as follows:

- Type A access: A fully compliant, design Manual for Roads and Bridges (DMRB) major/minor road junction; and
- Type B and C access: to facilitate the temporary haul road crossing the public highway only, via either a priority (give-way) arrangement or a traffic signal-controlled arrangement proposed for use at all crossing points.

311. The access locations would allow construction traffic to access and egress from the public highway. Where accesses are located opposite each other, they would allow construction traffic to cross from one side of the public highway to the other, i.e. to traverse along the temporary haul road and minimise trips on the local highway network.

312. The haul road crossings would allow construction traffic to cross the public highway (but not take direct access), thereby allowing access to be taken from a more suitable location (as detailed in **Table 26.2-26**).

313. Outline access designs for these accesses and crossings are provided within **Annex 26.2.13** of this appendix. These designs will be developed further for the ES and ongoing development of the Outline CTMP.

26.2.7.3 Onshore Converter Station Zones

314. **Volume 1, Chapter 4 Project Description** outlines two potential zones within which the OCS and ESBI could be located, which are notated as OCS Zone 4 and Zone 8. **Figure 26.2-3** shows the proposed location of the accesses to these OCS zones. These accesses are also detailed further at **Section 26.2.7.3.1** and **Section 26.2.7.3.2** respectively.

26.2.7.3.1 Onshore Converter Station Zone 4 Access

315. Two access options are being considered for access to OCS Zone 4.

316. Access AP49a would comprise of a new fourth arm from the A164 and Ward Way Roundabout and provide a means of access for construction and operational traffic to OCS Zone 4.

317. Access AP49b would comprise of a left turn in / left turn out junction on the new Jock's Lodge Improvement Scheme of the A164 and provides a means of access for construction and operational traffic to OCS Zone 4

318. Outline access designs are provided within **Annex 26.2.13**. The accesses would be provided for the construction of the Project and remain for the operational life of the Project to provide access for operation and maintenance activities associated with the OCS and ESBI.

26.2.7.3.2 Onshore Converter Station Zone 8 Access

319. Two access options are being considered for access to OCS Zone 8.

320. Access AP42a would comprise of either a new access at the location of the redesigned Rowley Footpath Number 9 access where it joins Coppleflat Lane or a new access off Coppleflat Lane adjacent to the Public Right of Way (PRoW) to the north and would be for operational access only.

321. Access AP42b would comprise of a relocation of an existing access off Coppleflat Lane and would be for use during construction. Notwithstanding, the access would remain during the operational phase to be used for any potential future AIL access requirements only.

322. The final form of the accesses would provide a means of access for construction and operational traffic to OCS Zone 8.

323. Outline access designs are provided within **Annex 26.2.13**. The accesses would be provided for the construction of the Project and for the operational life of the Project to provide access for operation and maintenance activities associated with the OCS and ESBI.

324. In addition to the proposed accesses for OCS Zone 8, ERYC raised concerns at the second ETG8 meeting (see **Appendix 26.1 Consultation Responses for Traffic and Transport**) in regard to an increase of HGV movements along Link 52 (Dunflat Road / Copperflat Lane) and that significant highway improvements may be required for an intensification of HGV use.

325. In response to the above comment, a suite of swept path analysis drawings has been provided in **Annex 26.2.14** of this appendix**.**

326. As detailed in **Annex 26.2.14**, it has been identified that potential mitigation measures are required in the form of carriageway widening. Mitigation measures are required at three bends located on Link 52. These drawings will provide the basis for further discussions with ERYC post-PEIR to agree the potential form of mitigation measures to be included at ES stage.

26.2.7.4 Access Design Development

327. An outline access strategy showing the locations of the proposed accesses and crossings has been shared with ERYC at the second ETG8 meeting as detailed in **Appendix 26.1 Consultation Responses for Traffic and Transport**. It was agreed that further engagement with ERYC is required post-PEIR to refine the design and locations of each of the accesses and crossings. At the time of writing the PEIR, ERYC undertook site visits to all proposed access and crossing locations to review each location for suitability.

328. It is proposed that the indicative outline access design concepts (presented in **Annex 26.2.13**) would form the basis of design for further refinement post-PEIR. This would include detail of: Geometry, Visibility and Swept Path Analysis for each access location. Any future design changes are anticipated to be minor in nature and would not materially alter the assessment presented within **Volume 1, Chapter 26 Traffic and Transport**.

329. The visibility splay requirements for each access and crossing would be determined based upon measured speeds and provided in accordance with the requirements of the DMRB, or where recorded speeds are lower than 40 miles per hour, then use of Manual for Streets guidance would be proposed. Where the visibility splay requirements could not be fully achieved or may have significant adverse environmental effects (e.g. extensive tree/hedgerow removal), a reduction in visibility requirement (through temporary speed limit reductions or use of traffic signals) would be discussed and agreed with ERYC.

330. Prior to the commencement of the relevant stage of construction works, the technical approvals for the access and crossing designs for the specific stage of works will be submitted to and agreed with ERYC, utilising powers under the Highways Act (1980), New Roads and Street Works Act (1991), or equivalent provisions under the DCO. The technical approval process will include submission of finalised drawings, showing full details of access and crossing improvements, including drainage, lighting, signing and standard construction details.

331. The technical approval documentation will also include a Stage 1 and 2 Road Safety Audit and a Road Safety Audit Response report (on behalf of the designers).

26.2.8 Summary

332. This TA is provided as an appendix to **Volume 1, Chapter 26 Traffic and Transport**.

333. This TA constitutes an abridged document providing the technical inputs that inform **Volume 1, Chapter 26 Traffic and Transport** and presents details of the:

- Derivation of background and future year traffic flows;
- Analysis of baseline road safety conditions;
- Derivation and distribution of construction traffic; and
- Proposed access strategy.

334. **Volume 1, Chapter 26 Traffic and Transport** contains the assessment of all traffic and transport impacts scoped into the assessment, namely:

- Severance
- Amenity
- Fear and Intimidation
- Road Safety (including Hazardous Loads)
- Driver Delay (Capacity, Geometry and Road Closures); and
- Abnormal Loads.

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List of Acronyms

Acronym	Definition
AADT	Annual Average Daily Traffic
AAWT	Annual Average Weekday Traffic
AIL	Abnormal Indivisible Load
ATC	Automatic Traffic Count

Acronym	Definition
CTMP	Construction Traffic Management Plan
DBD	Dogger Bank D
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
EATM	Environmental Assessment for Traffic and Movement
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
ERYC	East Riding of Yorkshire Council
ERYC	East Riding of Yorkshire Council
ES	Environmental Statement
ESBI	Energy Storage and Balancing Infrastructure
ESDAL	Electronic Service Delivery Abnormal Loads
ETG	Expert Topic Group
HGV	Heavy Goods Vehicle
HV	Heavy Vehicles
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IEMA	Institute of Environmental Management and Assessment
LCV	Light Commercial Vehicle
LV	Light Vehicles
NCN	National Cycle Network
NCR	National Cycle Route
OCS	Onshore Converter Station
PEIR	Preliminary Environmental Information Report
PPG	Planning Practice Guidance

Acronym	Definition
PRoW	Public Rights of Way
TA	Transport Assessment
TJB	Transition Joint Bay