Outer Dowsing Offshore Wind

Preliminary Environmental Information Report

Volume 1, Chapter 27: Onshore Traffic and Transport

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OUTER DOWSING OFFSHORE WIND

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Abbreviations

Acronym	Expanded name
AADT	Annual Average Daily Traffic
AIL	Abnormal Indivisible Load
ATC	Automatic Traffic Count
BBC	Boston Borough Council
CoCP	Code of Construction Practice
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
Onshore ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
GEART	Guidelines on the Environmental Assessment of Road Traffic
HGV	Heavy Goods Vehicle
IEMA	Institute of Environmental Management and Assessment
LCC	Lincolnshire County Council
LDP	Local Development Plan
LGV	Light Goods Vehicle
LRN	Local Road Network
LTP	Local Transport Plan
MDS	Maximum Design Scenario
MLHC	Ministry for Levelling Up, Housing and Communities
NH	National Highways
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NR	Network Rail
NRTF	National Road Traffic Forecasts
NSIP	Nationally Significant Infrastructure Projects
NTM	National Transport Model
OGV	Other Goods Vehicle
OnSS	Onshore Substation
PAMP	Public Access Management Plan
PEIR	Preliminary Environmental Information Report
PIA	Personal Injury Accident
PINS	The Planning Inspectorate
PRoW	Public Right of Way
SHDC	South Holland District Council
SRN	Strategic Road Network
TEMPRO	Trip End Model Presentation Program
TJB	Transition Joint Bay

TRICS	Trip Rate Information Computer System
TP	Travel Plan
WCH	Walkers, Cyclists and Horse-riders

Definitions

Term	Definition
Baseline	The combined effect of the Project acting cumulatively with the effects of a number of different projects, on the same single receptor/resource.
Cumulative Effect	The combined effect of the Project acting cumulatively with the effects of a number of different projects, on the same single receptor/resource.
Cumulative Impact	Impacts that result from changes caused by other past, present or reasonably foreseeable actions together with the Project.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP) from the Secretary of State (SoS) for Department for Energy Security and Net Zero (DESNZ).
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of an impact with the sensitivity of a receptor, in accordance with defined significance criteria.
EIA Directive	European Union 2011/92/EU of 13 December 2011 (as amended in 2014 by Directive 2014/52/EU)
EIA Regulations	Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Environmental Impact Assessment (EIA)	A statutory 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, which fulfils the assessment requirements of the Environmental Impact Assessment (EIA) Regulations, including the publication of an Environmental Statement (ES).
Environmental Statement (ES)	The suite of documents that detail the processes and results of the Environmental Impact Assessment (EIA).
Evidence Plan	A voluntary process of stakeholder consultation with appropriate Expert Topic Groups (ETGs) that discusses and, where possible, agrees the detailed approach to the Environmental Impact Assessment (EIA) and information to support Habitats Regulations Assessment (HRA) for those relevant

	topics included in the process, undertaken during the pre-application period.
Export Cable Corridor (Onshore ECC)	The area(s) where the export cables will be located.
First principles	A method based on the quantities of materials required for the construction of the Project and the corresponding number of heavy goods vehicles (HGVs) required and the number of expected construction workers.
Haul Roads	The track within the onshore ECC which the construction traffic would use to facilitate construction.
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.
Landfall	The location at the land-sea interface where the offshore export cable will come ashore.
Maximum Design Scenario (MDS)	The maximum design parameters of the combined project assets that result in the greatest potential for change in relation to each impact assessed
Mitigation	Mitigation measures, or commitments, are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.
National Policy Statement (NPS)	A document setting out national policy against which proposals for Nationally Significant Infrastructure Projects (NSIPs) will be assessed and decided upon.
Onshore Export Cable Corridor (Onshore ECC)	The Onshore Export Cable Corridor (Onshore ECC) is the area within which the export cable running from the landfall to the onshore substation will be situated.
Onshore Infrastructure	The combined name for all onshore infrastructure associated with the Project from landfall to grid connection.
Onshore substation (OnSS)	The Project's onshore substation, containing electrical equipment to enable connection to the National Grid
Outer Dowsing Offshore Wind (ODOW)	The Project.

Passing place	A place on a single-track road, only wide enough for one vehicle, where two vehicles travelling in opposite directions can pass each other.
Preliminary Environmental Information Report (PEIR)	The PEIR is written in the style of a draft Environmental Statement (ES) and provides information to support and inform the statutory consultation process in the pre-application phase. Following that consultation, the PEIR documentation will be updated to produce the Project's ES that will accompany the application for the Development Consent Order (DCO).
The Project	Outer Dowsing Offshore Wind.
Rear end shunt	A type of vehicle collision where the front end of one vehicle collides with the rear of another vehicle at low speed
Segment	A defined segment of the Onshore ECC route.
Shuttle working	One-way traffic operation on a highway link to allow construction works in part of the carriageway.
STATS19	Personal injury collisions reported to the police.
Statutory consultee	Organisations that are required to be consulted by the Applicant, the Local Planning Authorities and/or The Inspectorate during the pre-application and/or examination phases, and who also have a statutory responsibility in some form that may be relevant to the Project and the DCO application. This includes those bodies and interests prescribed under Section 42 of the Planning Act 2008.
Study area	Area(s) within which environmental impact may occur – to be defined on a receptor-by-receptor basis by the relevant technical specialist.
STOP/GO Boards	Manually operated temporary traffic control system.
The Applicant	GT R4 Ltd. The Applicant making the application for a DCO. The Applicant is GT R4 Limited (a joint venture between Corio Generation, TotalEnergies and Gulf Energy Development (GULF)), trading as Outer Dowsing Offshore Wind. The project is being developed by Corio Generation (a wholly owned Green Investment Group portfolio company), TotalEnergies and GULF.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).

The Project	Outer Dowsing Offshore Wind including proposed onshore and offshore infrastructure
Trenched technique	Trenching is a construction excavation technique that involves digging a narrow trench in the ground for the installation, maintenance, or inspection of pipelines, conduits, or cables.
Trenchless technique	Trenchless technology is an underground construction method of installing, repairing and renewing underground pipes, ducts and cables using techniques which minimize or eliminate the need for excavation. Trenchless technologies involve methods of new pipe installation with minimum surface and environmental disruptions. These techniques may include Horizontal Directional Drilling (HDD), thrust boring, auger boring, and pipe ramming, which allow ducts to be installed under an obstruction without breaking open the ground and digging a trench.
Wheelbase	The distance between the front and rear axles of a vehicle.

27 Onshore Traffic and Transport

27.1 Introduction

27.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the results to date of the Environmental Impact Assessment (EIA) for the potential impacts of Outer Dowsing Offshore Wind ("the Project") on Onshore Traffic and Transport. Specifically, this chapter considers the potential impact of the Project from the mean high water spring (MHWS), along the Onshore Export Cable Corridor (Onshore ECC) and incorporating the Onshore substation (OnSS) during the construction, operation and maintenance, and decommissioning phases.

27.1.2 GT R4 Limited (trading as Outer Dowsing Offshore Wind) hereafter referred to as the 'Applicant', is proposing to develop the Project. The Project will be located approximately 54km from the Lincolnshire coastline in the southern North Sea. The Project will include both offshore and onshore infrastructure including an offshore generating station (windfarm), export cables to landfall, onshore cables, connection to the electricity transmission network, and ancillary and associated development (see Volume 1, Chapter 3: Project Description for full details).

27.1.3 There are currently two potential Onshore ECC routes, which are as follows:

- Wolla Bank to Weston Marsh (with two alignment options to the south and north of the A52); or
- Wolla bank to Lincolnshire Node.

27.1.4 The Wolla Bank to Weston Marsh option has an Onshore ECC length of circa. 80 km and has two potential substation locations that lie either side of the River Welland; OnSS (north) and OnSS (south). The Wolla Bank to Lincolnshire Node route is much shorter at around 11 km.

27.1.5 Both Onshore ECC options are assessed in this chapter.

27.1.6 This chapter is complemented with the following technical appendices:

- Volume 2, Appendix 27.1 Baseline Technical Report; and
- Volume 2, Appendix 27.2 Trip Generation and Distribution Calculations;

27.1.7 Also, this chapter is supported by the following outline documents to be submitted at PEIR, that will for part of the Outline Code of Construction Practice (CoCP) to be submitted with the Development Consent Order (DCO) application:

- Document Reference 8.1.5: Outline Construction Traffic Management Plan (Outline CTMP);
- Document Reference 8.1.6: Outline Travel Plan (Outline TP); and
- Document Reference 8.1.7: Outline Public Access Management Plan (Outline PAMP).

27.1.8 This chapter should be read alongside the following chapter:

- Volume 1, Chapter 3: Project Description;
- Volume 1, Chapter 19: Onshore Air Quality; and

- Volume 1, Chapter 26: Noise and Vibration.

27.2 Statutory and Policy Context

National Policy Statements

27.2.1 The assessment of the potential Traffic and Transport impacts of the onshore elements of the Project has been made with reference to the UK Government's National Policy Statements (NPSs). Key policies for Traffic and Transport are listed in Table 27.1 and identifies where these are addressed within this chapter.

27.2.2 NPSs set out policies or circumstances that the UK Government considers should be considered in decisions on Nationally Significant Infrastructure Projects (NSIPs).

27.2.3 Those relevant to the Project are:

- Overarching NPS for Energy (EN-1) (201);
- NPS for Renewable Energy Infrastructure (EN-3) (2011b); and
- NPS for Electricity Networks Infrastructure (EN-5) (2011c).

27.2.4 In addition to the current NPS, draft NPSs are being consulted on between March and June 2023. The draft NPSs have been reviewed to determine the emerging expectations for Traffic and Transport and changes from previous iterations of the NPSs. This includes the Draft Overarching NPS EN-1 (Onshore ECC, 2023a) only for Traffic and Transport, based on the review undertaken.

National Planning Policy Framework (2021)

27.2.5 The latest National Planning Policy Framework (NPPF) was published in July 2021 by the Ministry of Housing, Communities and Local Government, replacing the previous versions published in 2012, 2018 and 2019. The NPPF sets out the government's planning policies for England and how these are expected to be applied. At the heart of the Framework is a presumption in favour of sustainable development.

27.2.6 The NPPF has no formal standing in the DCO process. Notwithstanding this, when making decisions on Nationally Significant Infrastructure Project (NSIP) applications, PINS may consider NPPF. At the heart of the NPPF is the presumption in favour of sustainable development.

27.2.7 The key policies for Traffic and Transport are listed in Table 27.1 which identifies where these are addressed within this chapter (where relevant).

Regional and Local Planning Policy

27.2.8 The study area lies across the following districts: East Lindsley, Boston and South Holland. Relevant local policy for these districts has been consulted, with Table 27.1 providing details contained within which are pertinent to traffic and transport.

Table 27.1: National, regional and local policy context

Legislation/Policy	Key provisions	Section where legislation or policy addressed
NPS EN- 1	Paragraph 5.13.3 (EN-1) states: "If a project is likely to have significant transport implications, the applicant's ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport (DfT) guidance, or any successor to such methodology."	This chapter of the PEIR and supporting annexes have been produced in accordance with current transport guidance and this is evidenced throughout.
Draft NPS EN-1	Paragraph 5.14.5 states: "If a project is likely to have significant transport implications, the applicant's ES should include a transport appraisal. The DfT's Transport Analysis Guidance (TAG) and Welsh Governments WelTAG provides guidance on modelling and assessing the impacts of transport schemes."	This chapter of the PEIR and supporting annexes have been produced in accordance with current transport guidance and this is evidenced throughout.
NPS EN- 1	Paragraph 5.13.4 states: "Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts."	Paragraph 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document 8.1.6) The Outline TP will include demand management measures to be adopted.
Draft NPS EN-1	Paragraph 5.14.7 states: "Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document 8.1.6). The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
	measures to improve access by active, public and shared transport to: ▪ reduce the need for parking associated with the proposal; ▪ contribute to decarbonisation of the transport network; ▪ reduce the need to travel; and ▪ secure behavioural change and modal shift through an offer of genuine modal choice and to mitigate transport impacts. The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports)."	Section 27.7 sets out the assessment of the likely effects on the roads within the study area as a result of the construction phase of the Project. The Applicant is in discussions with Network Rail (NR) to endeavour to receive Business Clearance and Technical Clearance, with a view to receiving a Basic Asset Protection Agreement. Therefore, no assessment of the potential disruption to the railway is undertaken in this chapter.
Draft NPS EN-1	Paragraph 5.14.11 states: "Where mitigation is needed, possible demand management measures must be considered. This could include identifying opportunities to: ▪ reduce the need to travel by consolidating trips; ▪ locate development in areas already accessible by active travel and public transport; ▪ provide opportunities for shared mobility; ▪ re-mode by shifting travel to a sustainable mode that is more beneficial to the network;	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document 8.1.6) The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
	▪ retime travel outside of the known peak times; and ▪ reroute to use parts of the network that are less busy."	
Draft NPS EN-1	Paragraph 5.14.14 states: "The Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that: control *numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements* make *sufficient provision for HGV parking, and associated high quality driver facilities either on the site or at dedicated facilities elsewhere, to support driver welfare, avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions* ensure *satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force."*	The assessment of the increases in heavy goods vehicles (HGVs) associated with the construction phase of the Project is set out in Section 27.7. Any impacts of increases in HGVs are further reduced by the types of traffic management measures that would be implemented as set out in the Outline CTMP (Document 8.1.5) and therefore considered to be an acceptable impact. The Outline CTMP (Document 8.1.5) states that no parking will be permitted on public roads. The Outline CTMP (Document 8.1.5) states that the appropriate authorities and emergency services will be consulted regarding HGV movements during the construction of the Project.
Draft NPS EN-1	Paragraph 5.14.16 states: "Applicants should consider the DfT policy guidance "Water Preferred Policy Guidelines for the movement- of- abnormal-indivisible loads" when preparing their application"	The Applicant would endeavour to identify the closest port to the study area for the delivery of the abnormal indivisible loads (AILs) required for the Project to minimise the movement of these on the road network.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
Draft NPS EN-1	Paragraph 5.14.21 states: "The Secretary of State should only consider refusing development on highways grounds if there would be an unacceptable impact on highway safety, residual cumulative impacts on the road network would be severe, or it does not show how consideration has been given to the provision of adequate active public or shared transport access and provision."	The assessment of road safety in relation to the additional traffic associated with the construction phase of the Project is set out in Paragraphs 27.7.39 to 27.7.43 It is concluded that there are no significant road safety effects, with any impacts further reduced by the types of traffic management measures that would be implemented as set out in the Outline CTMP Document 8.1.5) and therefore considered to be an acceptable impact. The cumulative impact assessment is set out in Section 27.8.
NPPF	Paragraph 110 states that in assessing applications for development, it should be ensured that: a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location. b) safe and suitable access to the site can be achieved for all users; c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document 8.1.6) The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
NPPF	Paragraph 113 states that: 'all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.'	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document 8.1.6) The Outline TP will include demand management measures to be adopted.
NPPF	Paragraph 111 states that: "development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."	An analysis of the construction vehicles forecast for the Project has been undertaken, including the consideration of movements in the peak periods on the local road network (LRN) as set out in Volume 1, Volume 2, Appendix 27.2: Traffic and Transport Trip Generation and in Paragraphs 27.5.31 to 27.5.42 in this chapter A review of road safety has been undertaken as set out in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and in Paragraphs 27.7.41 to 27.7.43 in this chapter. A cumulative impact assessment is provided in Section 27.8.
South-East Lincolnshire Local Plan 2011 – 2036	"Policy 2: Development Management Proposals requiring planning permission for development will be permitted provided that sustainable development considerations are met, specifically in relation to:	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document reference 8.1.6) The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
Adopted March 2019	Access and vehicle generation levels." "Policy 33: Delivering a More Sustainable Transport Network To demonstrate compliance with this policy, a Transport Assessment and associated Travel Plan should be submitted with proposals."	
Lincolnshire Network Management Plan April 2018	LCC's "key aims to facilitate the objectives of the Network Management Plan are: ▪ Safeguarding the quality and effectiveness of highways as the major transport network; ▪ Developing a consistent and appropriate implantation of regulations. Fairly balancing the legitimate needs of road users and works promoters of all types; ▪ Identifying and promoting good practice to all aspects of traffic and works co-ordination; ▪ Maintaining an attitude of co-operation and pursuit of efficiency of operation of works, whilst remaining mindful of regulatory responsibilities; ▪ Managing the road network and maintaining quality with reduced budgets through use of innovative partnerships;	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document reference 8.1.6) The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
	▪ Contribute to minimising carbon emissions from transport across the county; and ▪ Investing in Infrastructure and Provision of Services."	
Boston Transport Strategy 2016 – 2036 Published 2016	The aims of the Boston Transport Strategy considered pertinent to the Project are to: ▪ Reduce car usage for journeys wholly within Boston; ▪ Reduce delays for traffic on the A52/A16 corridor with safe facilities for vulnerable users; ▪ Improve public transport provision; ▪ Improve road safety for pedestrians and cyclists, especially near schools; ▪ Improve air quality in the designated AQMA; and ▪ Improve cycling and pedestrian management in the town centre."	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document reference 8.1.6) The Outline TP will include demand management measures to be adopted. Any impacts of increases in HGVs are reduced by the types of traffic management measures that would be implemented as set out in the Outline CTMP (Document reference 8.1.5)
East Lindsley Local Plan Core Strategy Adopted July 2018	The East Lindsley Core Strategy lays down an overall spatial vision for the district up to 2031. *Strategic Policy 27: Renewable and Low Carbon Energy* Large-scale renewable and low carbon energy development, development for the transmission and interconnection of electricity, and infrastructure required to support such development, will be supported where their individual or cumulative impact is, when weighed against the benefits, considered to be acceptable in relation to:	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document reference 8.1.6) The Outline TP will include demand management measures to be adopted.

Legislation/Policy	Key provisions	Section where legislation or policy addressed
	▪ Highway safety. *Strategic Policy 22: Transport and Accessibility* The Council will support accessibility by: ▪ Supporting development which is shown to link with the existing road and public transport systems operating within the district; and Supporting development that gives pedestrian and cycle movements priority.	
Supplementary Planning Guidance on Wind Energy Adopted March 2004	This supplementary planning document sets out policies for the consideration of proposals for wind turbines and wind infrastructure within South Holland District. The guidance sets out the criteria against which applications for wind turbines will be assessed. This relates to: ▪ Traffic Generation and vehicular access. The district will have particular regard to the following: ▪ The measures that would be taken, both during and after construction, to minimise the impact of the development on local land use and residential amenity. A full Schedule 2 Environmental Impact Assessment (EIA) will be required with all applications.	Paragraphs 27.5.43 and Table 27.36 outline the embedded traffic and transport mitigation measures for the construction phase of the Project, such as the Outline TP (Document reference 8.1.6) The Outline TP will include demand management measures to be adopted. Any impacts of increases in HGVs are further reduced by the types of traffic management measures that would be implemented as set out in the Outline CTMP (Document reference 8.1.5).

27.3 Consultation

27.3.1 Consultation is a key part of the Development Consent Order (DCO) application process. Consultation regarding Traffic and Transport has been conducted through the Evidence Plan Process (EPP) Expert Technical Group (ETG) meetings, the EIA scoping process (ODOW, 2022) and at public consultation events. An overview of the Project consultation process is presented within Volume 1, Chapter 6: Consultation Process.

27.3.2 A summary of the key issues raised during consultation to date, specific to Traffic and Transport is outlined in Table 27.2, together with how these issues have been considered in the production of this PEIR.

Table 27.2 Summary of consultation relating to Traffic and Transport

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.1, Table 8.8.3	Traffic noise construction: The Inspectorate agrees that this matter can be scoped out of the traffic and transport aspect chapter of the ES on the basis that it will be included in the Noise and Vibration ES chapter.	Noted.
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.2, Table 8.3.3	Disruption to the railway - construction: Given the stage of the Proposed Development and the lack of information on where the cable route may cross railway infrastructure and the crossing methods that could be used, the Inspectorate considers that there is insufficient evidence at this stage to scope this matter out of the assessment. The ES should include an assessment of disruption to the railway network, where likely significant effects could occur.	With regards to the trenchless crossing under the railway, the Applicant is in discussions with NR to endeavour to receive Business Clearance and Technical Clearance, with a view to receiving a Basic Asset Protection Agreement, therefore, no assessment of the potential disruption to the railway is undertaken in this chapter, as a result of this potential effect. For the Weston Marsh north of the A52 Onshore ECC option, some vehicles will be required to use the level crossing at Brewster Lane. It is forecast that there would be a maximum of HGVs (two-way) and 21 cars/light goods vehicles (LGVs) (two-way) using the level crossing in one day. Given there are approximately two rail services per hour requiring the level crossing to be closed, it is not considered the increase in traffic would lead to a significant effect; therefore, no assessment of the potential disruption to the railway is undertaken in this chapter, as a result of this potential effect.

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
		Should the Weston Marsh north of the A52 Onshore ECC option be selected for the DCO application, a grounding assessment will be undertaken to ensure a low loader can negotiate the level crossing and if any improvements to the vertical alignment of the highway are required.
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.3, Table 8.3.3	Any impacts during operation: The Inspectorate agrees that it is unlikely that there would be a significant change in vehicle flows during O&M; therefore, significant traffic and transport effects during operation are unlikely to occur. However, the ES should confirm the anticipated road vehicle movements during O&M and demonstrate that these are below guidance thresholds for significant effects.	An indication of operational and maintenance vehicle movements for the Project is provided in Paragraphs 27.5.26 and 27.5.27.
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.4, Table 8.3.3	Impacts during decommissioning: "The Scoping Report contains limited information with regards to decommissioning activities; however, on the basis of the information that the onshore cable is likely to be left in situ to avoid adverse effects on the environment and communities, and that activities would	n/a

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
	be similar to those during construction but in reverse and on a smaller scale, the Inspectorate is of the view that significant impacts on traffic and transport during decommissioning can be scoped out of the assessment.	
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.5, Table 8.3.3	Cumulative traffic noise: The Scoping Report states that cumulative traffic noise will be addressed elsewhere in the ES and so will not also be considered in the traffic and transport assessment. The Inspectorate agrees that this matter can be scoped out of the Traffic and Transport aspect chapter of the ES on the basis that a cumulative noise assessment will be included in the Noise and Vibration aspect chapter.	n/a
Scoping Opinion (the Inspectorate, 9 September 2022) Comment ID: 3.20.6, Table 83.3	Cumulative disruption to the railway: As noted at point 3.20.2 of this Opinion, the Inspectorate cannot agree to scope out the potential effect of disruption to the railway at this stage. The ES should include an assessment of any significant cumulative effects from disruption to the railway.	The Applicant is in discussions with NR to endeavour to receive Business Clearance and Technical Clearance, with a view to receiving a Basic Asset Protection Agreement. Therefore, no assessment of the potential disruption to the railway is undertaken in this chapter.
Scoping Opinion (the Inspectorate, 9 September 2022)	Transboundary effects:	Noted.

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
Comment ID: 3.20.7, Table 8.8.39	The Inspectorate agrees that as effects are likely to be localised, transboundary traffic and transport effects are unlikely to occur; this matter can be scoped out of the assessment.	
Scoping Opinion (the Inspectorate, 9 September 2022) (National Highways (NH))	National Highways: It is noted that any onshore ancillary equipment will be located 20 – 30 miles distant from the nearest link to the SRN, namely the A1 and A46 to the west and M180 to the north. As such the SRN will simply become a conduit for vehicular movements to/from the onshore sites/construction compounds. With this in mind it is unlikely that the proposal will have any adverse impact on the safe operation of the SRN.	Noted.
Scoping Opinion (the Inspectorate, 9 September 2022) (Network Rail)	Network Rail: The EIA should consider the impact of the proposed development upon operational railway safety. This should include a transport assessment section considering the impact that HGV traffic/haulage routes associated with the construction and operation of the scheme may have on operational railway assets such as railway	With regards to the trenchless crossing under the railway, the Applicant is in discussions with NR to endeavour to receive Business Clearance and Technical Clearance, with a view to receiving a Basic Asset Protection Agreement, therefore, no assessment of the potential disruption to the railway is undertaken in this chapter, as a result of this potential effect.

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
	bridges with low clearance, bridges with weight restrictions and railway level crossings.	In addition to the level crossing on the A52, which currently has a large volume of traffic crossing, for the Weston Marsh north of the A52 Onshore ECC option, some vehicles will be required to use the level crossing at Brewster Lane. It is forecast that there would be a maximum of seven HGVs (two-way) and 21 cars/LGVs (two-way) using the level crossing in one day. Given there are approximately two rail service per hour requiring the level crossing to be closed, it is not considered the increase in traffic would lead to a significant effect; therefore, no assessment of the potential disruption to the railway is undertaken in this chapter, as a result of this potential effect. Should the Weston Marsh north of the A52 Onshore ECC option be selected for the DCO application, a grounding assessment will be undertaken to ensure a low loader can negotiate the level crossing and if any improvements to the vertical alignment of the highway are required. In addition to the identified use of the level crossing for the Weston Marsh north of the A52 Onshore ECC option , a review of HGV routeing for the cable route taken forward for the DCO application will be fully reviewed for passing under low bridges or for any bridges over the railway with weight limits.

Date and consultation phase/type	Consultation and key issues raised	Section where comment addressed
Scoping Opinion (the Inspectorate, 9 September 2022) (LCC)	LCC: The scope set out in this Chapter is considered appropriate and it is agreed with the proposals for scoping in /scoping out (Table 8.8.2). Once the construction routes and vehicle estimates are more clearly defined, the next stage would be to determine the necessary mitigation in terms of junction upgrades, passing places, road widening, access points. Swept paths of proposed HGV routes may be necessary at key points on the network.	Specific mitigation will be determined for the Onshore ECC and OnSS taken forward for the DCO application.

27.3.3 As identified in Volume 1, Chapter 4: Site Selection and Alternatives and Volume 1, Chapter 3: Project Description, the Project design envelope has been refined and will be refined further prior to DCO submission. This process is reliant on stakeholder consultation feedback.

27.4 Baseline Environment

Study Area

27.4.1 The onshore traffic and transport highway study area has been informed by determining the most probable routes for traffic, for both the movement of materials, assumed to be HGVs and construction workers (assumed to be in a car or a LGV).

27.4.2 The study area incorporates probable routes for the construction, operational, and decommissioning phases of the Project and includes the non-motorised user (walkers, cyclists and horse-riders (WCH)) infrastructure and roads that would be impacted by the construction works associated with the Project (directly or indirectly). The construction phase of the Project will generate higher levels of traffic than the operational and decommissioning phases and so definition of the study area is predominantly based on anticipated construction traffic volumes and routeing.

27.4.3 The extent of the onshore highway study area has been presented during the Evidence Plan process. The onshore highway study area is described by a segment system in relation to the relevant Onshore ECC option, which are presented in Table 27.3 for the Weston Marsh Onshore ECC south of the A52 route Option, Table 27.4 for the Weston Marsh Onshore ECC north of the A52 route option and Table 27.5 for the Lincolnshire Node Onshore ECC option.

27.4.4 The Onshore ECC segments for each Onshore ECC option are shown in Figure 27.1, Figure 27.2 and

Figure 27.3.

Table 27.3: Onshore ECC segments - Weston Marsh south of the A52 Onshore ECC option (route 1)

Segment	Starts	Ends
WM1	Landfall	A52 West of Hogsthorpe
WM2	A52 West of Hogsthorpe	Marsh Lane
WM3	Marsh Lane	A158
WM4	A158	Low Road
WM5	Low Road	Steeping River
WM6	Steeping River	Ivy House /Marsh Yard
WM7	Ivy House /Marsh Yard	Staples Farm
WM8	Staples Farm	Crowhall Lane, Bennington
WM9	Crowhall Lane, Bennington	Church End Lane
WM10	Church End Lane	The Haven
WM11	The Haven	Marsh Road
WM12	Marsh Road	Fosdyke Bridge
WM13	Fosdyke Bridge	OnSS (south)
WM14	Fosdyke Bridge	OnSS (north)

Table 27.4: Onshore ECC segments - Weston Marsh north of the A52 Onshore ECC option

Segment	Starts	Ends
WM1	Landfall	A52 West of Hogsthorpe
WM2	A52 West of Hogsthorpe	Marsh Lane
WM3	Marsh Lane	A158
WM4	A158	Low Road
A1	Low Road	Steeping River
A2	Steeping River	Fodder Dike Bank/Fen Bank
A3	Fodder Dike Bank/Fen Bank	Broadgate
A4	Broadgate	Ings Drove
A5	Ings Drove	Church End Lane
WM10	Church End Lane	The Haven
WM11	The Haven	Marsh Road
WM12	Marsh Road	Fosdyke Bridge
WM13	Fosdyke Bridge	OnSS (south)
WM14	Fosdyke Bridge	OnSS (north)

Table 27.5: Onshore ECC segments (Lincolnshire Node Onshore ECC option)

Segment	Starts	Ends
LN1	Landfall	A52 (Mumby)
LN2	A52 (Mumby)	OnSS

Construction Vehicle Routing – Weston Marsh south of the A52 Onshore ECC Route Option

27.4.5 For the Weston Marsh south of the A52 Onshore ECC option, the study area comprises the highway links shown in Table 27.6, comprising the Onshore ECC/OnSS core and local access routes that construction vehicles would use (see Figure 27.4):

Table 27.6: Construction vehicle routes - Weston Marsh south of the A52 Onshore ECC option (route 1)

Type	Highway links	Segment
Core construction vehicle routes	A1104, B1449	WM1
	A52, A16, A17, A158, A1028, A1221,	WM2 to WM14 and OnSS
Local construction vehicle routes (from the A158)	Marsh Lane, South Ings Lane, Sloothby High Lane, Listoft Lane	WM2/WM3
Local construction vehicle routes (from the A52)	Sea Lane (Wainfleet St. Mary)	WM6
	Sea Lane (Staples Farm)	WM7/WM8
	Hall Lane, Butterwick Lane and Crowhall Lane	WM8/WM9
	Church Road, Church Road/Church End Road, Clampgate Road, Cut End Road, Pinfold Lane	WM9/WM10
Local construction vehicle routes (from the A16)	Millfield Lane East, Low Road, Streetway, Streetway/Wyberton Roads	WM11
	Station Road, Skeldyke Road, Nidd's Lane, Marsh Road	WM11/WM12
Local construction vehicle routes (from the A17)	Wash Road, Craven's Lane	WM12
	Middle Marsh Road	WM12
	Surfleet Bank	WM13/WM14/OnSS

Construction Vehicle Routing – Weston Marsh north of the A52 Onshore ECC option

27.4.6 For the Weston Marsh north of the A52 Onshore ECC option , the study area comprises the highway links shown in Table 27.7 comprising the Onshore ECC/OnSS core and local access routes that construction vehicles would use (see Figure 27.5):

Table 27.7: Construction vehicle routes – Weston Marsh north of the A52 Onshore ECC option

Type	Highway links	Segment
Core construction vehicle routes	A1104, B1449	WM1
	A52, A16, A17, A158, A1028, A1221,	WM2 to WM14 and OnSS
Local construction vehicle routes (from the A158)	Marsh Lane, South Ings Lane, Sloothby High Lane, Listoft Lane	WM3
Local construction vehicle route (from the A158)	Gunby Lane, Mill Lane, B1195	A1
Local construction vehicle routes (from the A52)	Church Lane, Boston Road, Mill Lane, Collision Gate, Crow's Lane, Brewster Lane	A1

Type	Highway links	Segment
	Boston Road, Low Lane, Church Lane, Scald Gate, Ivy Lane	A2
	Low Road, Yawning Gate Road, Howgarth Lane	A3
	Broadgate	A4/A5
	Common Road	A4/A5
	West End Lane, Lowfields Road, Ings Road	A5
	Church Road, Church Road/Church End Road, Clampgate Road, Cut End Road, Pinfold Lane	WM10
Local construction vehicle routes (from the A16)	Millfield Lane East, Low Road, Streetway, Streetway/Wyberton Roads	WM11
	Station Road, Skeldyke Road, Nidd's Lane, Marsh Road	WM11/WM12
Local construction vehicle routes (from the A17)	Wash Road, Craven's Lane	WM12
	Middle Marsh Road	WM12
	Surfleet Bank	WM13/WM14/OnSS

Construction Vehicle Routeing – Lincolnshire Node Onshore ECC option

27.4.7 For the Lincolnshire Node Onshore ECC option, the study area comprises the highway links shown in Table 27.8 comprising the Onshore ECC/OnSS core and local access routes that construction vehicles would use (see Figure 27.5).

Table 27.8: Construction vehicle routes – Lincolnshire Node Onshore ECC option

Type	Highway links	Route segments
Core construction vehicle routes	A52, A16, A17, A158, A1028, A1104, B1449	LN1/LN2/OnSS

27.4.8 There are no defined local access routes for the Lincolnshire Node Onshore ECC option, with all access taken from the core construction access routes.

Legend

🟥 Onshore PEIR Boundary

▬ Onshore Segment Break

▨ Weston Marsh North OnSS Search Area

▨ Weston Marsh South OnSS Search Area

Sources:

Coordinate System: British National Grid

Scale: 1:200,000

Preliminary Environmental Information Report

Landfall to Weston Marsh ECC Segments

Figure 27.1

OUTER DOWSING OFFSHORE WIND

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540000

550000

360000

350000

A1

A2

A3

A4

A5

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break

Sources:

Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Landfall to Weston Marsh
Alternative ECC Route Segments

Figure 27.2

OUTER DOWSING OFFSHORE WIND

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545000 550000 555000

380000 375000 370000

Lincolnshire Node OnSS Search Area Substation

LN2

LN1

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Lincolnshire Node OnSS Search Area

Sources:

Coordinate System: British National Grid

0 1 2 km

Scale: 1:50,000

Preliminary Environmental Information Report

Lincolnshire Node ECC Route Segments

Figure 27.3

OUTER DOWSING OFFSHORE WIND

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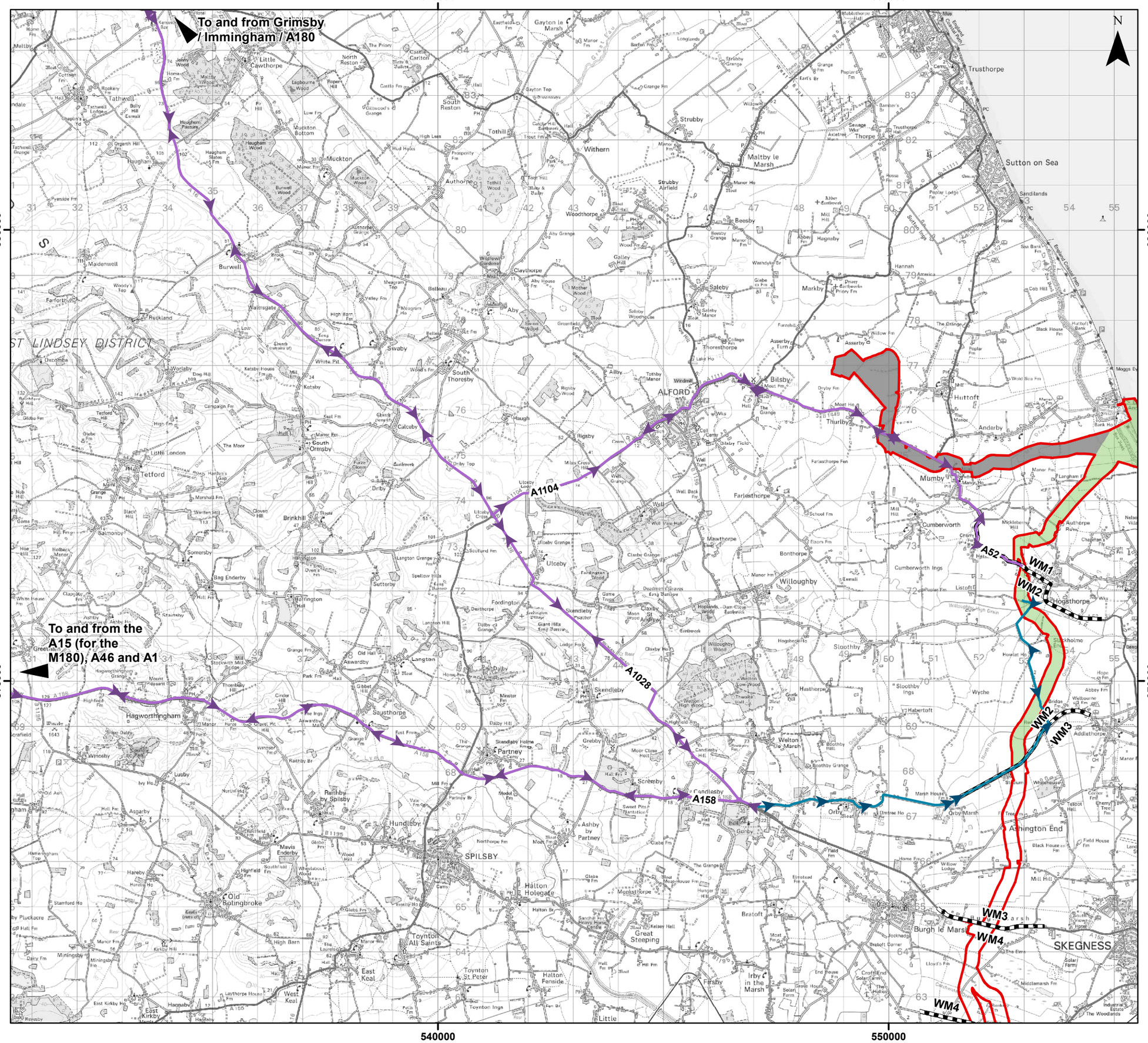
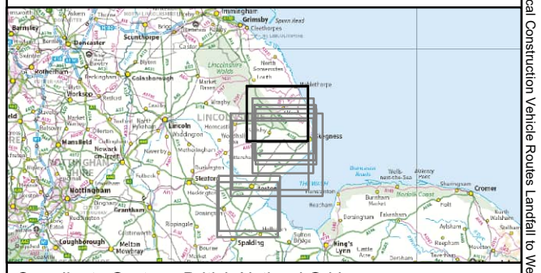


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segments 1 and 2
Figure 27.4.1

OUTER DOWSING OFFSHORE WIND

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540000

550000

370000

360000

To and from Grimsby / Immingham / A180

To and from the A15 (for the M180), A46 and A1

A1028

A158

WM1

WM2

WM3

WM4

WM5

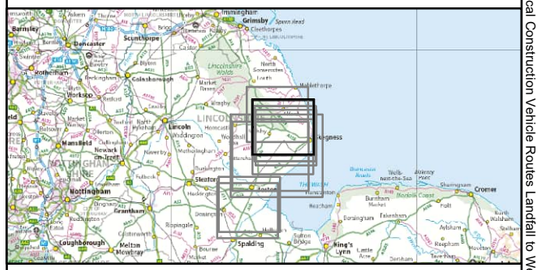
WM6

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segment 3
Figure 27.4.2

OUTER DOWSING OFFSHORE WIND

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540000

550000

370000

360000

To and from Grimsby / Immingham / A180

To and from the A15 (for the M180), A46 and A1

A1028

A158

A52

WM1

WM2

WM3

WM4

WM5

WM6

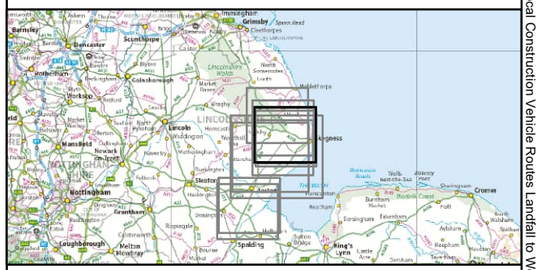
WM7

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes
Segment 4
Figure 27.4.3

OUTER DOWSING OFFSHORE WIND

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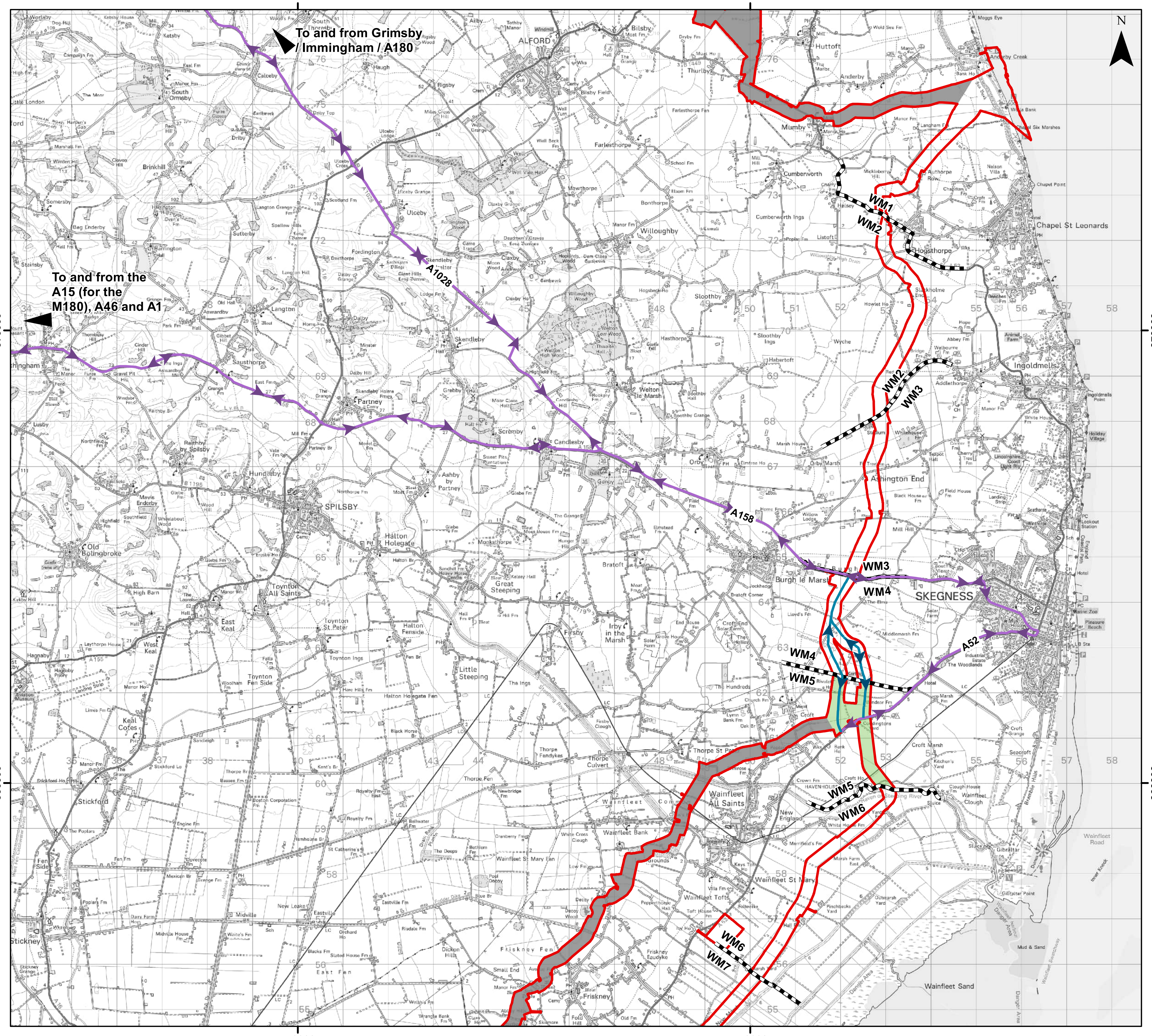
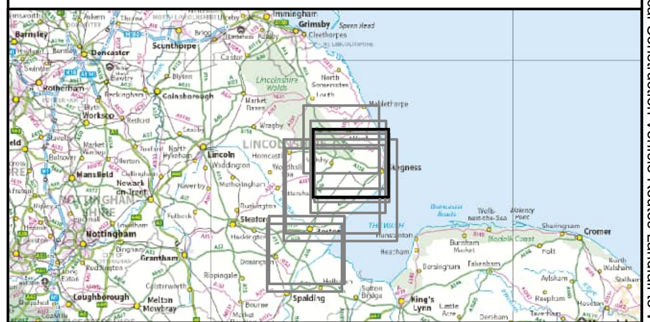


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes
Segment 5
Figure 27.4.4

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540000

550000

370000

360000

To and from Grimsby / Immingham / A180

To and from the A15 (for the M180), A46 and A1

A1028

A158

A52

WM1

WM2

WM3

WM4

WM5

WM6

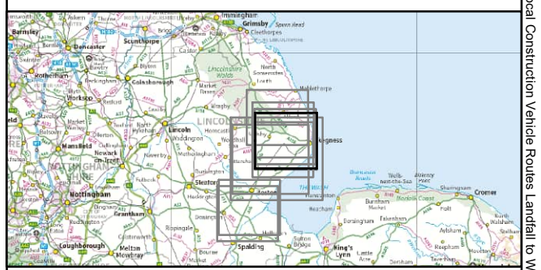
WM7

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

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Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes
Segment 6
Figure 27.4.5

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540000

550000

370000

360000

350000

To and from the A15 (for the M180), A46 and A1

A1028

A158

A52

WM1

WM2

WM3

WM4

WM5

WM6

WM7

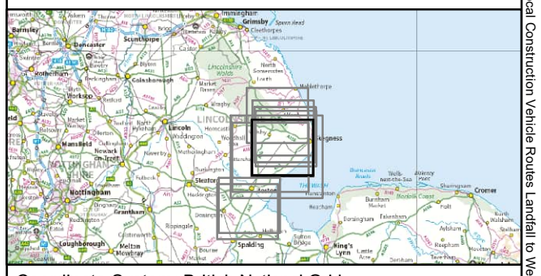
WM8

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

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Scale: 1:80,000

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Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes
Segment 7
Figure 27.4.6

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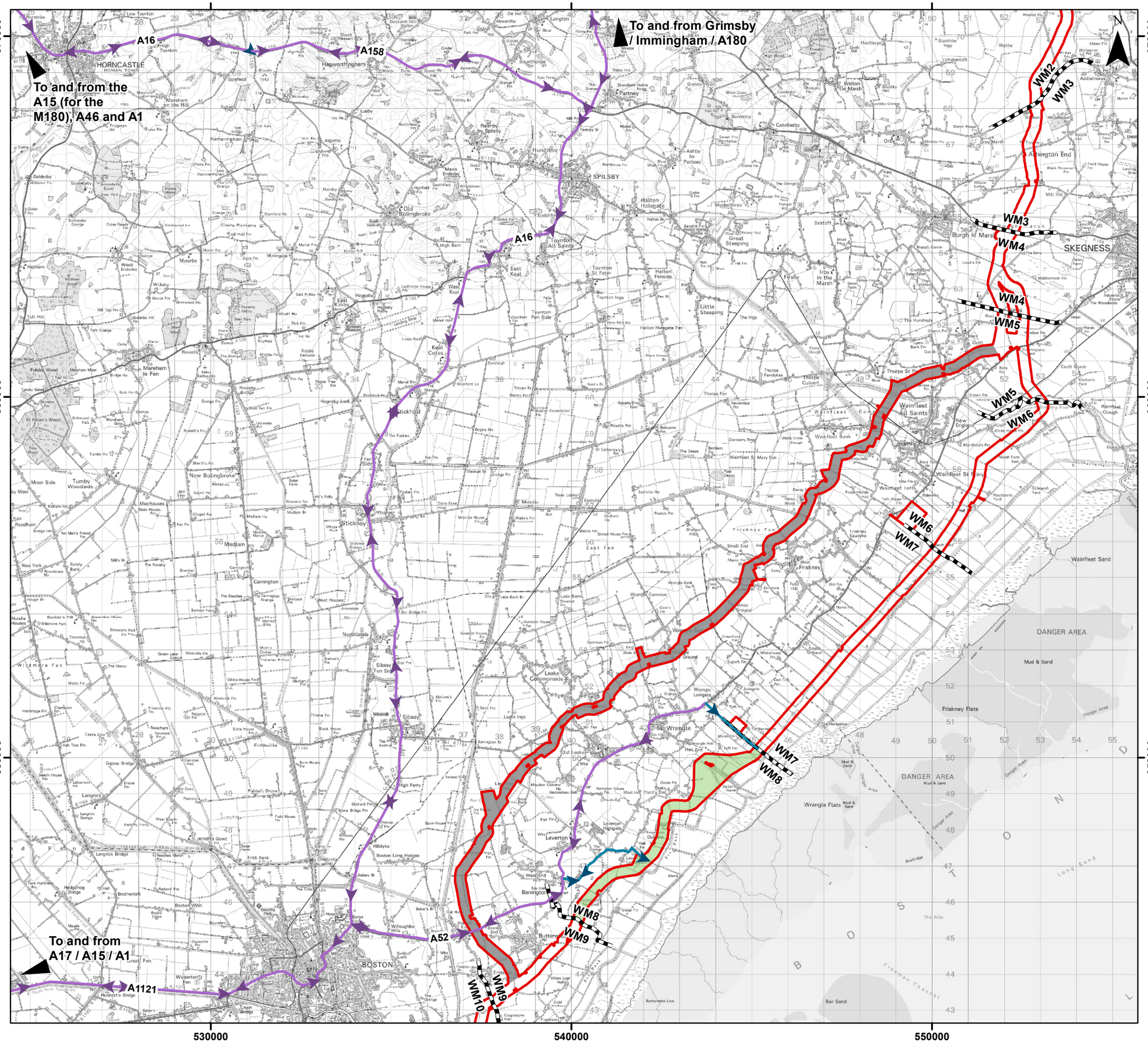
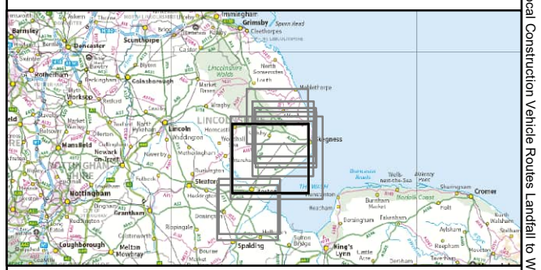


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route



Coordinate System: British National Grid

0 2.5 5 km

Scale: 1:100,000

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Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segment 8
Figure 27.4.7

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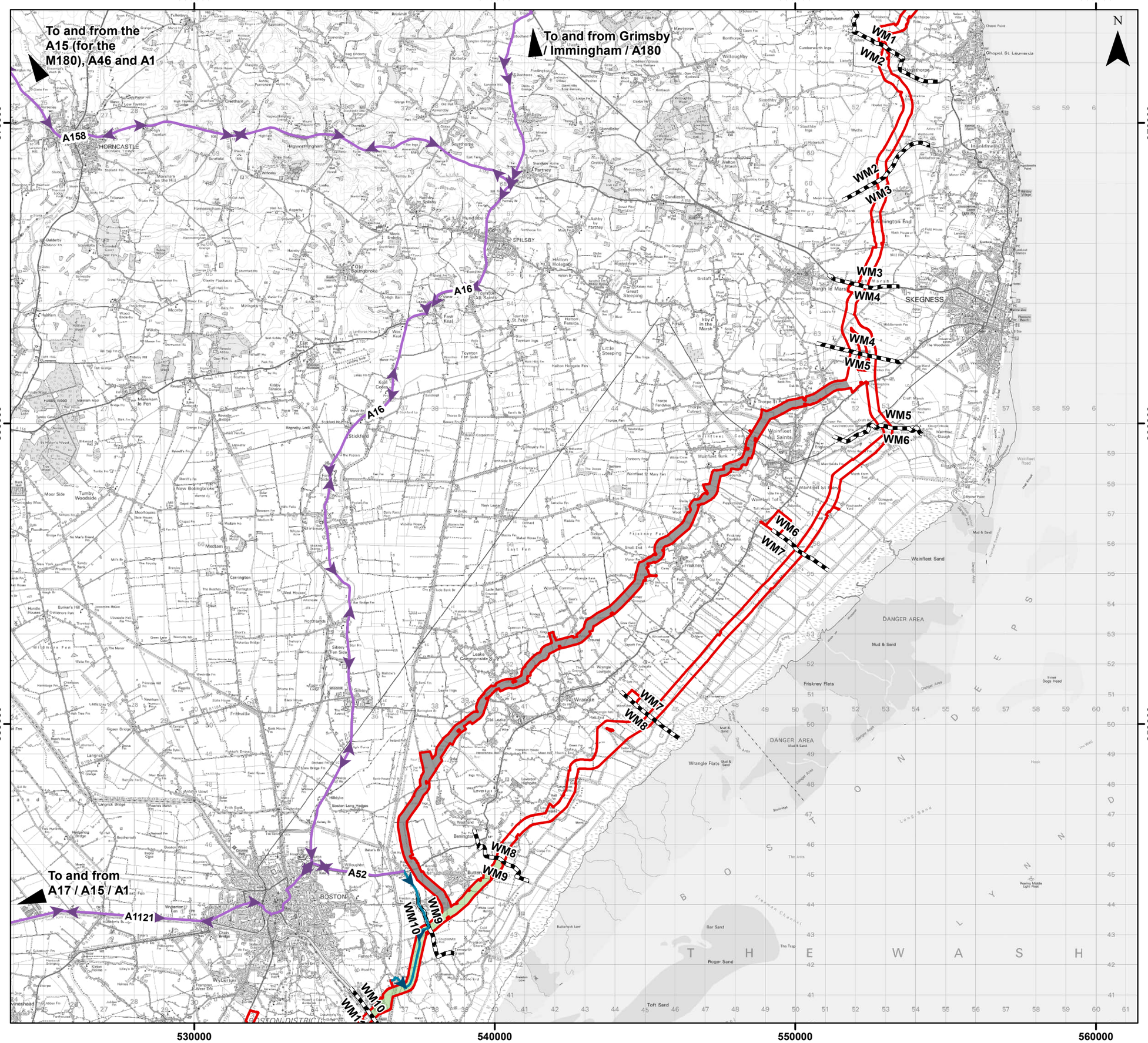
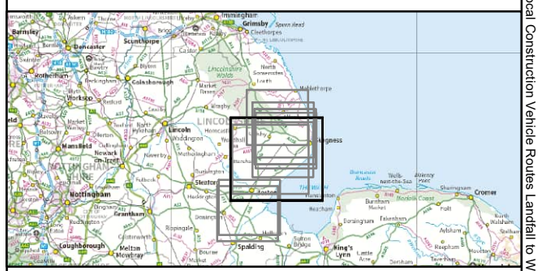


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 3 6 km

Scale: 1:120,000

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Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segments 9 and 10
Figure 27.4.8

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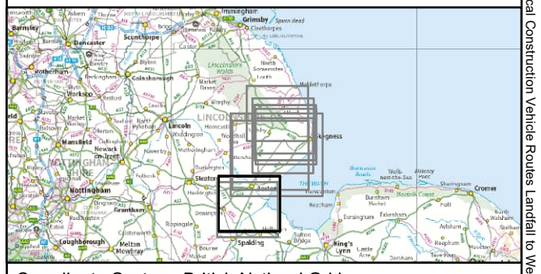
520000
530000
540000
340000
330000

To and from A15 / A1
To and from A1(M)
To and from A47
Weston Marsh North OnSS Search Area Substation
Weston Marsh South OnSS Search Area Substation
BOSTON
BOSTON DISTRICT
WM8
WM9
WM10
WM11
WM12
WM13
WM14
A17
A16

Legend

- Onshore PEIR Boundary
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segments 11 and 12
Figure 27.4.9

OUTER DOWSING OFFSHORE WIND

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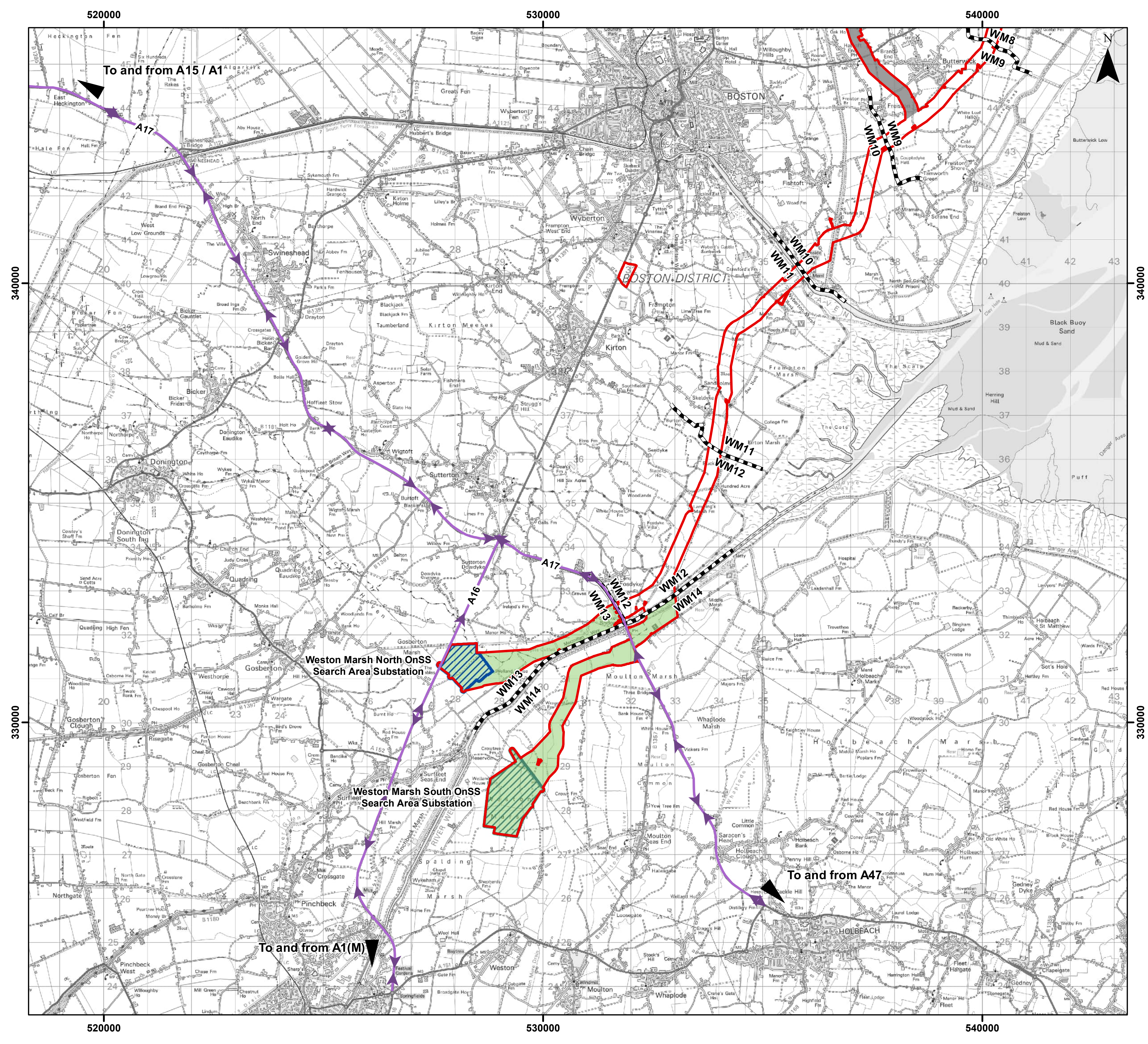

Legend

- Onshore PEIR Boundary
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Onshore Segment Break
- Core Construction Access Route

Sources:

Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (south of the A52) Onshore ECC Construction Vehicle Routes Segments 13 and 14
Figure 27.4.10

OUTER DOWSING OFFSHORE WIND

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540000

550000

370000

360000

N

To and from Grimsby / Immingham / A180

To and from the A15 (for the M180), A46 and A1

A1028

A158

A52

A1

A2

A2

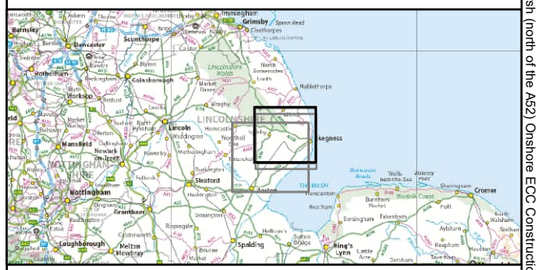
A3

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route
- Local Construction Access Route - Occasional Articulated HGV Use (if required)

Note
Construction vehicle routes for the alternative route segments for Weston Marsh (north of the A52) route only

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (north of the A52) Onshore ECC Construction Vehicle Routes
Segment 1
Figure 27.5.1

OUTER DOWSING OFFSHORE WIND

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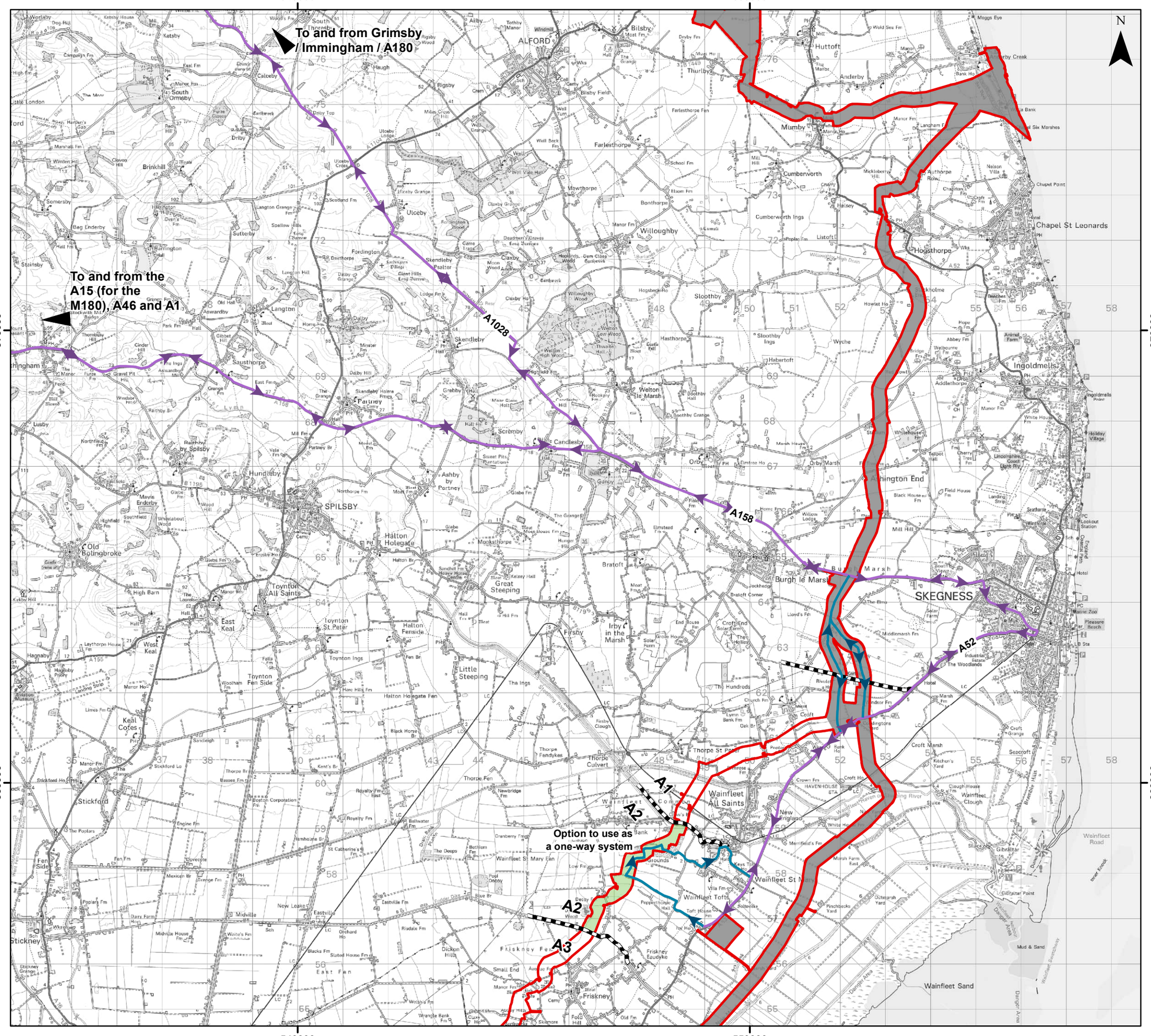
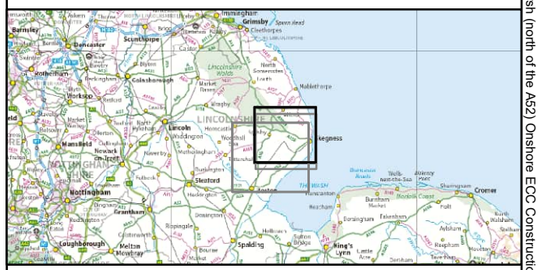


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Note
Construction vehicle routes for the alternative route segments for Weston Marsh (north of the A52) route only

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (north of the A52) Onshore ECC Construction Vehicle Routes
Segment 2
Figure 27.5.2

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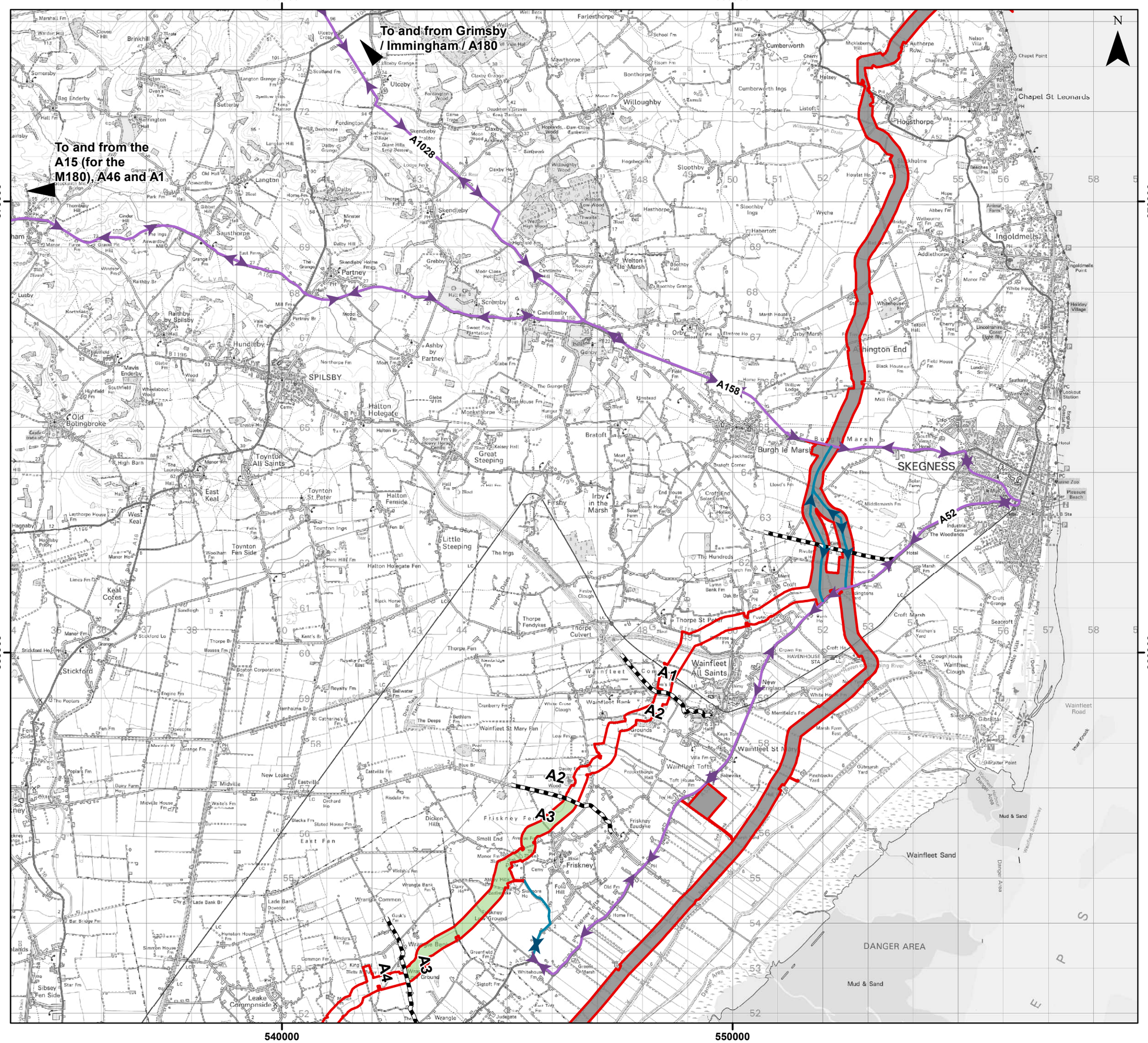
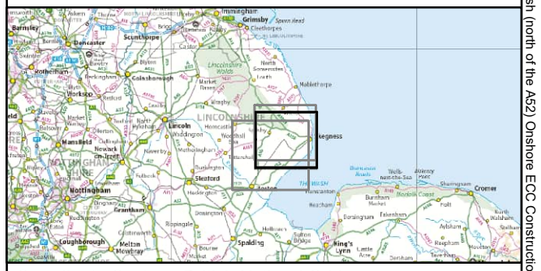


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Note
Construction vehicle routes for the alternative route segments for Weston Marsh (north of the A52) route only

Sources:



Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Weston Marsh (north of the A52) Onshore ECC Construction Vehicle Routes
Segment 3
Figure 27.5.3

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530000 540000 550000

370000 360000 350000

To and from the A15 (for the M180), A46 and A1

To and from Grimsby / Immingham / A180

To and from A17 / A15 / A1

A158 A16 A1 A2 A3 A4 A5 A52 A1121

Option to use as a one-way system

HORNCASTLE ROMAN TOWN · SPILSBY · SKEGNESS · BOSTON · DANGER AREA

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Note
Construction vehicle routes for the alternative route segments for Weston Marsh (north of the A52) route only

Sources:

Coordinate System: British National Grid

0 2.5 5 km

Scale: 1:100,000

Preliminary Environmental Information Report

Weston Marsh (north of the A52) Onshore ECC Construction Vehicle Routes
Segment 4
Figure 27.5.4

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530000 540000 550000

370000 360000 350000

To and from the A15 (for the M180), A46 and A1

To and from Grimsby / Immingham / A180

To and from A17 / A15 / A1

A158 A16 A1 A2 A3 A4 A5 A52 A1121

HORNCASTLE SPILSBY SKEGNESS BOSTON

DANGER AREA

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Core Construction Access Route
- Local Construction Access Route

Note
Construction vehicle routes for the alternative route segments for Weston Marsh (north of the A52) route only

Sources:

Coordinate System: British National Grid

0 2.5 5 km

Scale: 1:100,000

Preliminary Environmental Information Report

Weston Marsh (north of the A52) Onshore ECC Construction Vehicle Routes
Segment 5
Figure 27.5.5

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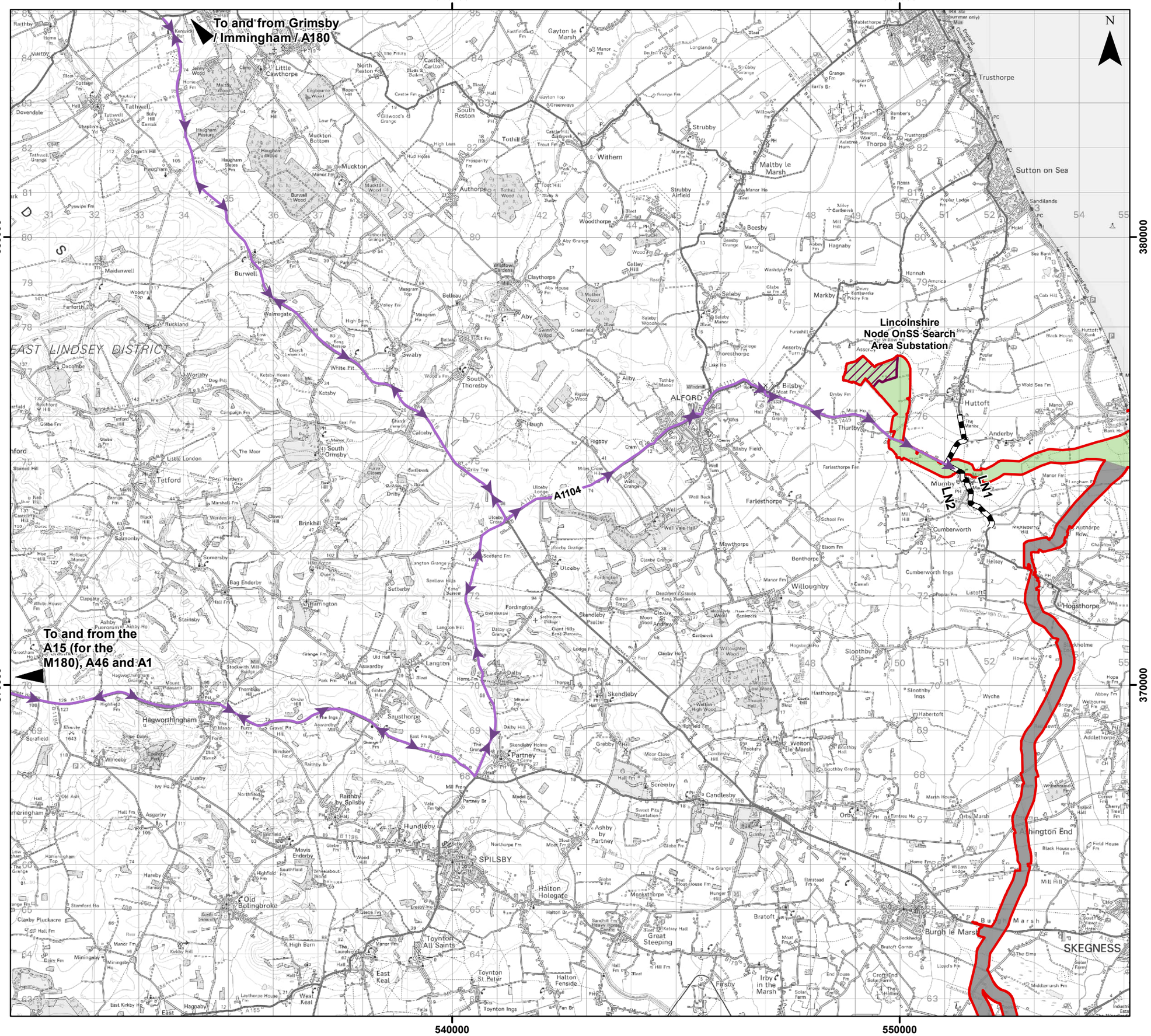

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search
- Onshore Segment Break
- Core Construction Access

Sources:

Coordinate System: British National Grid

0 2 4 km

Scale: 1:80,000

Preliminary Environmental Information Report

Lincolnshire Node Onshore ECC Construction Vehicle Routes
Segments 1 and 2
Figure 27.6

OUTER DOWSING OFFSHORE WIND

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Construction Vehicle Routeing - Summary

27.4.9 The above construction vehicle routes for the Project will be for HGVs and construction workers. It is acknowledged there may be some other local routes that will be used by construction workers to access the Onshore ECC and OnSS; however, given the forecast construction worker vehicle movements will be distributed across a wider number of highway links, the increases in traffic on these links will not result in any significant effects and will not be discernible in the daily fluctuations in baseline traffic.

27.4.10 Although construction traffic associated with the Project will use the wider highway network outside the study area (including the Strategic Road Network (SRN)), it is considered that construction traffic volume will have dissipated such that significant impacts on the wider highway network are not anticipated and so these wider routes are not included in the study area, which has been agreed with NH as set out in the Scoping Opinion (the Inspectorate, 2022) and as further discussed and agreed through the EPP.

Other Highway Links

27.4.11 The study area also includes the roads that could be impacted should open trenching technology be utilised to install the Onshore ECC (i.e. where temporary lane or road closures may be required) and/or where there will be a haul road crossing, including some highway links that are also part of the construction vehicle routeing network.

27.4.12 For the Weston Marsh south of the A52 Onshore ECC route Option, the study area comprises the highway links shown in Table 27.9 that will be crossed by the Onshore ECC, requiring a temporary lane or road closure, and/or will have a haul road crossing (see Figure 27.7).

Table 27.9: Highway link crossings – Weston Marsh south of the A52 Onshore ECC option

Highway links	Segment
Langham Road	WM1
Lowgate Road	WM1
Bracken Lane	WM1
A52 (west of Hogsthorpe)	WM1/WM2
Listoft Lane	WM2
Sloothby High Lane	WM2
South Ings Lane	WM2
Marsh Lane	WM2/WM3
Ingoldmells Road	WM3
Billgate Lane	WM4
Middlemarsh Road	WM4
Low Road	WM4/WM5
Pinchbeck Lane	WM5
A52 Croft Bank	WM5
Sea Lane (Wainfleet St Mary)	WM6
Sea Lane (RAF Wainfleet)	WM7
Sea Lane (Staples Farm)	WM7/WM8
Sea Lane (Roman Bank Cottage)	WM8
Oldfield Lane (east)	WM7

Highway links	Segment
Oldfield Lane (south)	WM7
Leverton Marsh access road	WM7
Sea Lane (Leverton Lucasgate)	WM7
Spicer's Lane	WM8
Churchway	WM8
Crowhall Lane	WM8/WM9
Watery Lane	WM9
Sea Lane (Butterwick)	WM9
Shore Road	WM9
Church Road/Church End Road	WM9/WM10
Clampgate Road	WM10
Grovefield Lane	WM10
Cut End Road	WM10
Woad Lane	WM10
Streetway/Wyberton Roads	WM11
Frampton Roads	WM11
Sandholme Lane	WM11
Marsh Road	WM11/WM12
Pullover Lane	WM12
Wash Road	WM12

For the Weston Marsh north of the A52 Onshore ECC option , the study area comprises the highway links shown in Table 27.10 that will be crossed by the Onshore ECC (the alternative segments), requiring a temporary lane or road closure, and/or will have a haul road crossing (see Figure 27.8).

Table 27.10: Highway link crossings – Weston Marsh north of the A52 Onshore ECC option

Highway links	Segment
Low Road	A1
Church Lane	A1
Brewster Lane	A1
Collision Gate	A1
Church Lane	A2
Scald Gate	A2
Burgh Road	A2
Cranberry Lane	A3
Mill Hill	A3
Small End Road	A3
Skirmore Road	A3
Patman's Lane	A3
Ivery Lane	A3
Broadgate	A3/A4
Cragmire Lane	A4
Double Bank	A4
Manor Lane	A4
Seadyke Lane	A4

Highway links	Segment
Church Road	A4
Faunt Bridge	A4
Pode Lane	A4
Skipmarsh Lane	A4
Southfields	A4
Ings Drove	A4/A5
Double Bank	A5
Lowfields Lane	A5
Butterwick Road	A5
Shore Road	A5

For the Lincolnshire Node Onshore ECC option, the study area comprises the highway links show in Table 27.11 that will be crossed by the Onshore ECC, requiring a temporary lane or road closure, and/or could have a haul road crossing (see Figure 27.9).

Table 27.11: Highway link crossings – Lincolnshire Node Onshore ECC option

Highway links	Segment
B1449	LN2/OnSS (Lincolnshire Node)

552000 554000 556000 558000

376000

374000

372000

N

Langham Road

Lowgate Road

WM2 - A52 - Hogsthorpe to Marsh Lane

WM1 - Landfall to A52 - Hogsthorpe

A52 (West of Hogsthorpe)

Listoft Lane

Sloothby High Lane

ANDERBY CP

CUMBERWORTH CP

MUMBY CP

CHAPEL ST LEONARDS CP

HOGSTHORPE CP

Huttoft

Anderby

Anderby Creek

Mumby

Cumberworth

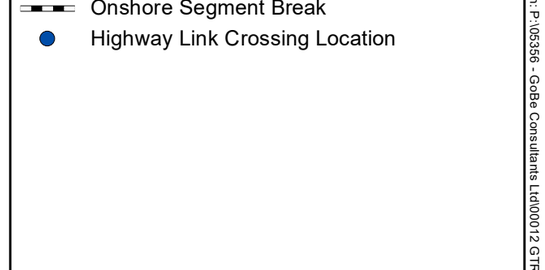
Chapel St Leonards

Hogsthorpe

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:



Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.1

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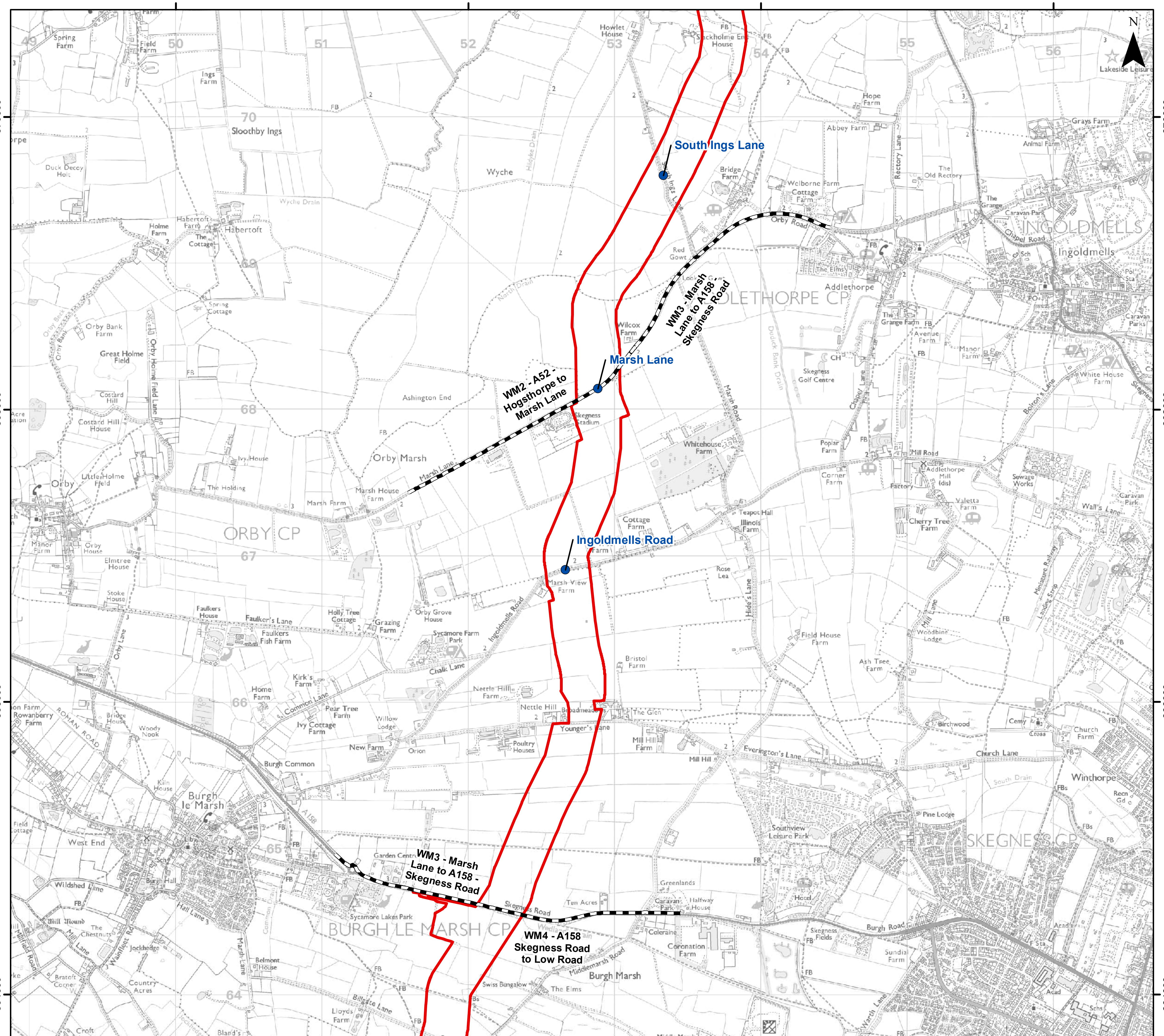

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.2

OUTER DOWSING OFFSHORE WIND

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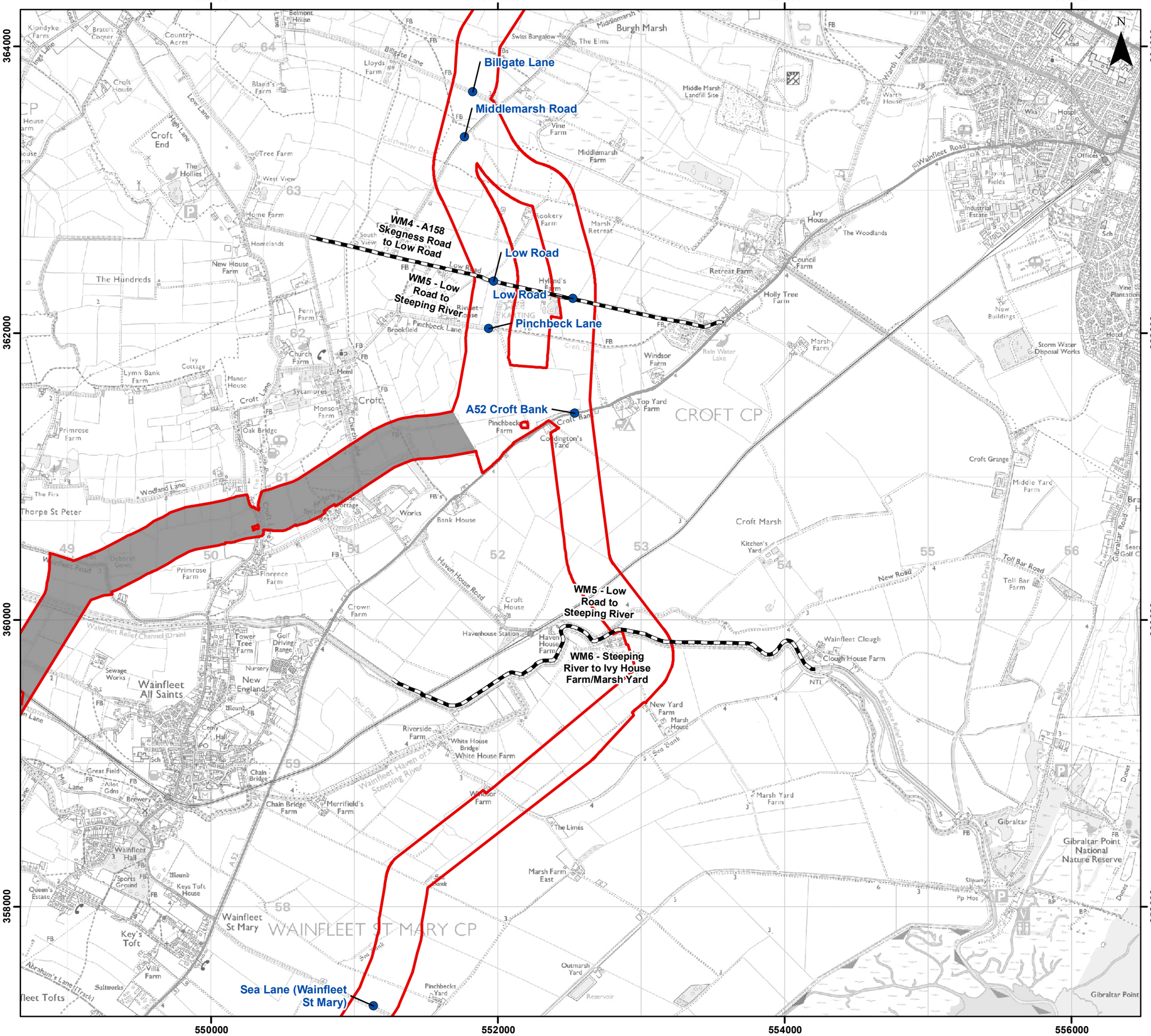
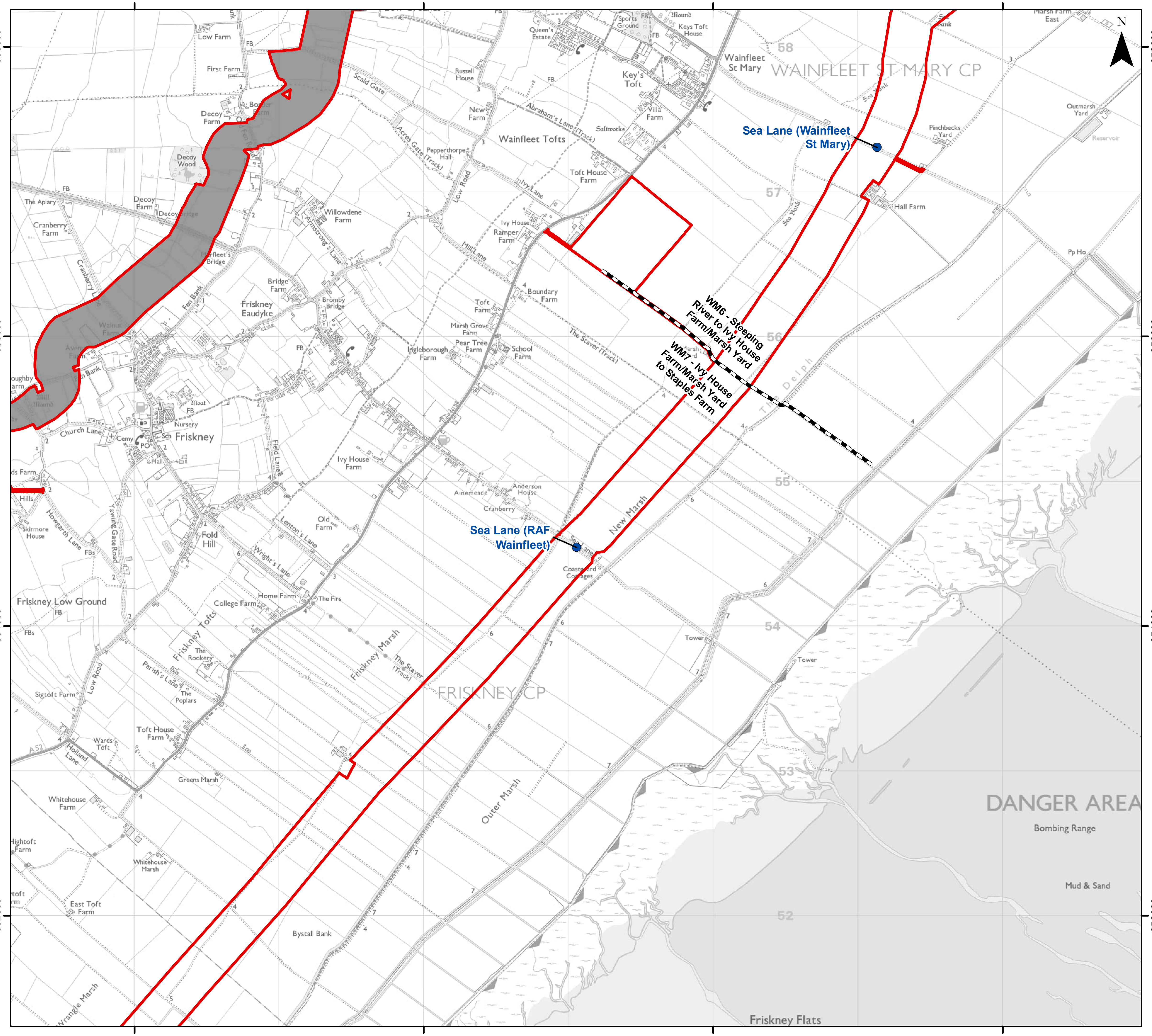


Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location



Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.4

OUTER DOWSING OFFSHORE WIND

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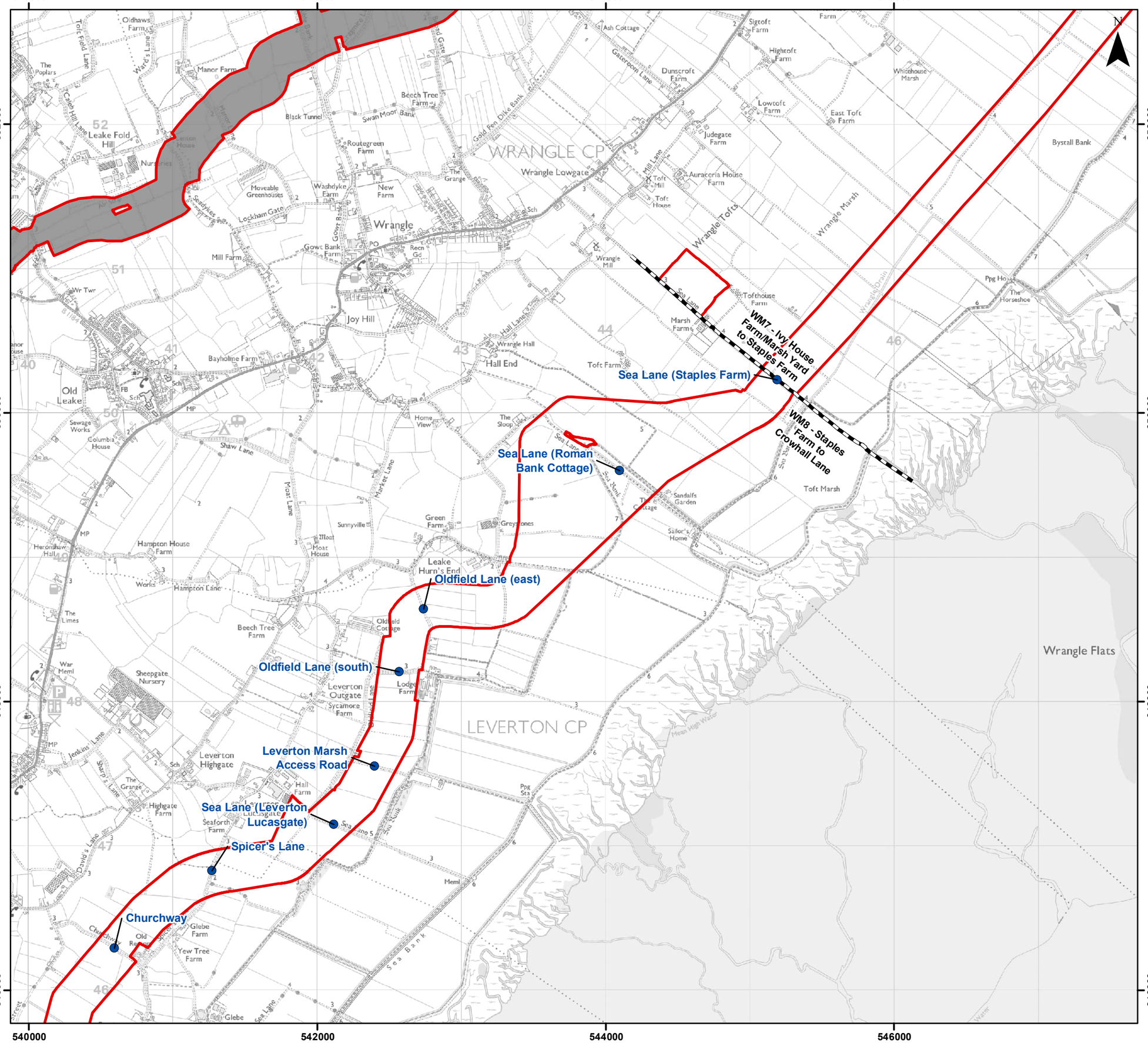

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.5

OUTER DOWSING OFFSHORE WIND

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534000 536000 538000 540000

346000 344000 342000 340000

Spicer's Lane
Churchway
WM8 - Staples Farm to Crowhall Lane
Crowhall Lane
WM9 - Crowhall Lane to Church End Lane
Water Lane
Sea Lane (Butterwick)
Shore Road
WM10 - Church End Lane to The Haven
Church Road/Church End Road
Clamgate Road
WM9 - Crowhall Lane to Church End Lane
Grovefield Lane
Cut End Road
Woad Lane
WM10 - Church End Lane to The Haven
WM11 - The Haven to Marsh Road

Benington
Benington Sea End
Butterwick
Butterwick Sea End
Freiston
Freiston Shore
Skirbeck
Fishtoft
Haltoft End
Willoughby Hills
Tamworth Green
Freiston Shore Nature Reserve
Freiston Low
FISHTOFT CP
BENINGTON CP
BUTTERWICK CP
FREISTON CP

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.6

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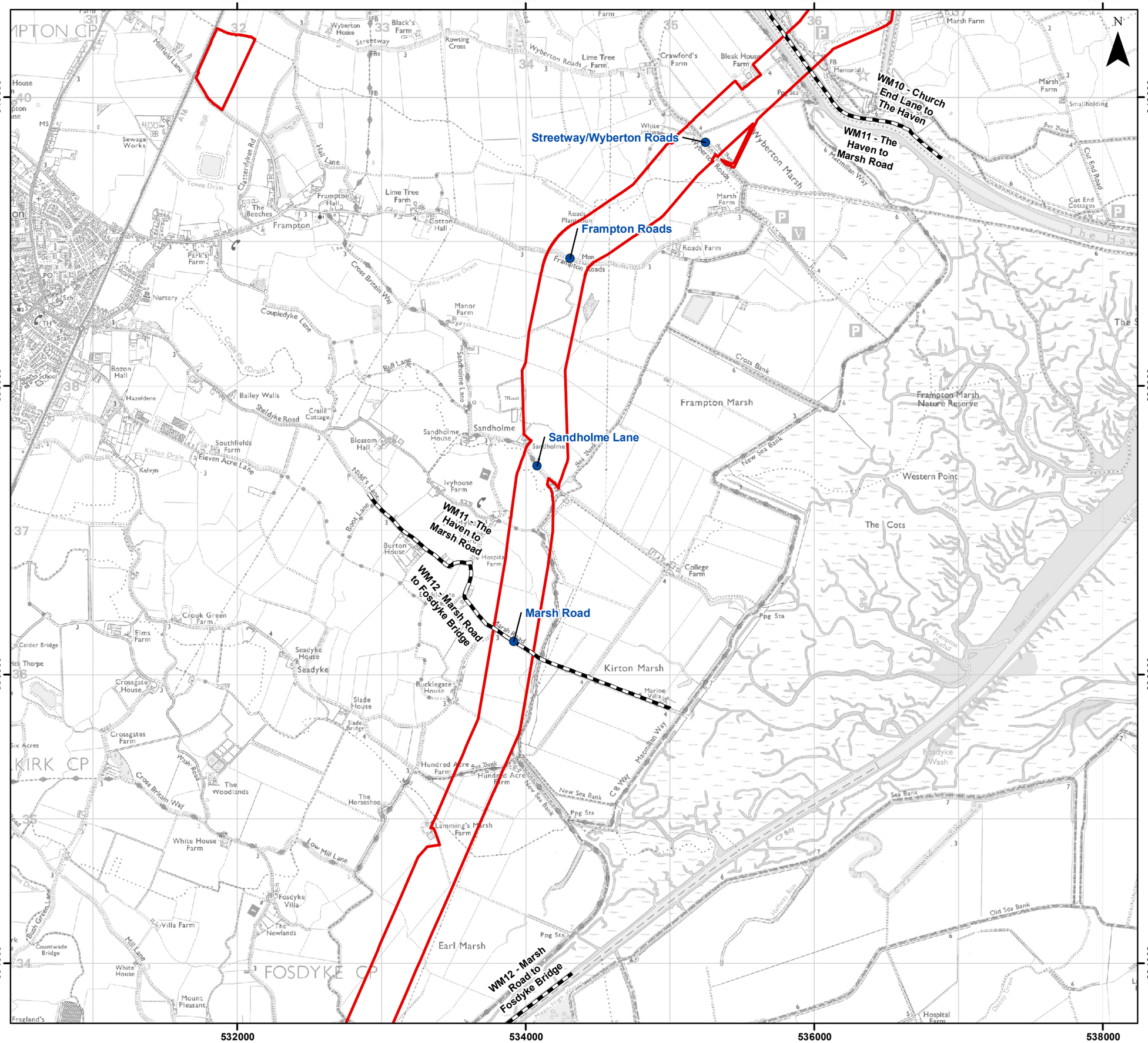

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.7

OUTER DOWSING OFFSHORE WIND

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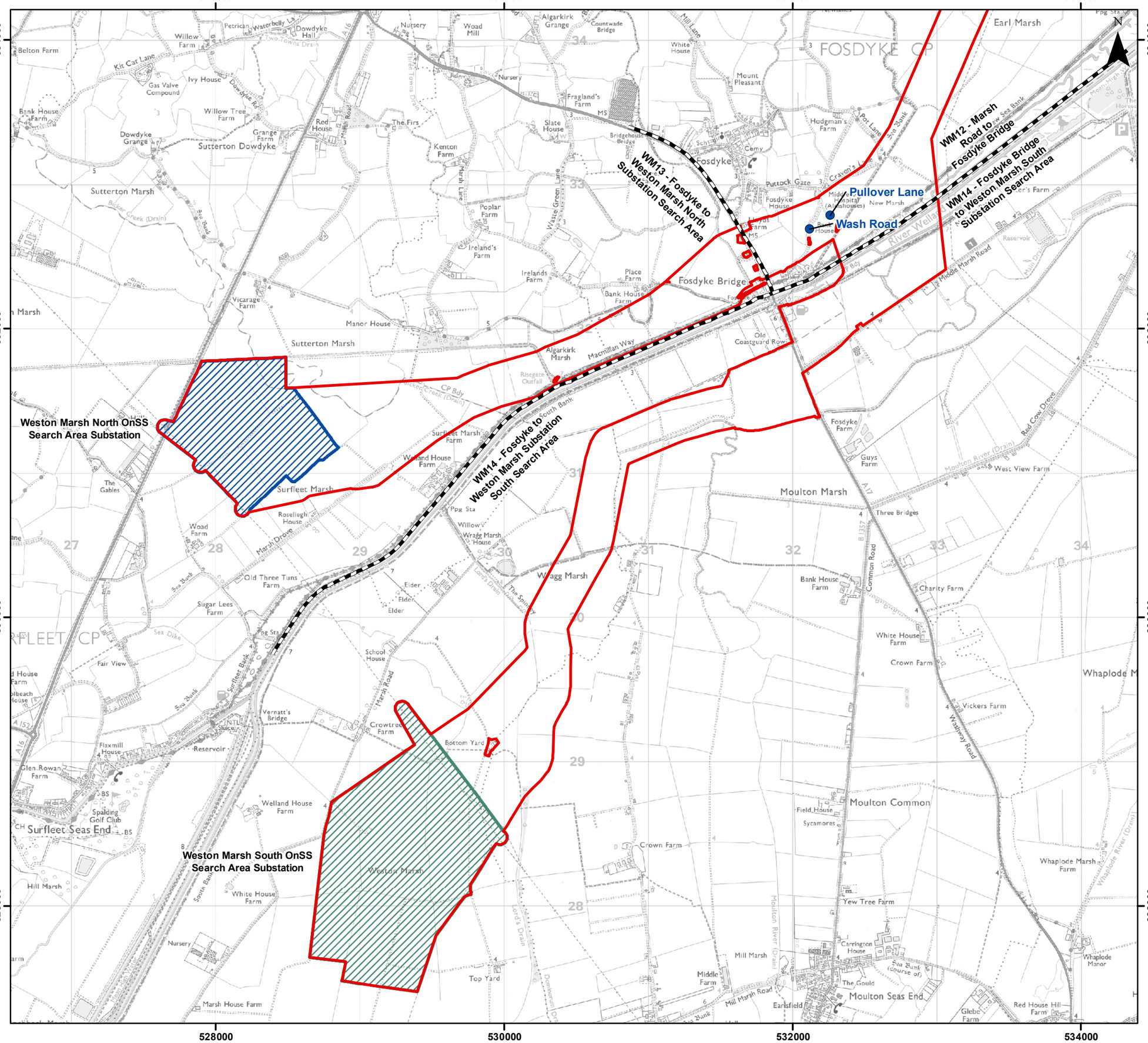

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (south of A52) Onshore ECC Route Option

Figure 27.7.8

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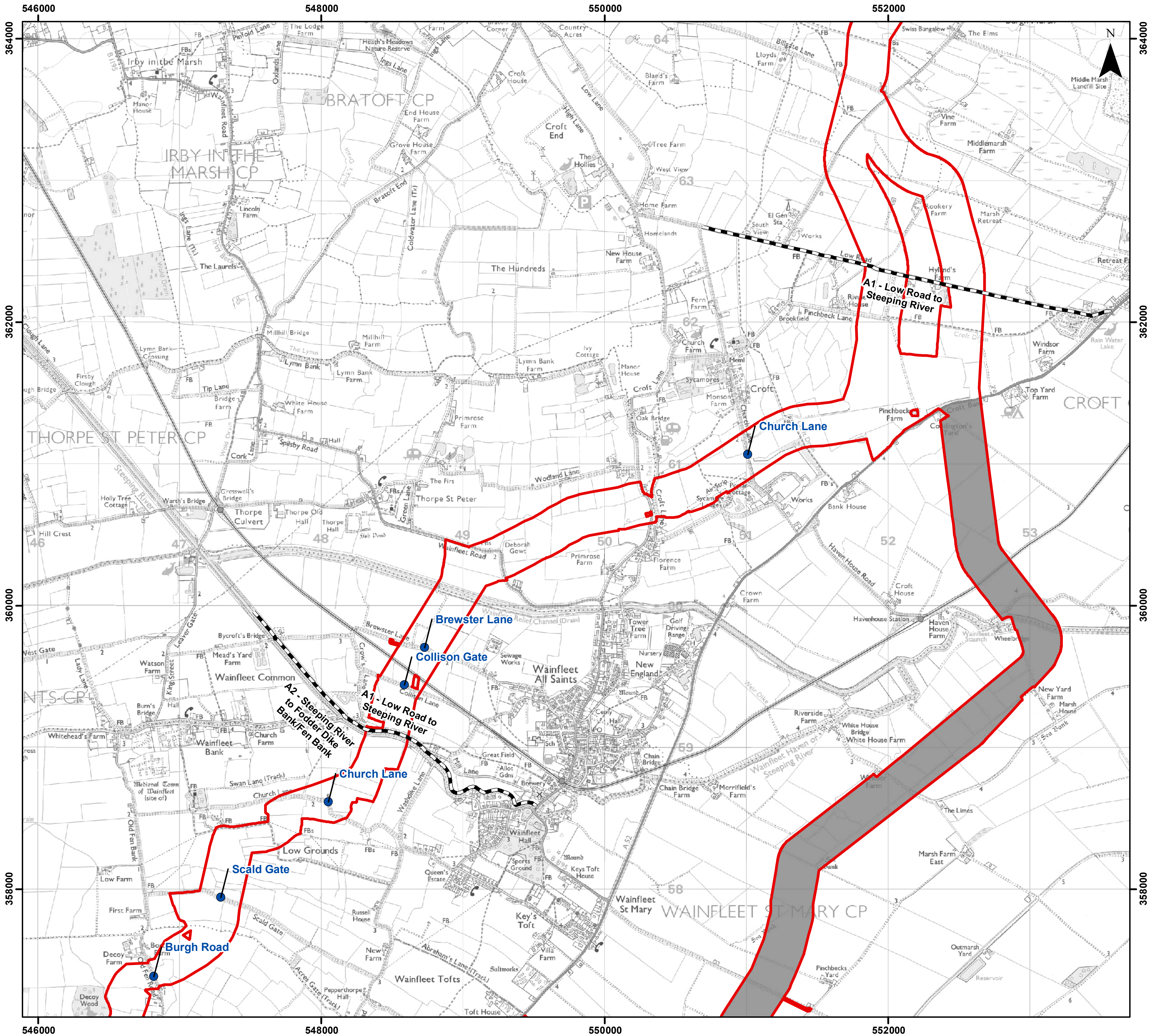

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Weston Marsh (north of A52) Onshore ECC Route Option

Figure 27.8.1

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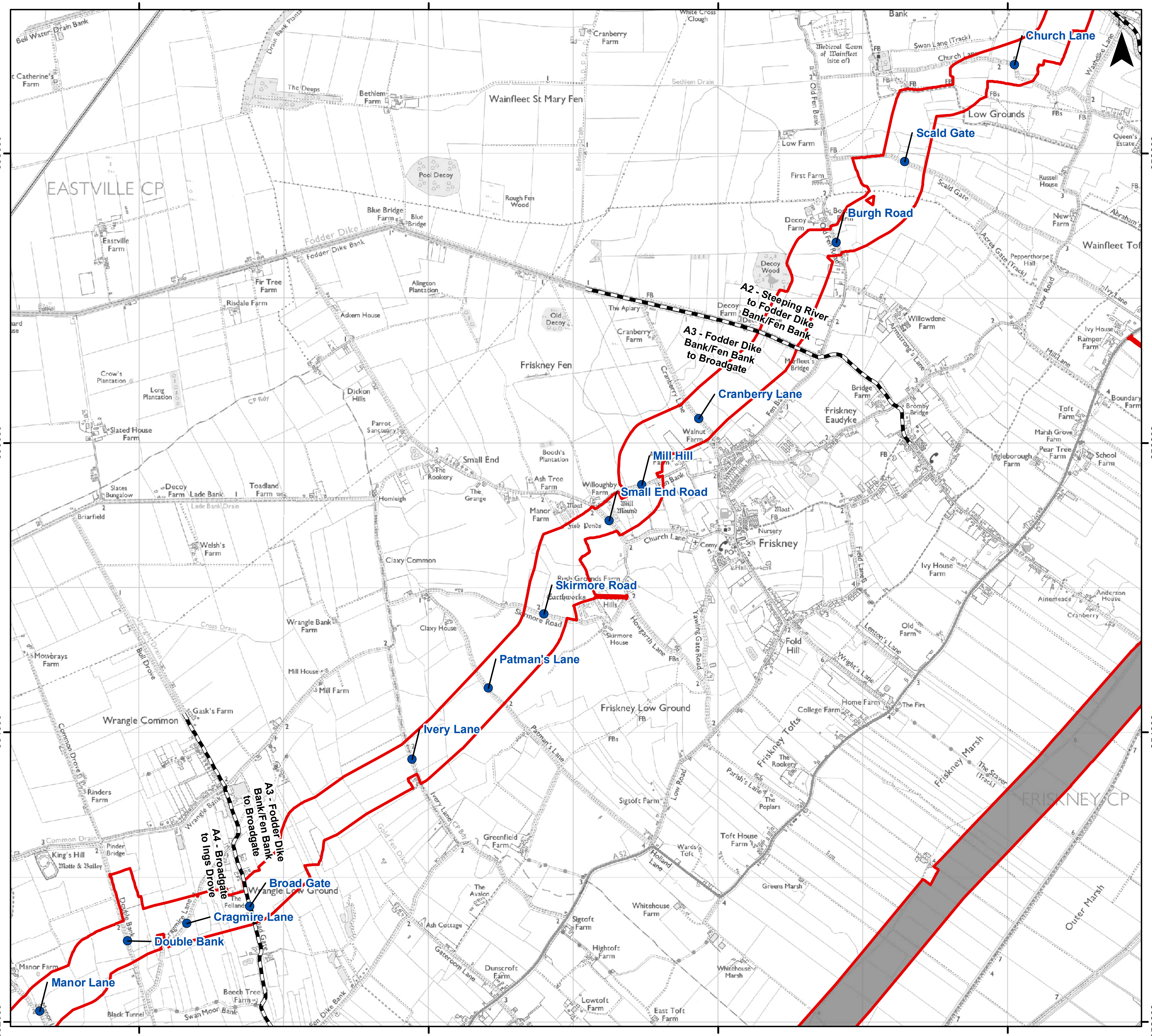

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Highway Link Crossings - Weston Marsh (north of A52) Onshore ECC Route Option

Figure 27.8.2

OUTER DOWSING OFFSHORE WIND

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Legend

🟥 Onshore PEIR Boundary
▬ Onshore Segment Break
● Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Highway Link Crossings - Weston Marsh (north of A52) Onshore ECC Route Option

Figure 27.8.3

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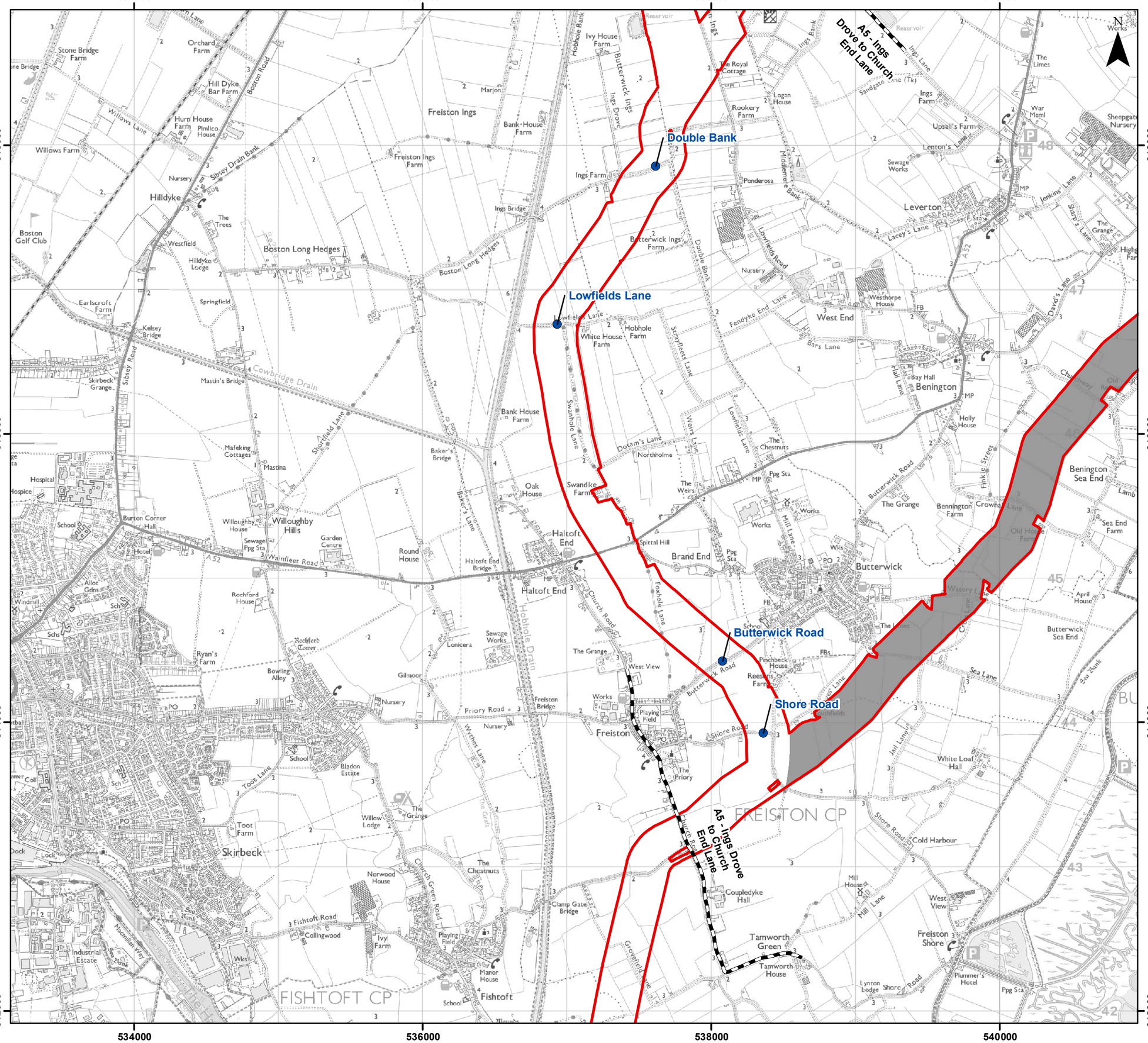

Legend

- ▭ Onshore PEIR Boundary
- ▬ Onshore Segment Break
- ● Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Highway Link Crossings - Weston Marsh (north of A52) Onshore ECC Route Option

Figure 27.8.4

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550000 552000 554000 556000

378000 376000 374000 372000

N

Lincolnshire Node OnSS Search Area Substation

B1449

LN1 - Landfall to A52 - Mumby

LN2 - A52 - Mumby to Lincolnshire Node Substation

HUTTOFT CP

ANDERBY CP

CUMBERWORTH CP

MUMBY CP

CHAPEL ST LEONARDS CP

Huttoft

Anderby

Anderby Creek

Hogsthorpe

Cumberworth

Asserby

Thurlby

Farlesthorpe Fen

Cumberworth Ings

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Lincolnshire Node OnSS Search Area
- Highway Link Crossing Location

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Highway Link Crossings - Lincolnshire Node Onshore ECC Route Option

Figure 27.9

OUTER DOWSING OFFSHORE WIND

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27.4.13 Use of a trenchless crossing technique, which is not anticipated to require lane or road closures to install the cable has been identified for the following highway links as a minimum (other highway links listed in Table 27.9, Table 27.10 and Table 27.11 might be identified to be crossed using a trenchless technique, following more detailed investigations for the ES which will be prepared for the DCO application):

- A52 (all Onshore ECC options);
- A158 (Weston Marsh Onshore ECC option (both alignments));
- A17 (Weston Marsh Onshore ECC option (both alignments));
- Youngers Lane (Weston Marsh Onshore ECC option (both alignments));
- B1195 (Weston Marsh north of the A52 Onshore ECC option);
- Fen Bank (Weston Marsh north of the A52 Onshore ECC option);
- B1184 (Weston Marsh north of the A52 Onshore ECC option); and
- Scalp Road (Weston Marsh Onshore ECC option (both alignments).

27.4.14 The assumption that the highway links that might be crossed using a trenchless technique are crossed using open trenching technology is a worst case, in terms of assessment in this chapter under EIA Regulations.

Public Rights of Way (PRoW)

27.4.15 In addition, the study area also includes all PRoW that are impacted by the construction works (those that might be crossed by the open trenching to install the cables, construction (temporary) or permanent vehicular access, Temporary Construction Compound (TCC) or haul road) for the Onshore ECC, as shown in Figure 27.14 and as set out in the Outline PAMP (Document reference 8.1.7). PRoW are also considered where they may be indirectly impacted, such as those where access could be restricted due to adjacent work activities for example.

Data Sources

27.4.16 A number of baseline data sources have been used to inform this Chapter and the ongoing design of the Project, which are described in detail in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline, and summarised below:

- A desktop appraisal of the traffic and transport aspects of the study area (Google Earth), supplemented by a number of visual route inspections;
- Annual Average Daily Traffic (AADT) flows and speed for the LRN (Department for Transport (DfT) National Road Statistics);
- STATS19 accident data for the LRN (LCC); and
- PRoW online map (LCC).

27.4.17 The new data that have been collected are:

- Automatic Traffic Counters (ATCs) at five locations across the study area to collect traffic flow and speed data during August; and

- ATCs at 77 locations across the study area to collect traffic flow and speed data during October 2022 and February/March 2023, which includes the same five August ATC locations to enable a comparison of the traffic flows in the study area as a result of tourism and agriculture in the summer months.

Existing Environment

Highway Network

27.4.18 A detailed description of the highway network within the study area (as set out in Table 27.6 to Table 27.11) is provided in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline.

Construction Access Locations

27.4.19 This section sets out the proposed construction access location for each Onshore ECC option. It should be noted that the labelling of the accesses is not always in alphabetical order along each route, due to the evolution of the Project design and the introduction or removal of some access locations. The labelling will be refined for the selected Onshore ECC option.

27.4.20 The proposed construction access locations are listed in Table 27.12 for the Weston Marsh south of the A52 Onshore ECC route Option, Table 27.13 for the Weston Marsh north of the A52 Onshore ECC option and Table 27.14 for the Lincolnshire Node Onshore ECC option, and the relevant Onshore ECC segment (as described in Volume 1, Chapter 3: Project Description) each access relates to.

27.4.21 A description of the construction access locations (where there may also be a TCC, which are yet to be defined) and Onshore ECC segments is also provided in Section 3.2 of Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and shown in Figure 27.10.

Table 27.12: Construction accesses - Weston Marsh south of the A52 Onshore ECC option

Access	Location	Segment
Access A	A52 West of Hogsthorpe	WM1/WM2
Access AG	Listoft Lane	WM2
Access B	Sloothby High Lane	WM2
Access C	South Ings Lane	WM2
Access D	Marsh Lane	WM2/WM3
Access E	A158	WM3/WM4
Access F	A52	WM5/WM6
Access H	Sea Lane (Wainfleet St Mary)	WM6/trenchless crossing site
Access I	Ivy House Farm/Marsh Yard	WM6/WM7
Access J	Staples Farm access	WM7/WM8
Access K	Sea Lane (Leverton Lucasgate)	WM8/WM9
Access L	Church End Lane	WM9/WM10
Access AH	Clampgate Road	WM10
Access M	Cut End Road	WM10/trenchless crossing site
Access G	Pinfold Lane	WM10/trenchless crossing site
Access N	Streetway/Wyberton Roads/Millfield Lane East	WM11/trenchless crossing site

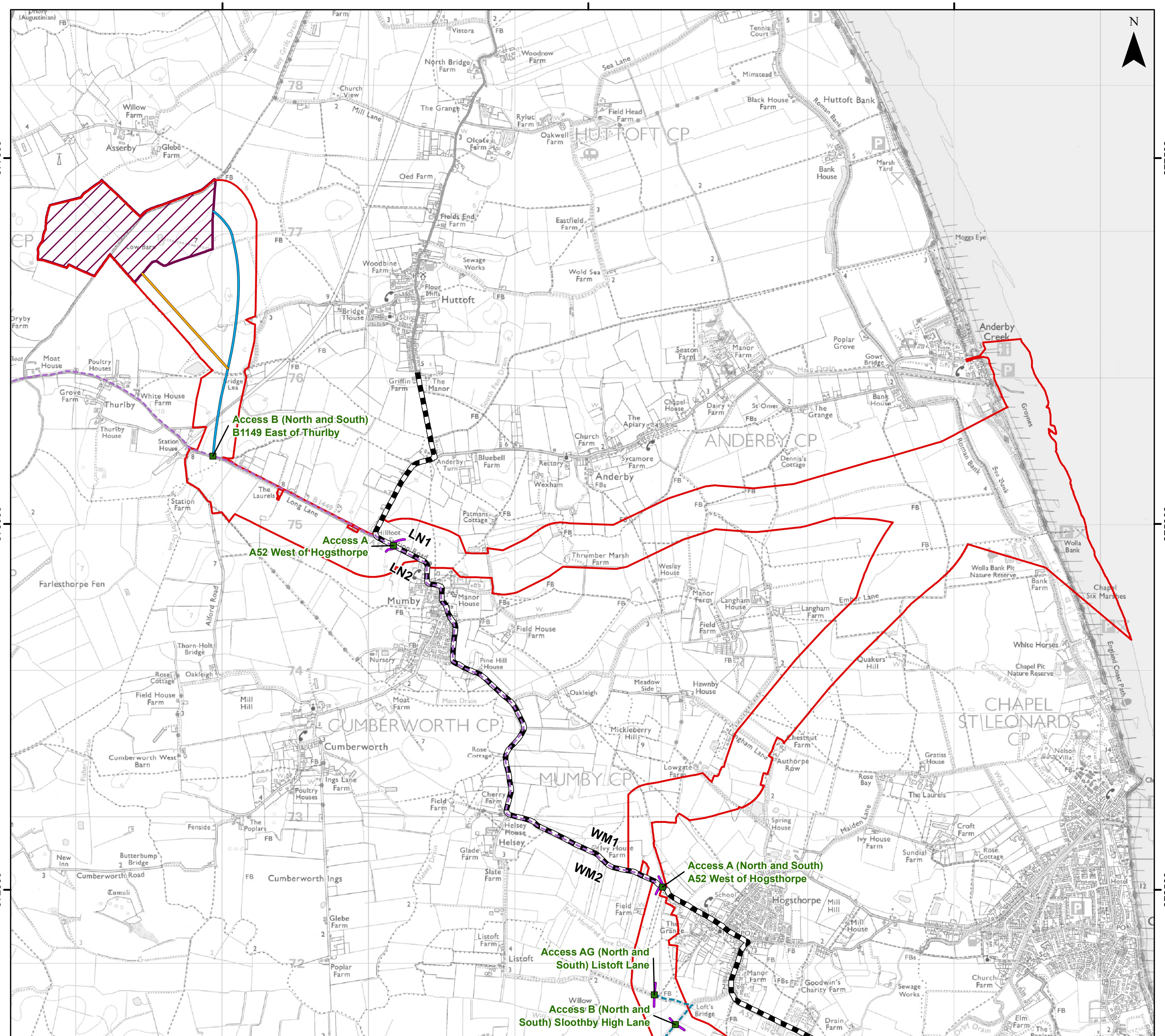
Access	Location	Segment
Access O	Marsh Road	WM11/WM12
Access P	Craven's Lane	WM12/trenchless crossing site
Access Q	Middle Marsh Road	WM12/trenchless crossing site
Access R	A17	WM13/OnSS (south)
Access S	A17	WM14/OnSS (north)
Access T	A16	OnSS (north)

Table 27.13: Construction accesses - Weston Marsh north of the A52 Onshore ECC option

Access	Location	Segment
Access A	A52 West of Hogsthorpe	WM1/WM2
Access AG	Listoft Lane	WM2
Access B	Sloothby High Lane	WM2
Access C	South Ings Lane	WM2
Access D	Marsh Lane	WM2/WM3
Access E	A158	WM3/WM4
Access F	A52	A1
Access U	Church Lane	A1/trenchless crossing site
Access V	B1195 Wainfleet Road	A1/trenchless crossing sites
Access W	Brewster Lane	A1/trenchless crossing sites
Access AF	Collision Gate	A1/trenchless crossing sites
Access X	Mill Lane	A1/trenchless crossing sites
Access Y	Church Lane	A2/trenchless crossing site
Access Z	Scald Gate	A2
Access AA	Howgarth Lane	A3/trenchless crossing site
Access AB	Broadgate	A3/A4
Access AC	Common Road	A4
Access AD	Ings Road	A5
Access AE	A52	A5
Access L	Church End Lane	A5/WM10
Access AH	Clampgate Road	WM10
Access M	Cut End Road	WM10/trenchless crossing site
Access G	Pinfold Lane	WM10/trenchless crossing site
Access N	Streetway/Wyberton Roads/Millfield Lane East	WM11/trenchless crossing site
Access O	Marsh Road	WM11/WM12
Access P	Craven's Lane	WM12/trenchless crossing site
Access Q	Middle Marsh Road	WM12/trenchless crossing site
Access R	A17	WM13/OnSS (south)
Access S	A17	WM14/OnSS (north)
Access T	A16	OnSS (north)

Table 27.14: Construction accesses – Lincolnshire Node Onshore ECC option

Access	Location	Segment
Access A	A52 West of Hogsthorpe	LN1
Access B	B1449 east of Thurlby	LN2/OnSS (Lincolnshire Node)



Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Lincolnshire Node OnSS Search Area
- Local Construction Access Location
- Local Construction Access Route
- Permanent Substation Access Route
- Alternative Permanent Substation Access Route
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.1

OUTER DOWSING OFFSHORE WIND

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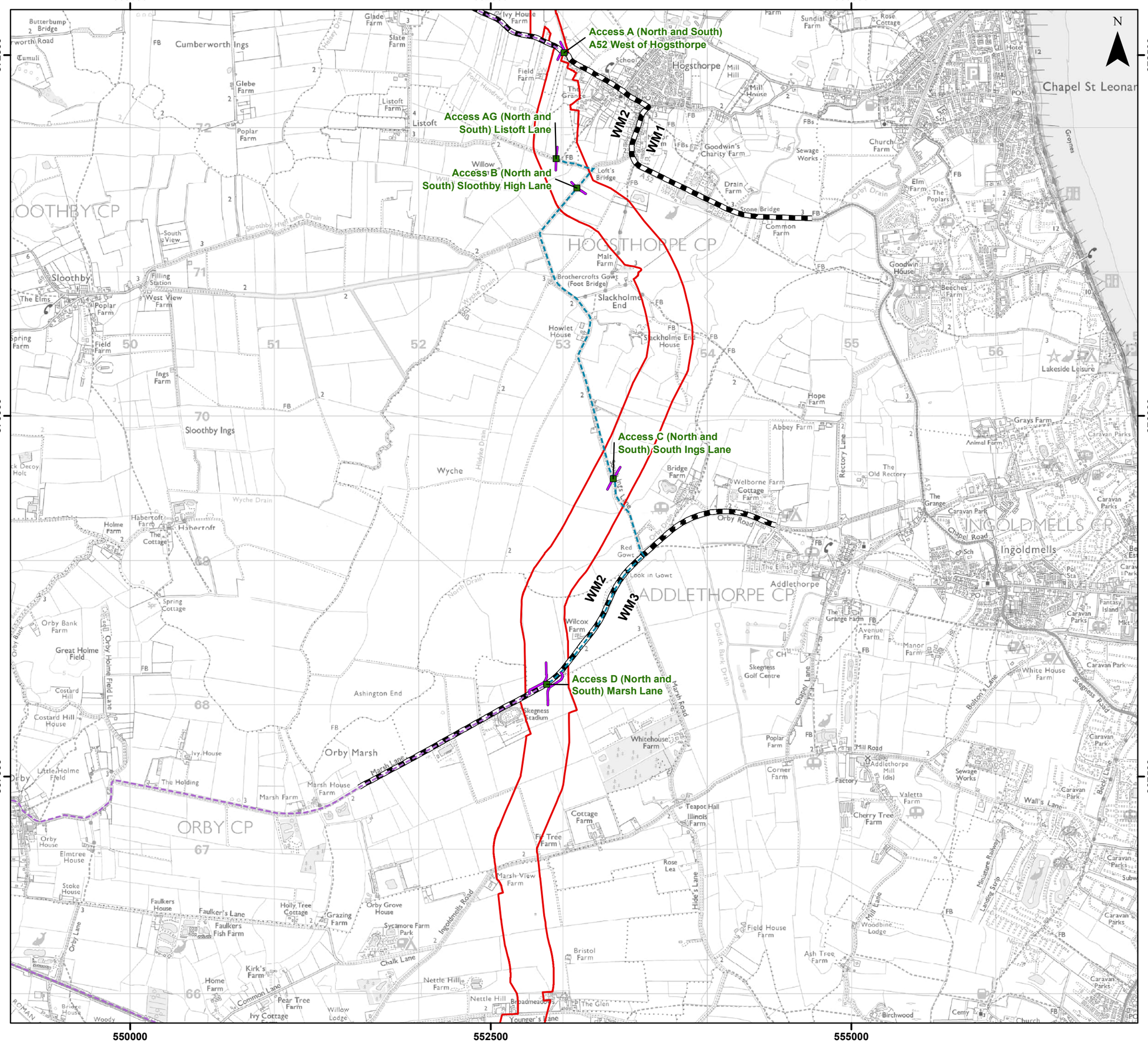

Legend

- 🟥 Onshore PEIR Boundary
- ▬ Onshore Segment Break
- 🟩 Local Construction Access Location
- ▬ Local Construction Access Route
- - - Wider Context - Core Construction Access Route
- - - Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.2

OUTER DOWSING OFFSHORE WIND

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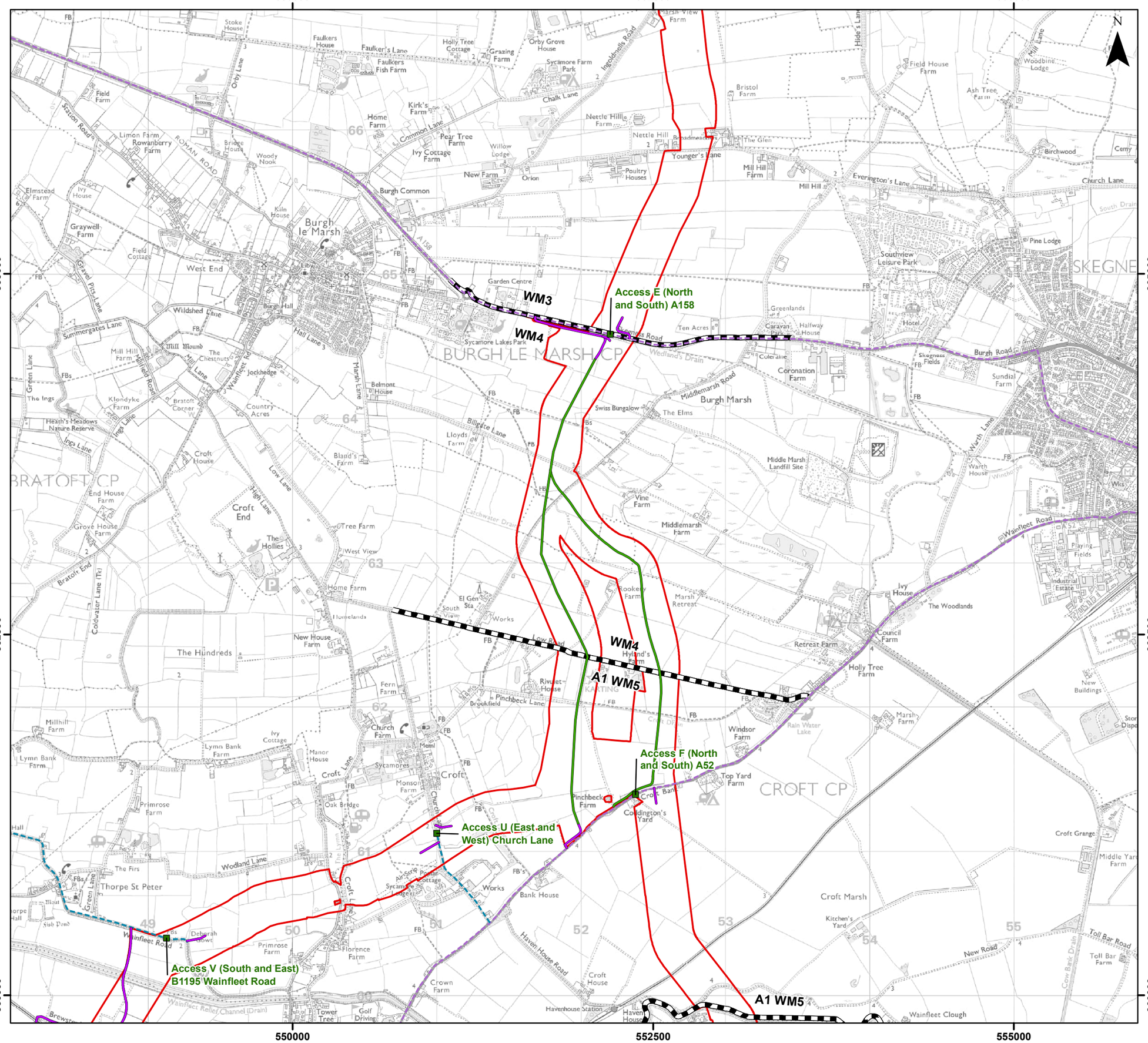

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Local Construction Access Route Avoiding Skegness
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.3

OUTER DOWSING OFFSHORE WIND

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547500 550000 552500

360000 357500 355000

Access V (South and East)
B1195 Wainfleet Road

Access AF
Collison Gate

Access W
Brewster Lane

Access X
Mill Lane

Access Y (North and
South) Church Lane

Access Z (North and
South) Scald Gate

Access H (North and South)
Sea Lane (Wainfleet St Mary)

Access I (North and South)
Ivy House Farm / Marsh Yard

A1 WM5

WM6

A2

A3

WM6

WM7

WAINFLEET ST MARY CP

FRISKNEY CP

ALLSAINTS CP

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Local Construction Access Route - One Way System
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route
- Wider Context - Local Construction Access Route - Occassional Articulated HGV Use (if required)

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.4

OUTER DOWSING OFFSHORE WIND

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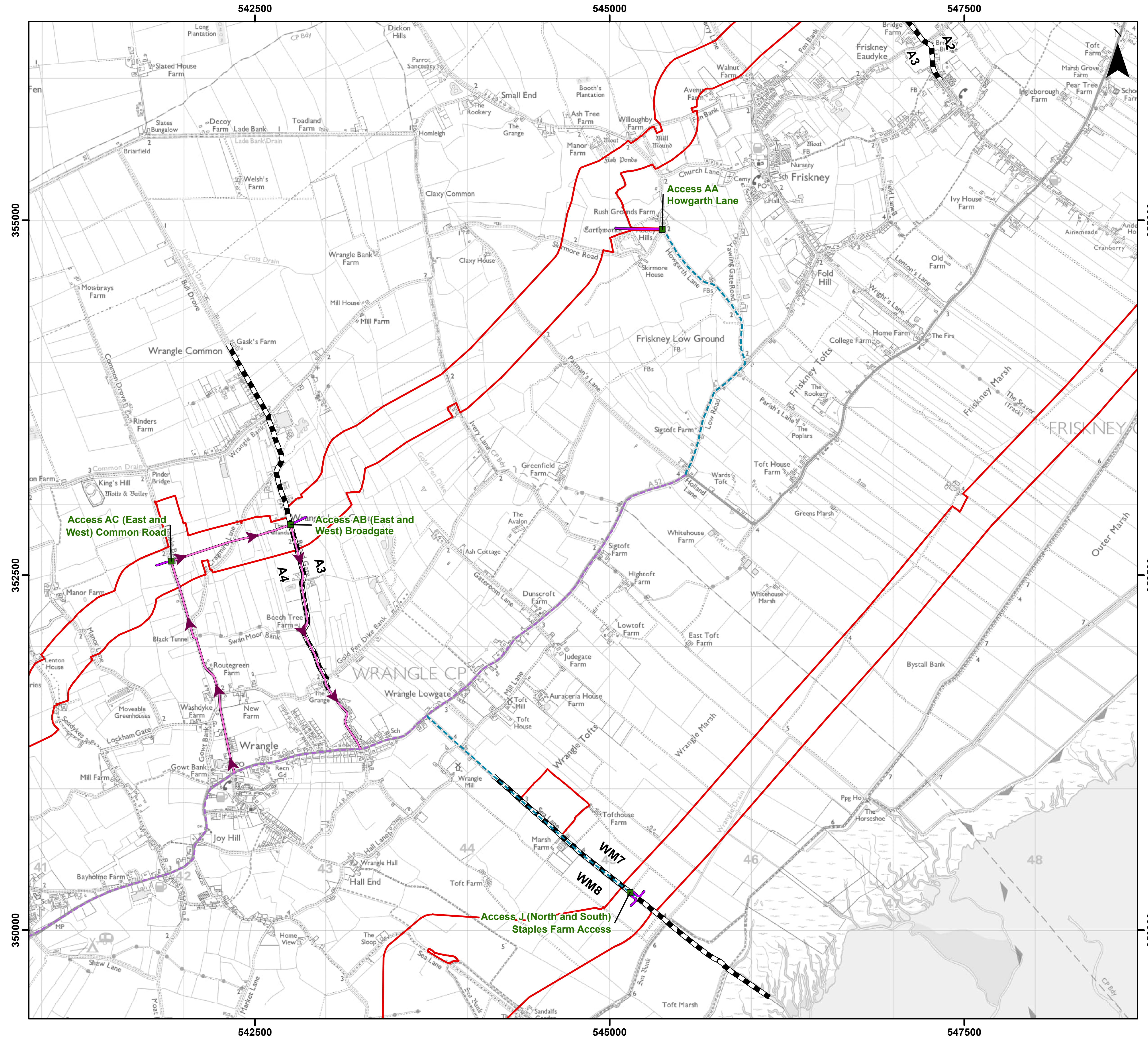

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Local Construction Access Route - One Way System
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.5

OUTER DOWSING OFFSHORE WIND

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537500 540000 542500

350000 347500

Access AD (North and South) Ings Road

Access K (North and South) Sea Lane (Leverton Lucasgate)

Access AE (North and South) A52

WM9 WM8

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Local Construction Access Route - One Way System
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.6

OUTER DOWSING OFFSHORE WIND

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535000
537500
540000
345000
342500
340000

Access AE (North and South) A52
Access AH (North and South) Clampgate Road
Access L (East and West) Church End Lane
Access G Pinfold Lane
Access M (East and West) Cut End Road
Access N (North and South) Wyberton Roads / Millfield Lane East
WM8
WM9
WM10
WM11

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.7

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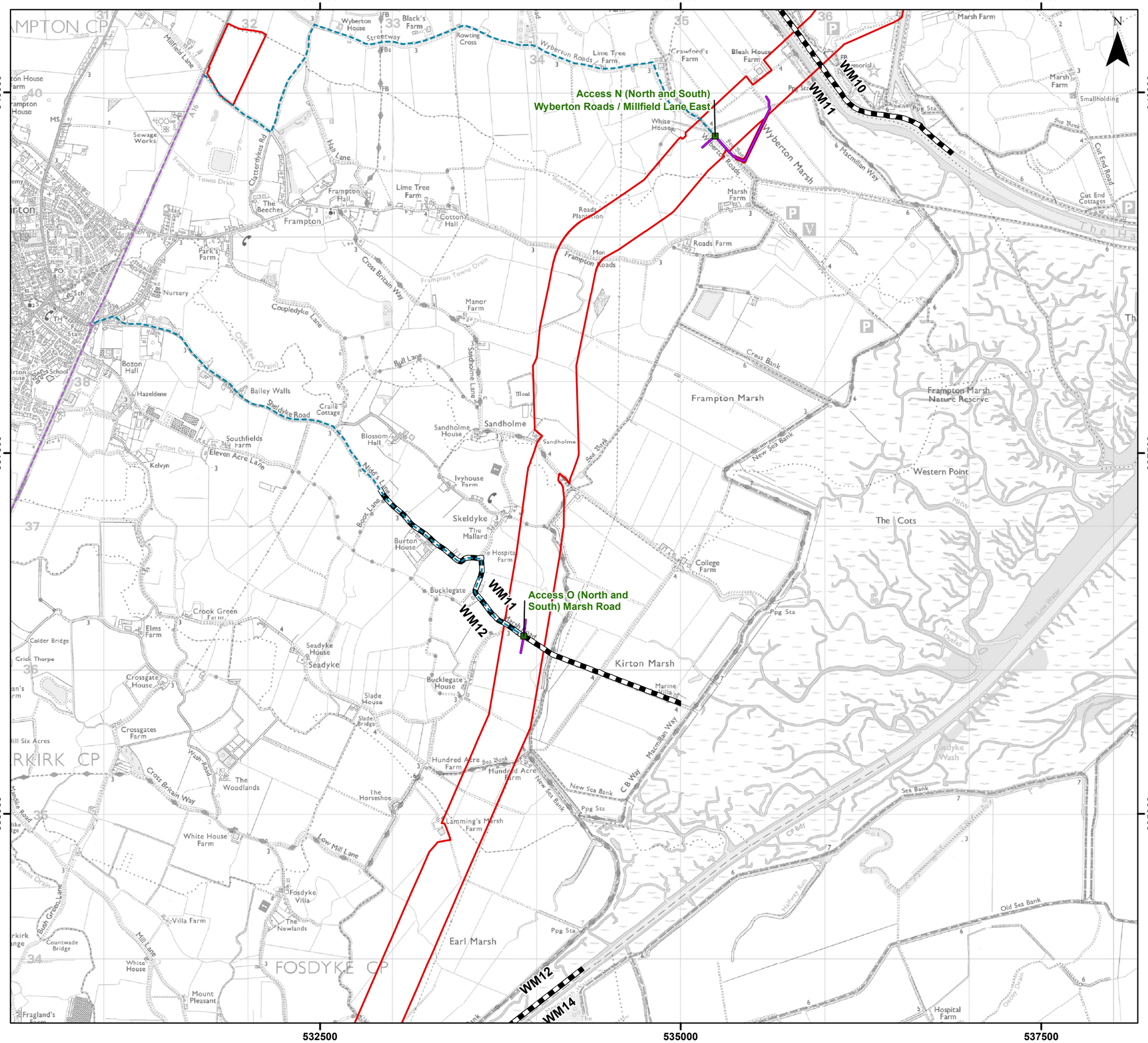

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Local Construction Access Location
- Local Construction Access Route
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

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Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.8

OUTER DOWSING OFFSHORE WIND

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527500 530000 532500

332500

330000

327500

Access T A16

Weston Marsh North OnSS Search Area

Weston Marsh South OnSS Search Area

Access P Craven's Lane

Access S (East and West) A17

Access Q Middle Marsh Road

Access R A17

WM12 WM13 WM14

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Local Construction Access Location
- Local Construction Access Route
- Permanent Substation Access Route
- Wider Context - Core Construction Access Route
- Wider Context - Local Construction Access Route

Sources:

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:25,000

Preliminary Environmental Information Report

Construction Access Proposals (All Onshore ECC Route Options)

Figure 27.10.9

OUTER DOWSING OFFSHORE WIND

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Traffic Flows – Original Data

27.4.22 An analysis of the traffic flows on the highway links within the study area (AADT and highway network peak hours) is provided in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and is summarised below.

27.4.23 The locations of the traffic data collected on the local highway network is shown on Figure 27.11.

The proposed highway links that are forecast to be affected by an increase in traffic as a result of the construction phase of the Project is set out in Table 27.16, Table 27.17, Table 27.18 and Table 27.19 (ATC data, October 2022 and February/March 2023), which show the AADT (total and HGV) and HGV percentage of the data. The baseline data is shown in Figure 27.12 (total vehicles) and Figure 27.13 (HGVs).

27.4.24 It should be noted that there are inaccuracies with the vehicle class categories used in the ATC data, in terms of the identification of HGVs and an overestimated Other Goods Vehicle 1 (OGV1) category. This is due to the method of traffic data collection using ATC equipment, which is based on wheelbase. Since the inception of this method of traffic flow data collection there has been an increase in the wheelbase of many non-goods delivery vehicles (such as twin-cab pickup vehicles). The figures in Table 27.16 to Table 27.19 and Figure 27.13 reflect the HGV adjustments.

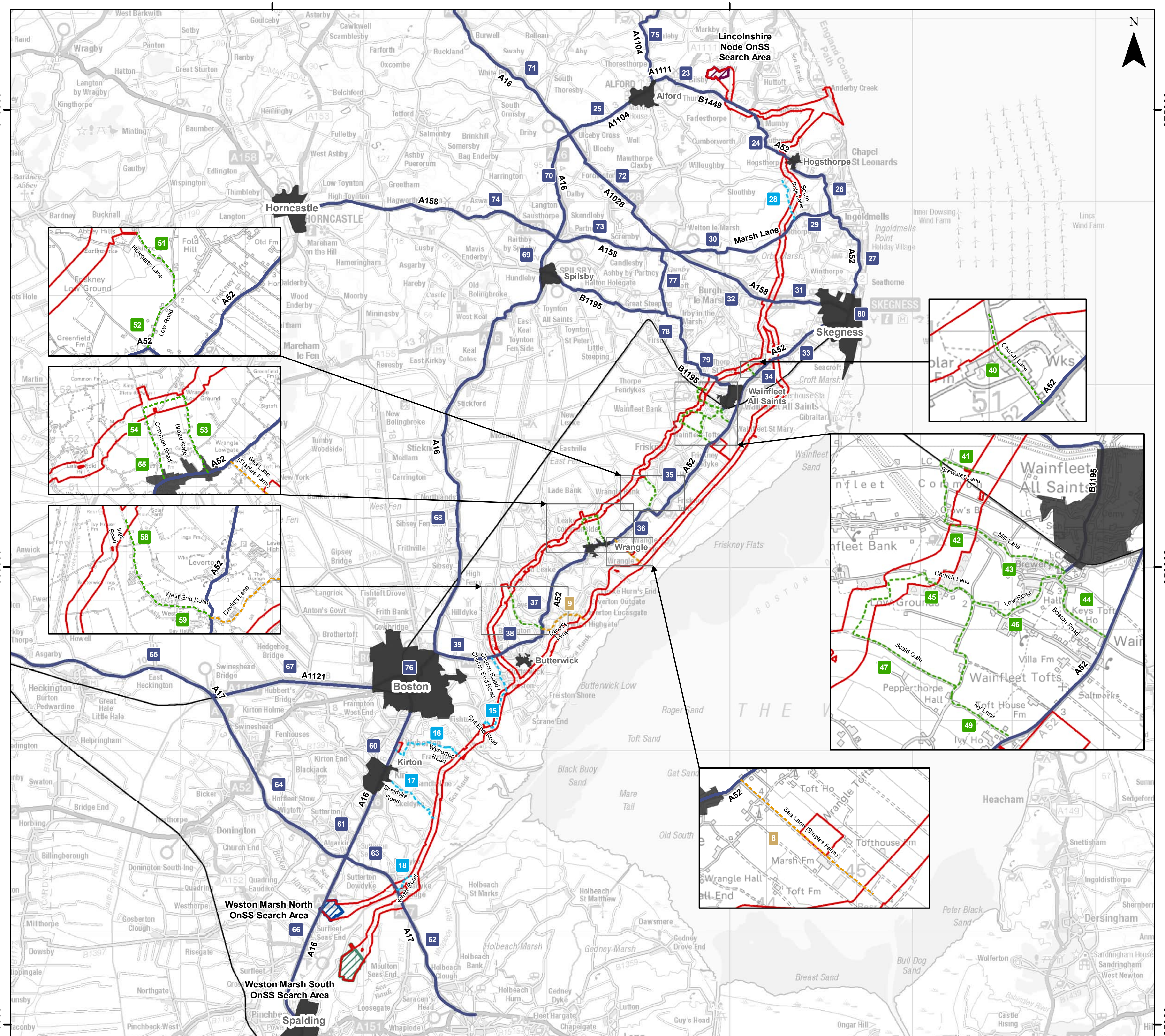
27.4.25 The method of compensating for the inaccuracies in the ATC data is described in more detail in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline.

27.4.26 ATC data was also collected in August 2022 on five highway links in the study area to enable an analysis of the difference in traffic flows to the October 2022 ATCs, as a result of tourism and agriculture in the summer. The August 2022 ATC data is set out in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and showed between 2.5% and 36.3% higher traffic flows compared to the October 2022 data.

27.4.27 On the A158, west of the A16, the AADT increased by 27% from 7,714 (total vehicles) to 9,798 (total vehicles), which is significantly below the theoretical daily capacity (two-way) for a single carriageway urban all-purpose road with frontage access and more than two side roads per kilometre[1] , which is around 30,000 vehicles. Therefore, whilst there are some large increases in vehicle movements in the summer months, there is spare capacity to accommodate additional traffic, in theory.

27.4.28 The neural month ATC data (October 2022 and February & March 2023) data is used as a basis for the assessment as a robust assessment in terms of the percentage impacts of an increase in traffic.

[1] Table 2, DMRB TA 79/99 Traffic Capacity of Urban Roads, DfT, 1999



Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Reference Number

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

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Traffic Data Location References

Figure 27.11

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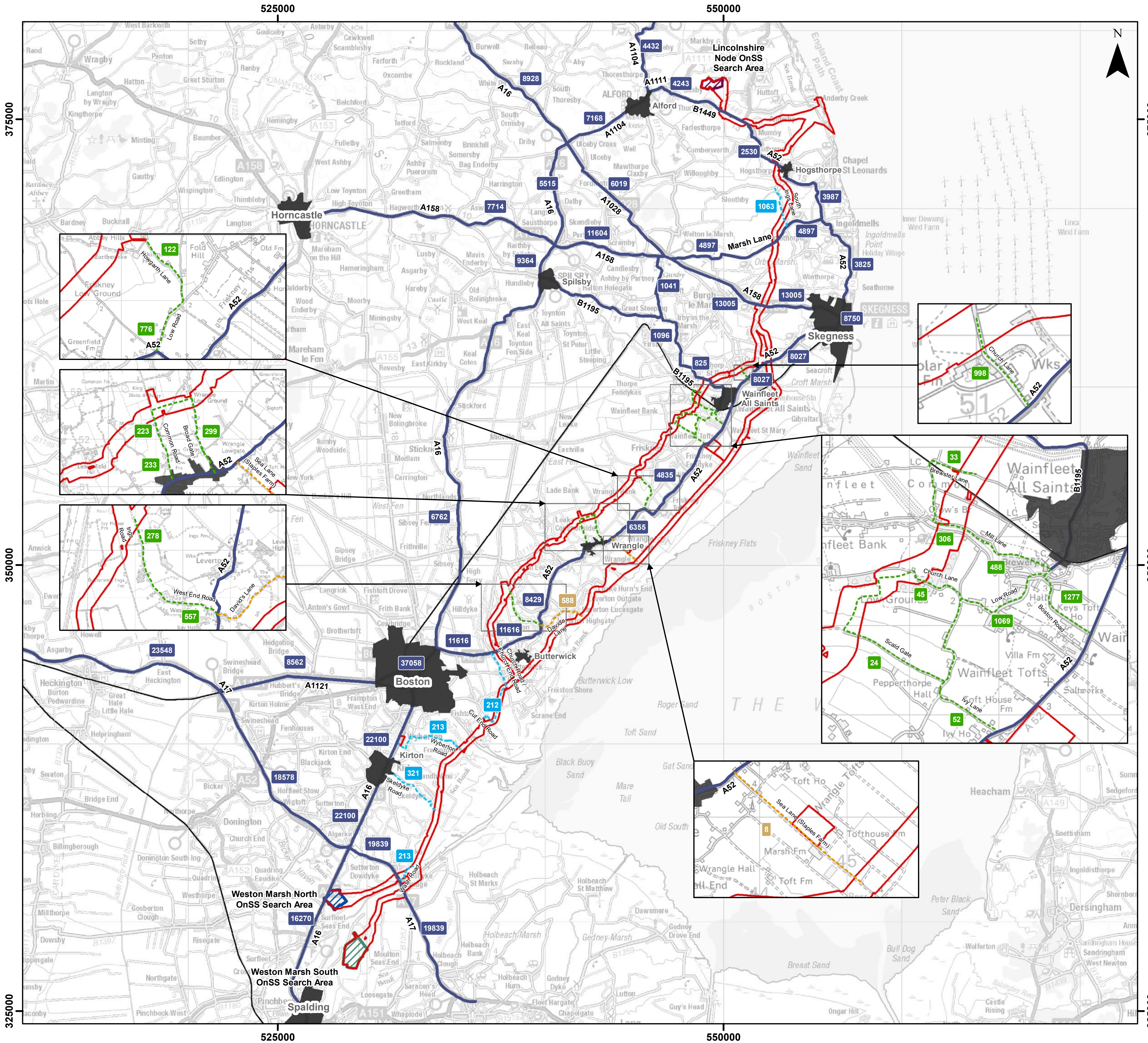

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)
- XX Weston Marsh (South of A52)

Construction Access Vehicle Route - Date of Counts

- XX October 2022
- XX February/March 2023 (South Ings Lane October 2022)
- XX February/March 2023
- XX October 2022

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

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Baseline Traffic Data - Total Vehicles

Figure 27.12

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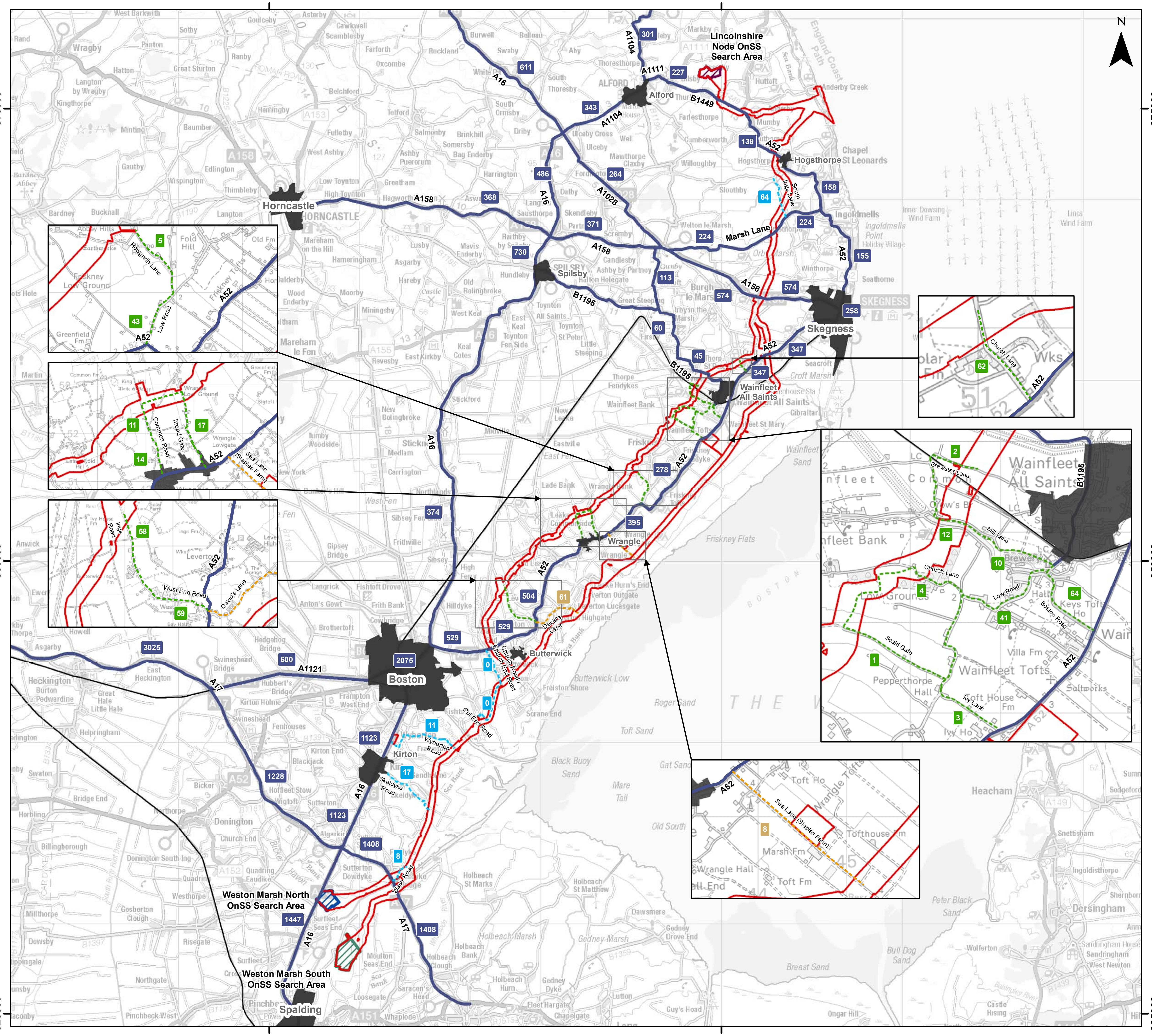

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)
- XX Weston Marsh (South of A52)

Construction Access Vehicle Route - Date of Counts

- XX October 2022
- XX February/March 2023 (South Ings Lane October 2022)
- XX February/March 2023
- XX October 2022

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

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Baseline Traffic Data - HGV's

Figure 27.13

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Table 27.15: Highway links AADT (DfT data, 2019[2])

DfT reference	Location reference (Figure 27.11)	Highway link	Onshore ECC option	AADT		HGV (%)
				Total vehicles	HGVs	
81151	73	A158 (A1028 to A16)	Weston Marsh (both alignments)	11,604	371	3.2
6227	69	A16 (north of A155)	Weston Marsh (both alignments)	9,634	730	7.8
7480	72	A1028	Weston Marsh (both alignments)	6,019	264	4.4
7996	76	A16 (Boston)	Weston Marsh (both alignments) and Lincolnshire Node	37,058	2,075	5.6
57598	67	A1121	Weston Marsh (both alignments) and Lincolnshire Node	8,562	600	7.0
16215	65	A17 (west of A1221)	Weston Marsh (both alignments) and Lincolnshire Node	23,548	3,025	12.8
16524	37	A52 (Butterwick)	Weston Marsh (both alignments)	8,492	504	5.9
81550	70	A16 (A158 to A1028)	Weston Marsh (both alignments)	5,515	486	8.8
6227	71	A16 (north of A1028)	Weston Marsh (both alignments) and Lincolnshire Node	8,928	611	6.8
940412[3]	23	B1449 Thurlby Road	Additional data to the site above for an HGV percentage sense check against ATC data only (see Volume 1, Appendix 27.1).	2,690	133	4.9
807197[4]	9	David's Lane		738	59	8.0
809061	n/a	Common Road		1,605	164	10.2

[2] 2019 data as the most recent dataset avoiding the Covid-19 pandemic
[3] This data is not shown on Figure 27-13 or Figure 27-14 (the corresponding baseline October 2022 ATC data is shown)

Table 27.16: ATC data (October 2022 - adjusted HGVs) for all Onshore ECC options

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
6	25	A1104	7,168	1,159	16.2
7	24	B1449 Thurlby Road	4,243	766	18.1
8	23	B1449 Long Lane	2,530	468	18.5
5	26	A52 (south of Hogsthorpe)	3,987	534	13.4
9	27	A52 (south of Marsh Lane)	3,825	525	13.7
25	60	A16 (south of Boston)	22,100	3,798	17.2
26	64	A17 (north of the A16)	18,578	4,155	22.4
27	62/63	A17 (south of River Welland)	19,839	4,763	24.0
28	66	A16 (south of the A17)	16,270	4,895	30.1

Table 27.17: ATC data (October 2022 – adjusted HGVs) for Weston Marsh Onshore ECC option 1 (both alignments)

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
11	28	South Ings Lane	1,063	198	18.7
12	29/30	Marsh Lane	4,897	690	14.1
14	31/32	A158 Skegness Road (east/west of Skegness)	13,005	1,942	14.9
15	33/34	A52 (East of Croft/Wainfleet)	8,027	1,173	14.6
53	35	A52 Holland Lane	4,835	940	19.4
17	36	A52 (Wrangle)[4]	6,355	1,337	21.0
1	38/39	A52 Wainfleet Road (Haltoft End)	11,616	1,788	15.4
21	14	Church Road/Church End Road	1,506	274	18.2
22	15	Cut End Road	212	42	19.6
23	16	Streetway/Wyberton Roads	213	33	15.3
24	17	Station Road/Skeldyke Road	321	52	18.0
76	18	Wash Road[5]	213	26	11.8
77	80	Lincoln Road	8,750	874	10.0

Table 27.18: ATC data (February/March 2023 - adjusted HGVs) for Weston Marsh south of the A52 Onshore ECC option

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
18	8	Sea Lane (Staples Farm)	1,015	229	22.6

[4] These ATCs were in February/March 2023

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
19	9	David's Lane	588	198	32.0

Table 27.19: ATC data (February/March 2023 - adjusted HGVs) for Weston Marsh north of the A52 Onshore ECC option

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
30	77	Gunby Lane (south of the A158)	1,041	381	36.6
31	78	B1195 (Irby in the Marsh)	1,096	202	18.4
32	79	B1195 (Thorpe St Peter)	825	154	18.6
33	41	Brewster Lane	33	7	19.7
34	42	Mill Lane	306	39	12.9
35	40	Church Lane	998	209	20.9
36	43	Mill Lane (at Brewery)	488	34	6.9
38	44	Boston Road	1,277	216	16.9
39	45	Church Lane	45	15	33.1
43	47	Low Road	1,069	138	12.9
44	46	Scald Gate	24	5	19.9
45	49	Ivy Lane	52	10	18.8
49	51	Howgarth Lane	122	16	12.9
52	52	Low Road	776	144	18.6
59	53	Broadgate	299	57	19.2
56	54	Common Road	223	38	17.2
58	55	Common Road (near A52)	233	49	20.9
62	58	Ings Road	278	48	17.4
64	59	West End Road	557	135	24.3

Road Safety

27.4.29 To understand the potential for a significant road safety effect as a result of the construction phase of the Project, it is necessary to establish a baseline and identify any inherent road safety issues within the onshore highway study area.

27.4.30 The review, which is provided in detail in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline includes:

- Examining the rate of Personal Injury Accident (PIAs) per length of road in miles; and
- Identifying clusters to understand any patterns or trends, especially those involving HGVs and vulnerable road users (WCH).

PIA Rate

27.4.31 The analysis of PIA rates show that the following highway links to have a significantly higher accident rate than the national average (2019), per billion vehicle miles[5]:

- A52 between Hogsthorpe and Skegness (all Onshore ECC options);
- A16 in Boston (all Onshore ECC options);
- A158 in Skegness (Weston Marsh Onshore ECC option (both alignments));
- All local access routes for the Weston Marsh north of the A52 Onshore ECC option);
- B1195 Spilsby Road (Weston Marsh north of the A52 Onshore ECC option); and
- Mill Lane (Weston Marsh north of the A52 Onshore ECC option).

27.4.32 The analysis show that the following links have a marginally higher accident rate than the national average:

- A16 south of Boston (Weston Marsh Onshore ECC option (both alignments));
- A52 north of Boston (all Onshore ECC options);
- B1449 (all Onshore ECC options);
- A1104 (all Onshore ECC options);
- Marsh Lane (Weston Marsh Onshore ECC option (both alignments));
- Gunby Lane (Weston Marsh north of the A52 Onshore ECC option; and
- B1195 Wainfleet Road (Weston Marsh north of the A52 Onshore ECC option).

27.4.33 The other highway links within the study area all have an accident rate similar to, or less than, the UK rate in 2019.

Clusters

27.4.34 A summary of the location of the PIA clusters on the highway links in the study area are:

- A17/A16 roundabout;
- A52/A16 Spalding Road roundabout;
- A16/B1397 roundabout;
- A16/A1138 signal controlled junction;
- A16/High Street left-in/left-out priority junction;
- A17/B1397 staggered priority junction; and
- A158/Roman Bank signal-controlled junction.

Public Rights of Way

[5] This rate is derived by multiplying the number of vehicle accidents by 1,000,000,000 miles and dividing by the mileage driven for a given period of time

27.4.35 The PRoW (the majority of which are footpaths (with the exception of one bridleway and two Byways Open to All Traffic (BOAT)) within the study area within the PEIR boundary that might be directly impacted by the construction of the Project (are described in Volume 2, Annex 27.1: Traffic and Transport Technical Baseline. A summary of the PRoW and their relationship to the Project is provided in Table 27.20 to Table 27.23 and illustrated in Figure 27.14.

Table 27.20: PRoW - Weston Marsh Onshore ECC option (both alignments)

PRoW	Onshore ECC segment	Starts	Ends	Relationship to the Project
Ande/19/1	WM1	Sea Road	Ande/19/2 and Ande19/3	Could be crossed by cable trenches /haul road.
Ande/19/2	WM1	Roman Bank	Chap/19/1 and Ande 19/3	
Ande/19/3	WM1	Ande/19/1 and Ande/19/2	Chap/19/5	Could be crossed by cable trenches/haul road
Chap/19/5	WM1	Ande/19/3	Chap/21/2, Chap/21/3 and Chap/19/4	Could be crossed by cable trenches/haul road
Chap/21/2	WM1	Chap/21/1	Ande/19/5, Chap/21/3 and Chap/19/4	
Chap/21/3	WM1	East of Langham House Farm	Ande/19/5, Chap/21/2 and Chap/19/4	
Chap/19/4	WM1	Chap/19/2, Chap/19/3 and Chap/27/3	Ande/19/5, Chap/21/2 and Chap/21/3	
Chap/27/3	WM1	Chap/19/2, Chap/19/3 and Chap/19/4	Chap/28/1	Would be crossed by cable trenches /haul road.
Chap/28/2	WM1	Chap/28/1	Chap/28/3	Could be crossed by cable trenches /haul road.
Hogs/56/2	WM1	Chap/28/1 and Chap/28/2	Hogs/34/2, Hogs/34/3 and Hogs/56/1	
Hogs/34/2	WM1	Workhouse Lane	Hogs/34/3, Hogs/56/1 and Hogs/56/2	
Hogs/56/1	WM1	Maiden Lane	Hogs/34/2, Hogs/34/3 and Hogs/56/2	
Hogs/34/4	WM1	Ember Lane	Hogs/34/2, Hogs/56/1 and Hogs/56/2	Would be crossed by cable trenches /haul road.
Hogs/57/1	WM1	Lowgate Farm	Hogs/58/2 and Hogs/58/5	

PRoW	Onshore ECC segment	Starts	Ends	Relationship to the Project
Hogs/58/2	WM1	Hogs/58/1	Hogs/57/1 and Hogs/58/5	
Mumb/55/1	WM2	Hogs/55/1	Listoft Lane	Could be crossed by cable trenches /haul road/access.
Hogs/48/1	WM2	Middle of Onshore ECC	Addl/48/1 and Addl/49/1	Likely to be crossed by cable trenches /haul road.
BurM/265/1	WM3	Skegness Road (Burgh le Marsh)	Middlemarsh Road and BurM/265/2	Would be crossed by cable trenches /haul road.
BurM/261/3	WM4	Middlemarsh Road	BurM/261/2, BurM/263/1 and BurM/264/1	
BurM/263/2	WM4	BurM/261/3	Middlemarsh Road	
Crof/274/1	WM5	Pinchbeck Lane	Low Road	Could be crossed by cable trenches /haul road.
Fish/12/2	WM10	Cut End Road and Fish/12/1	Fish/14/1 and Fish/12/3	Above trenchless crossing. The potential impact would be from an increase in vehicles at the crossing at Cut End Road.
Fish/11/5	WM10	Cut End Road and Fish/11/4	Fish/13/12 and Fish/11/6	
Wybe/2/4	WM11	Crawford's Farm, Wybe/2/2 and Wybe/8/4	Wybe/2/5 and Wybe/8/7	Would be crossed by cable trenches /haul road.
Kirt/1/1	WM11	Sandholme Lane	Kirt/1/2	Could be crossed by cable trenches /haul road.
Kirt/1/2	WM11	Kirt/1/1	Marsh Road	
Kirt/877/1	WM11	Kirt/1/1 and Kirt/1/2	Middle of Onshore ECC	
Kirt/1/5	WM11	Clough Lane /Seadyke Cottage	Hundred Acre Farm /Kirt/1/4 and Kirt/2/5	Would be crossed by cable trenches /haul road.
Fosd/8/1	WM12	Low Mill Lane	Fosd/4/1 and Fosd/4/2	Could be crossed by cable trenches and would be crossed by the haul road to access the trenchless crossing works.
Fosd/2/2	WM13	Fosd/2/1	Alga/8/2	Would be crossed by cable trenches/haul road (OnSS north).
Fosd/2/1	WM13	Surfleet Bank	Fosd/2/2	

PRoW	Onshore ECC segment	Starts	Ends	Relationship to the Project
Fosd/3/1	WM13	Fosd/2/1	Alga/9/1	Shared with a construction access and is part of the Macmillan Way.
Wstn/4/1	WM14	Marsh Road	Moul/1/1	Could be crossed by cable trenches/haul road (OnSS south).
Moul/2/1	WM14	Moul/2/2	Wstn/7/1	
Wstn/7/1	WM14	Marsh Road	Moul/2/1	Would be crossed by cable trenches/haul road (OnSS south).

Table 27.21: PRoW - Weston Marsh south of the A52 Onshore ECC option

PRoW	Onshore ECC route segment	Starts	Ends	Relationship to the Project
Wran/4/1	WM7	Hall Lane	Gandalf's Garden, Wran/16/1, Wran/16//2	Would be crossed by cable trenches/haul road.
Wran/16/1	WM8	Gandalf's garden, Wran/16/, Wran/4/1	Sea Lane (Roman Bank Cottage)	Would be crossed by cable trenches/haul road (south of Roman Bank Cottage alignment option).
OLea/6/1	WM8	Wran/16/1	Leve/2/6	

Table 27.22: PRoW - Weston Marsh north of the A52 Onshore ECC option

PRoW	Onshore ECC segment	Starts	Ends	Relationship to the Project
Crof/264/1	A1	Crof/264/3	A52	Could be crossed by cable crossing/haul road.
Crof/264/3	A1	Pinchbeck Lane	Crof/264/1	
Crof/276/4	A1	Crof/276/2	Church Lane	
Crof/276/2	A1	Crof/276/3	Croft Road	
Croft/276/3	A1	Church Lane	Crof/276/2	
WStM/371/1	A2	Church Lane	Low Road	

Table 27.23: PRoW (Lincolnshire Node Onshore ECC option)

PRoW	Onshore ECC route Segment	Starts	Ends	Relationship to the Project
Ande/19/2	LN1	Roman Bank	Ande/19/1 and Ande/19/3	Could be crossed by cable trenches/haul road.
Ande/19/1	LN1	Sea Road	Ande/19/2 and Ande19/3	Would be crossed by cable trenches/haul road.
Ande/19/3	LN1	Ande/19/1 and Ande/19/2	Chap/19/5	Could be crossed by cable trenches/haul road.
Ande/24/3	LN1	Mumb/24/2	Ande/24/2 and Ande 25/1	Would be crossed by cable trenches/haul road.
Ande/25/1	LN1	Ande/24/2 and Ande 24/3	Mumb/25/2	Could be crossed by cable trenches/haul road.
Mumb/25/2	LN1	Ande/25/1	Mumb/25/1 and Mumb/26/1	Likely to be crossed by cable trenches/haul road.
Mumb/25/1	LN1	Mumb/25/2 and Mumb/26/1	Mumb/61/2 and Mumb/61/3	Could be crossed by cable trenches/haul road.
Mumb/26/1	LN1	Mumb/25/1 and Mumb/25/2	Mumb/24/2	
Mumb/61/3	LN1	Mumb/61/2 and Mumb/25/1	Mumb/61/1	
Mumb/62/3	LN1	Mumb/62/4	Mumb/62/1 and Mumb 62/2	Would be crossed by cable trenches/haul road.
Mumb/63/2	LN1	Mumb/63/1	A52	
Bils/13/1	LN2	B1449	Huttoft Road/Hutt/13/1	Would be crossed by cable trenches/haul road and could be crossed by permanent OnSS access.

552000
554000
556000
376000
374000
N

ANDERBY CP
MUMBY CP
CHAPEL ST LEONARDS CP

Farm
Wold Sea Farm
Moggs Eye
Anderby Creek
Poplar Grove
Seaton Farm
Manor Farm
Gowt Bridge
Main Drain
South Fen Drain
Chapel House
Dairy Farm
St Omer
The Grange
Bank House
Groynes
The Apiary
Church Farm
Bluebell Farm
Rectory
Sycamore Farm
Anderby
Wexham
Dennis's Cottage
Roman Bank
Sea Bank
Thrumber Marsh Farm
Wesley House
Manor Farm
Langham House
Langham Farm
Field Farm
Field House Farm
Wolla Bank
Wolla Bank Pit Nature Reserve
Bank Farm
Chapel Six Marshes
White Horses
Chapel Pit Nature Reserve
England Coast Path
Cocking Pit Drain
Pine Hill House
Oakleigh
Meadow Side
Hawnby House
Quakers' Hill
Mickleberry Hill
Rose Cottage
Cherry Farm
Helsey House
Lowgate Farm
Langham Lane
Chestnut Farm
Authorpe Row
Gratiss House
Nelson Villa
Rose Bay
The Laurels
Wigg Drain
Spring House
Maiden Lane
Croft Farm
Ivy House
LN1
LN2
WM1
WM2

LL/Anderl61/1
LL/Anderl25/1
LL/Mumbl62/3
LL/Mumbl59/4
LL/Mumbl61/3
LL/Mumbl61/2
LL/Mumbl25/2
LL/Mumbl26/1
LL/Anderl24/3
LL/Anderl19/1
LL/Anderl19/2
LL/Anderl19/3
LL/Chapl19/5
LL/Chapl21/4
LL/Chapl21/3
LL/Chapl19/4
LL/Chapl19/3
LL/Chapl21/2
LL/Chapl21/1
LL/Hogsl39/1
LL/Hogsl34/4
LL/Hogsl57/1
LL/Hogsl58/2
LL/Hogsl58/3

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.1

OUTER DOWSING OFFSHORE WIND

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552000
554000
372000
370000
N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

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Public Rights of Way
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Figure 27.14.2

OUTER DOWSING OFFSHORE WIND

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552000

554000

368000

366000

WM2

WM3

Wyche

Wyche Drain

North Drain

Red Gowt

Look in Gowt

Bridge Farm

Welborne Farm

Cottage Farm

Orby Road

South Ings Lane

Orby Drain

The Elms

Addlethorpe

ADDLETHORPE CP

The Grange Farm

Avenue Farm

Dudick Bank Drain

Marsh Road

Skegness Golf Centre

CH

Chapel Lane

Poplar Farm

Corner Farm

Factory

Mill Road

Ashington End

Skegness Stadium

Whitehouse Farm

Orby Marsh

Marsh Lane

Marsh House Farm

Marsh Farm

Cottage Farm

Teapot Hall

Illinois Farm

Cherry Farm

Fir Tree Farm

Marsh View Farm

Rose Lea

Hide's Lane

Mill Lane

Orby Grove House

Holly Tree Cottage

Grazing Farm

Faulkers Fish Farm

Sycamore Farm

Park

Ingoldmells Road

Chalk Lane

Field House Farm

Ash Tree Farm

Bristol Farm

Kirk's Farm

Home Farm

Common Lane

Pear Tree Farm

Ivy Cottage Farm

Willow Lodge

Nettle Hill Farm

Nettle Hill

Broadmeadows

The Glen

Younger's Lane

New Farm

Orion

Poultry Houses

Mill Hill Farm

Mill Hill

Everington's Lane

Burgh Common

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.3

OUTER DOWSING OFFSHORE WIND

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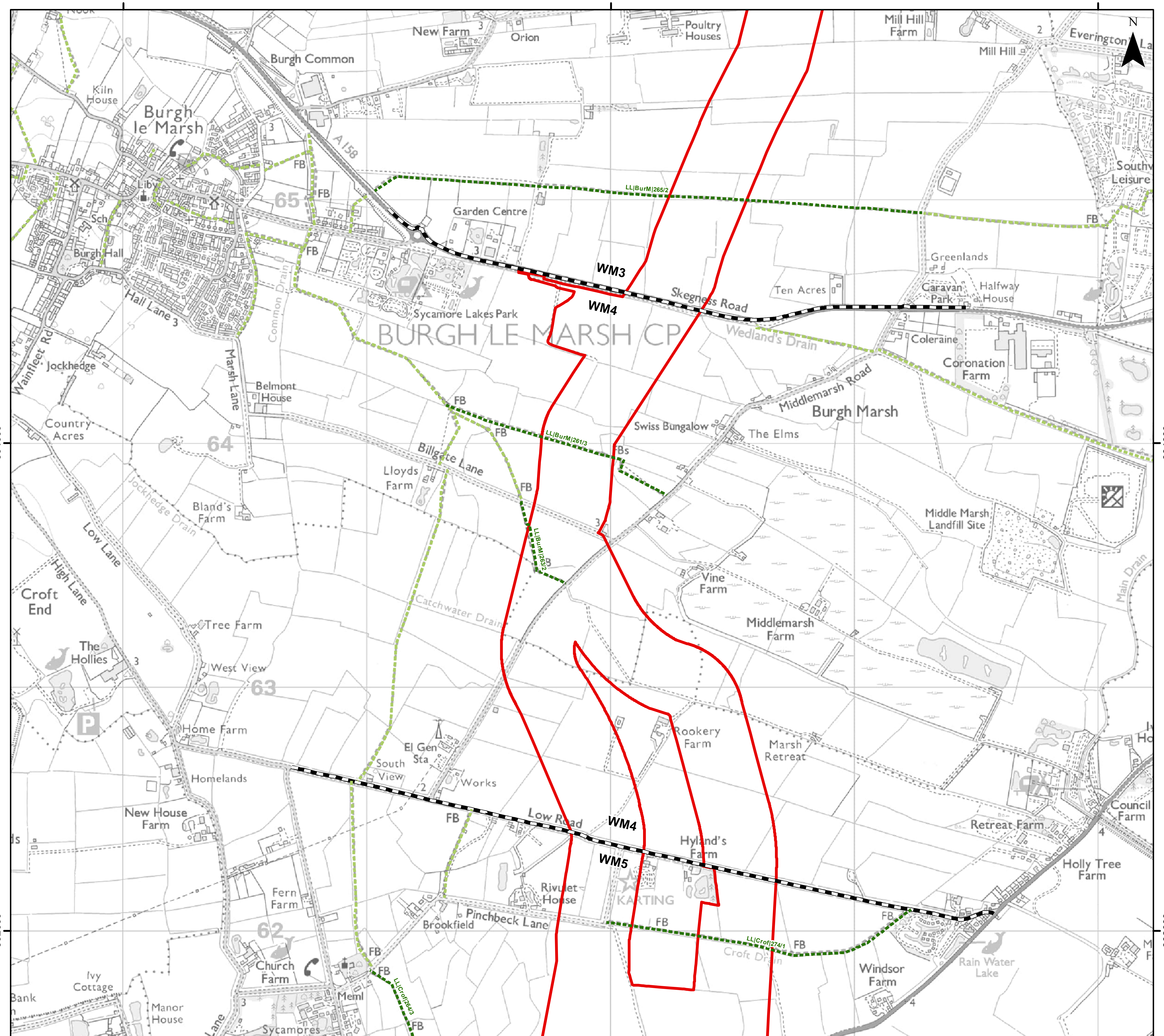
550000
552000
554000
364000
362000
WM3
WM4
WM4
WM5
LL|BurM|265/2
LL|BurM|261/3
LL|BurM|260/2
LL|Crof|274/1
LL|Crof|264/3
Burgh le Marsh
Burgh Common
New Farm
Orion
Poultry Houses
Mill Hill Farm
Mill Hill
Everington La
Kiln House
Burgh Hall
Garden Centre
Sycamore Lakes Park
BURGH LE MARSH CP
Skegness Road
Wedland's Drain
Greenlands
Ten Acres
Caravan Park
Halfway House
Coleraine
Coronation Farm
Middlemarsh Road
Burgh Marsh
Swiss Bungalow
The Elms
Jockhedge
Belmont House
Country Acres
Billgate Lane
Lloyds Farm
Bland's Farm
Middle Marsh Landfill Site
Vine Farm
Middlemarsh Farm
Catchwater Drain
Croft End
Tree Farm
The Hollies
West View
Home Farm
Rookery Farm
Marsh Retreat
El Gen Sta
South View
Works
Homelands
New House Farm
Low Road
Hyland's Farm
Retreat Farm
Council Farm
Holly Tree Farm
Fern Farm
Rivulet House
KARTING
Pinchbeck Lane
Brookfield
Croft Drain
Windsor Farm
Rain Water Lake
Church Farm
Ivy Cottage
Manor House
Sycamores
Low Lane
High Lane
Hall Lane
Marsh Lane
Wainfleet Rd
Main Drain
A 158

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
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Coordinate System: British National Grid

0 0.5 1 km

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.4

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552000
554000
360000
358000
N
WM5
WM6
CROFT CP
NFLEET ST MARY CP
Croft
Monson Farm
Church Lane
Croft Drain
Pinchbeck Farm
Croft Bank
Coldington's Yard
Windsor Farm
Rain Water Lake
Top Yard Farm
Poplar Cottage
Works
Bank House
Croft Marsh
Kitchen's Yard
Haven House Road
Croft House
Crown Farm
Havenhouse Station
Haven House Farm
Wainfleet Staunch
Wheelbridge
New Road
Wainfleet Clough
Clough House Farm
NTL
Weir Dike
Riverside Farm
White House Bridge
White House Farm
Wainfleet Haven or Steeping River
New Yard Farm
Marsh House
Sea Bank
Burgh Sluice Relief Channel
Merrifield's Farm
Windsor Farm
Marsh Yard Farm
The Limes
Marsh Farm East
FB
LLICrof|264/3
LLICrof|264/2
LLICrof|264/1
LLICrof|276/3
LLICrof|276/4
LLICrof|276/5
LLICrof|276/6
51
52
53
54
55

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.5

OUTER DOWSING OFFSHORE WIND

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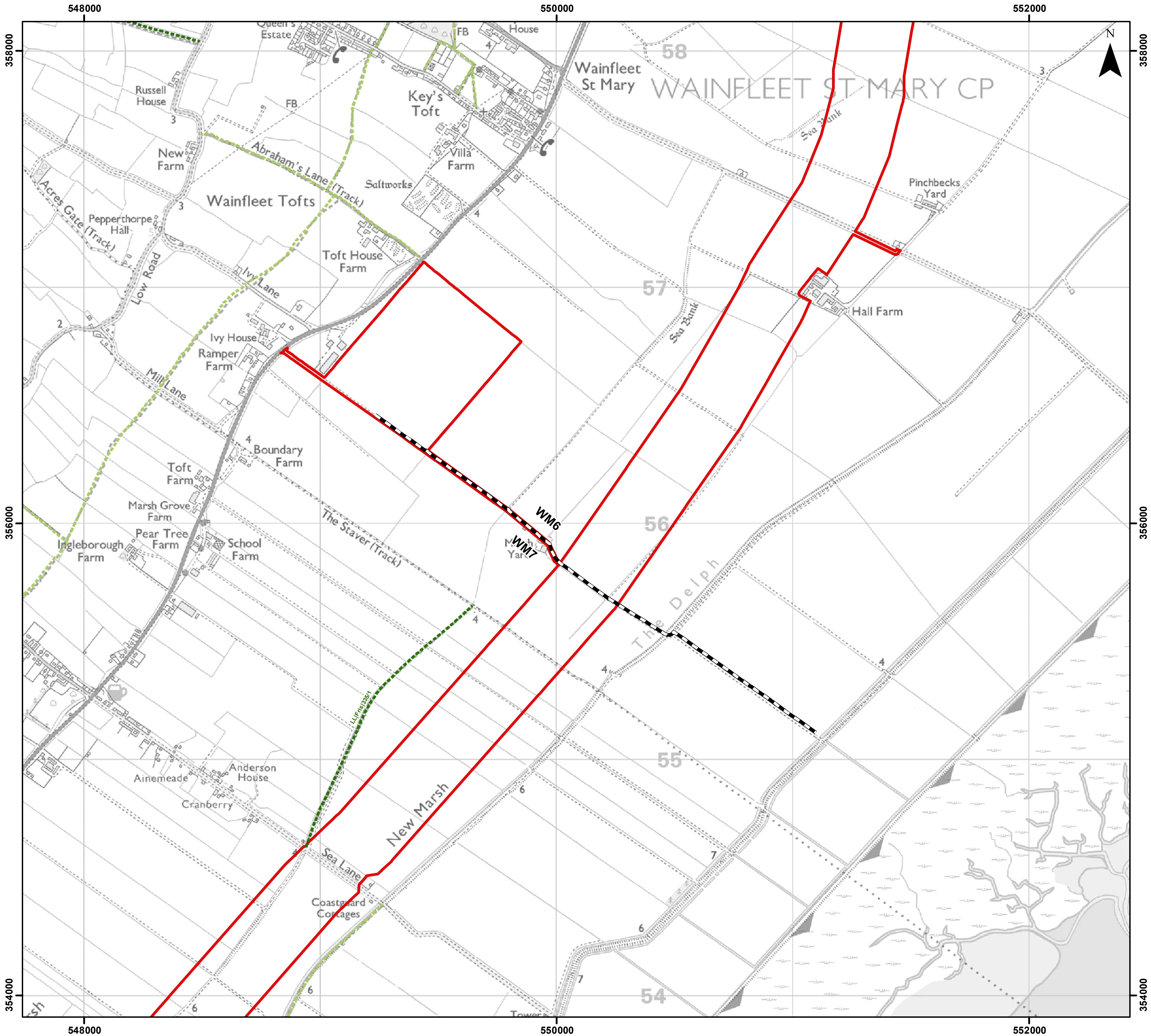

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.6

OUTER DOWSING OFFSHORE WIND

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546000
548000
354000
352000
N
Friskney Low Ground
FB
FBs
Patman's Lane
Low Road
Sigtoft Farm
Parish's Lane
Friskney Tofts
The Rookery
College Farm
Home Farm
The Firs
Friskney Marsh
The Staver (Track)
FRISKNEY CP
The Poplars
Toft House Farm
Wards Toft
A52
Holland Lane
Greens Marsh
Outer Marsh
Whitehouse Farm
Sigtoft Farm
Hightoft Farm
Whitehouse Marsh
Lowtoft Farm
East Toft Farm
Bystall Bank
Wrangle Marsh
Wrangle Drain
Ppg Ho
The Horseshoe
Tofthouse Farm
45
46
48
49
WM7
WM8

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.7

OUTER DOWSING OFFSHORE WIND

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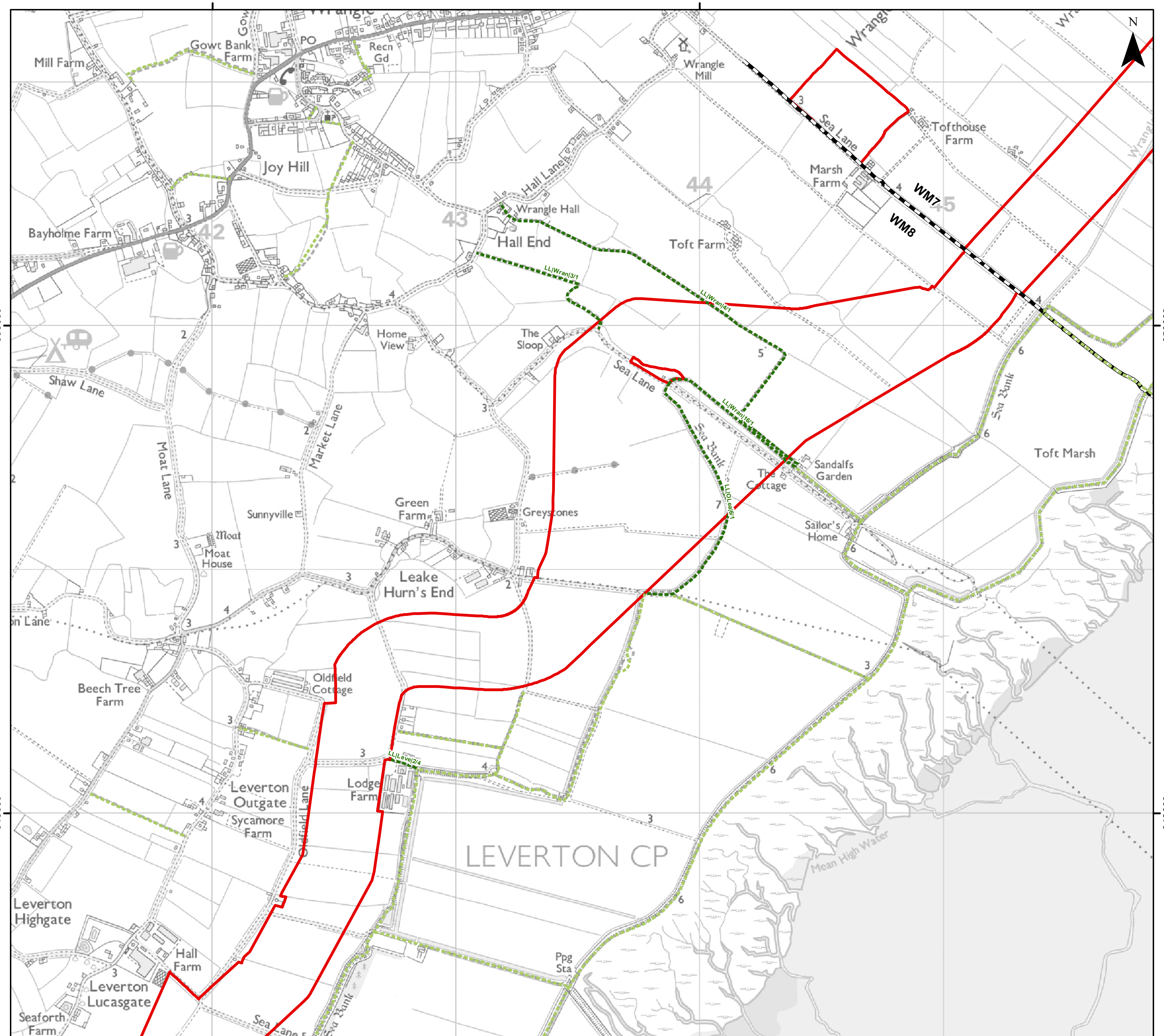

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.8

OUTER DOWSING OFFSHORE WIND

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538000 540000 542000

346000 344000

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

WM8 WM9

BENINGTON CP

BUTTERWICK CP

FREISTON CP

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.9

OUTER DOWSING OFFSHORE WIND

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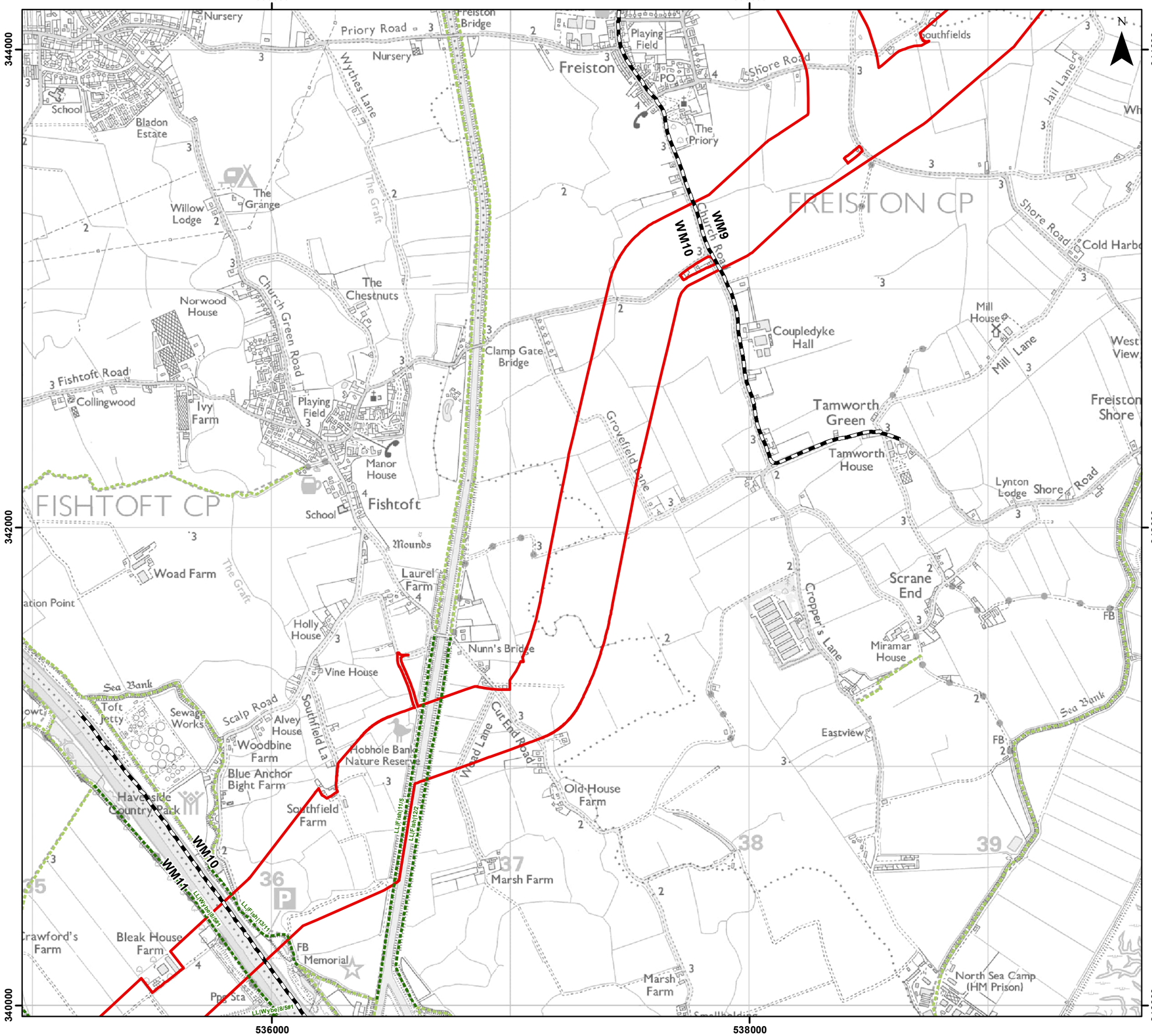

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.10

OUTER DOWSING OFFSHORE WIND

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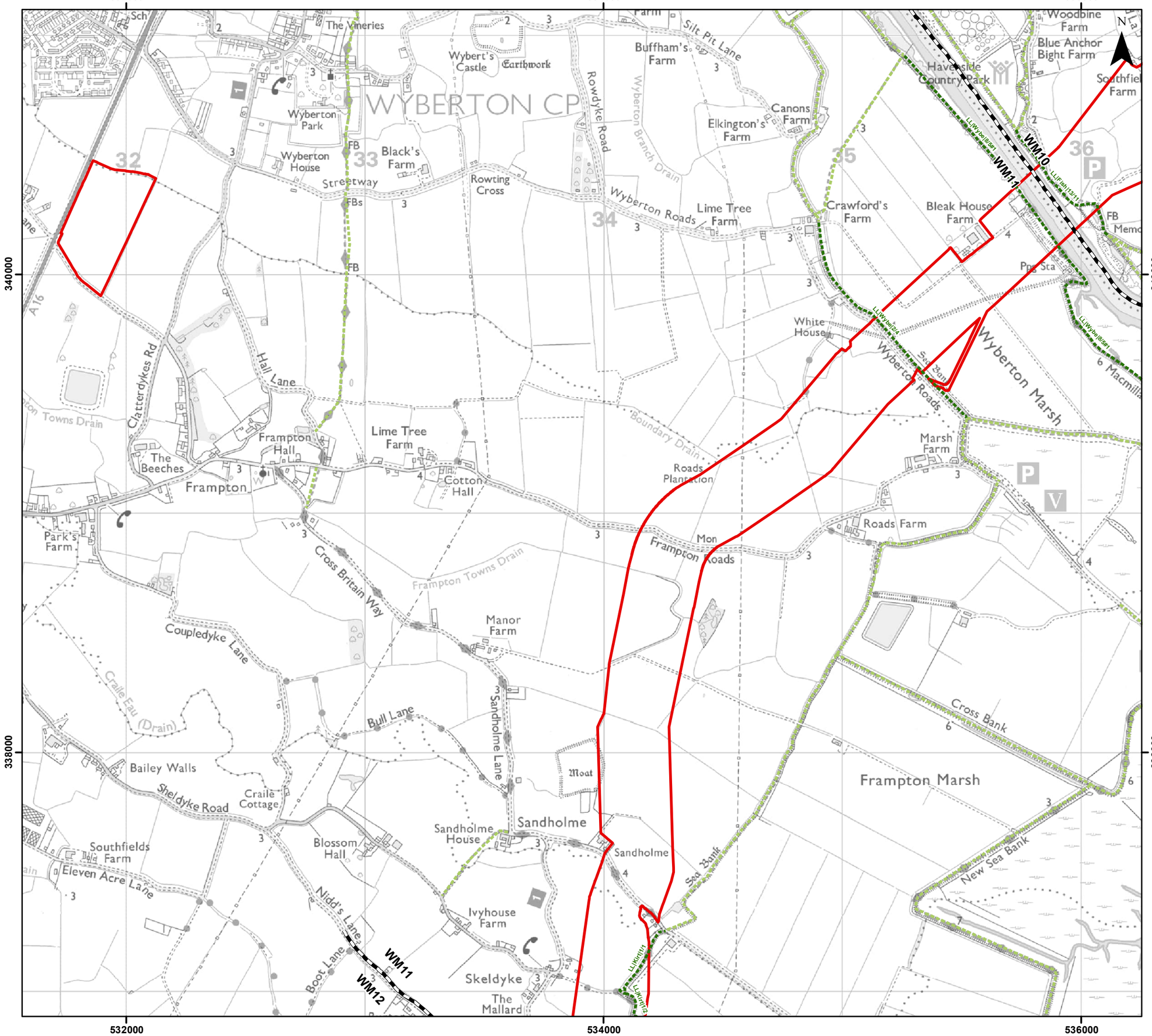

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.11

OUTER DOWSING OFFSHORE WIND

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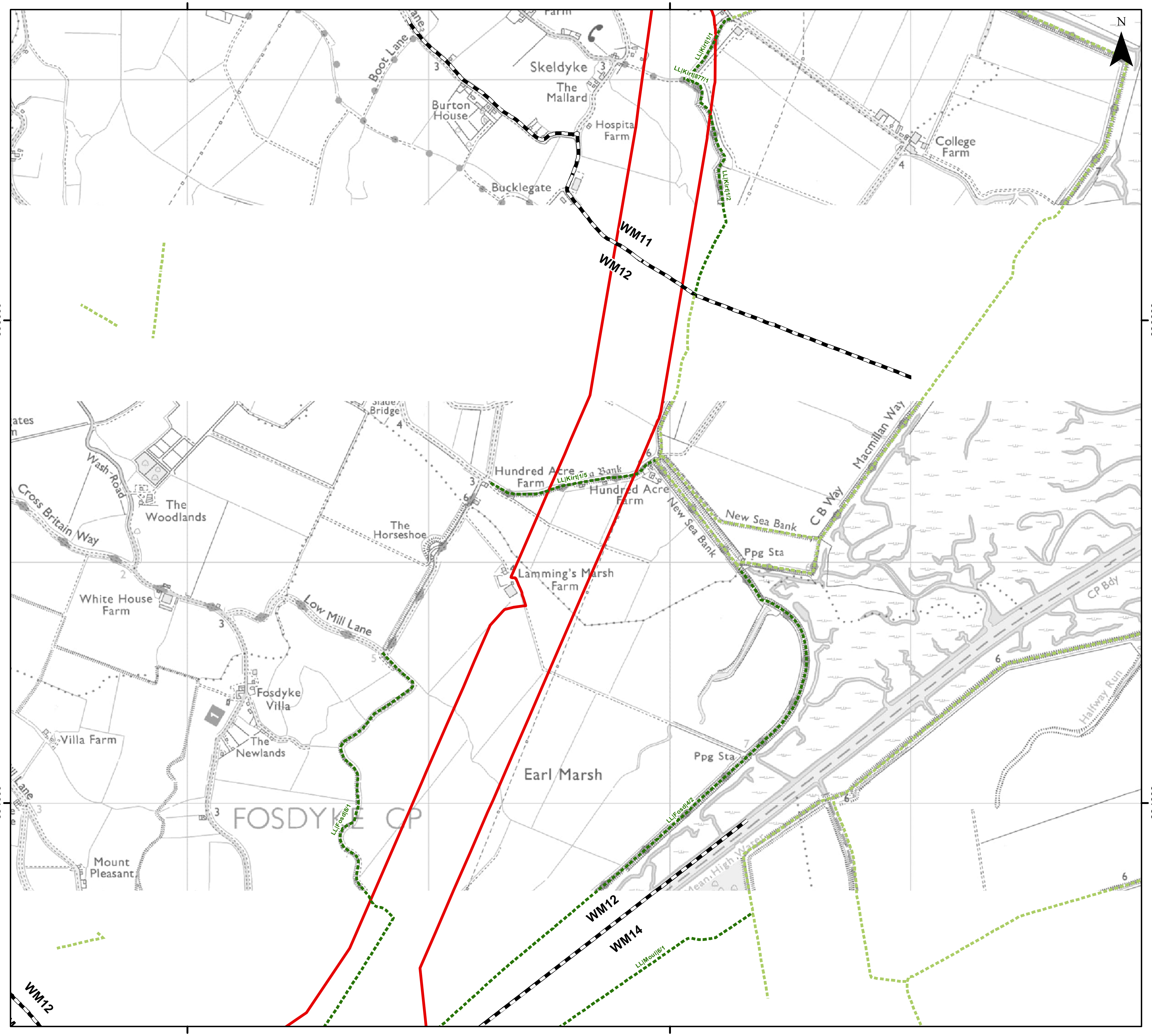

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.12

OUTER DOWSING OFFSHORE WIND

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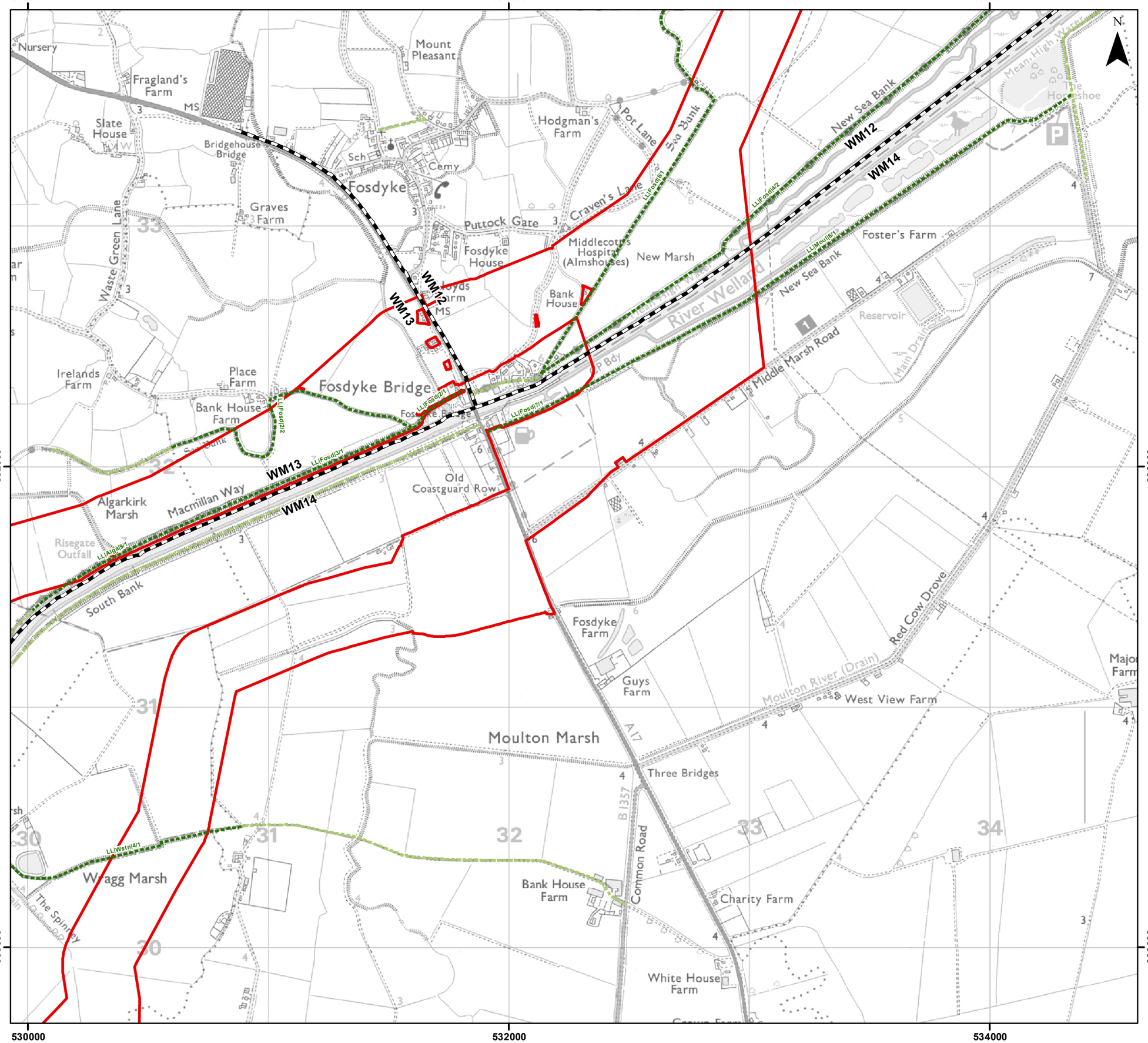

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.13

OUTER DOWSING OFFSHORE WIND

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528000
530000
330000
328000
N
WM13
WM14
Weston Marsh South OnSS Search Area
Weston Marsh
Wragg Marsh
Old Three Tuns Farm
Sugar Lees Farm
Fair View
Sea Dike
Sea Bank
Surfleet Bank
Vernatt's Bridge
NTL Sluice
Reservoir
Flaxmill House
Spalding Golf Club
Welland House Farm
Pickmere
White House Farm
Nursery
Marsh House Farm
Cowhirne
Spalding Marsh
Wykeham
Wykeham Chapel (remains of)
South Bank
Mean High Water
School House
Marsh Road
Crowtree Farm
Lord's Drain
The Spinney
Elder
Wragg Marsh House
LL/Wstn/4/1
LL/Wstn/7/1
LL/Mou/2/1
Top Yard
Dominorum Drain
Crown Farm
Middle Farm
Mill Marsh Road
Hall Farm
Seas End Hall
St Lambert's Hall
Sea Bank
28
29
30
31
27

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Weston Marsh South OnSS Search Area
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.14

OUTER DOWSING OFFSHORE WIND

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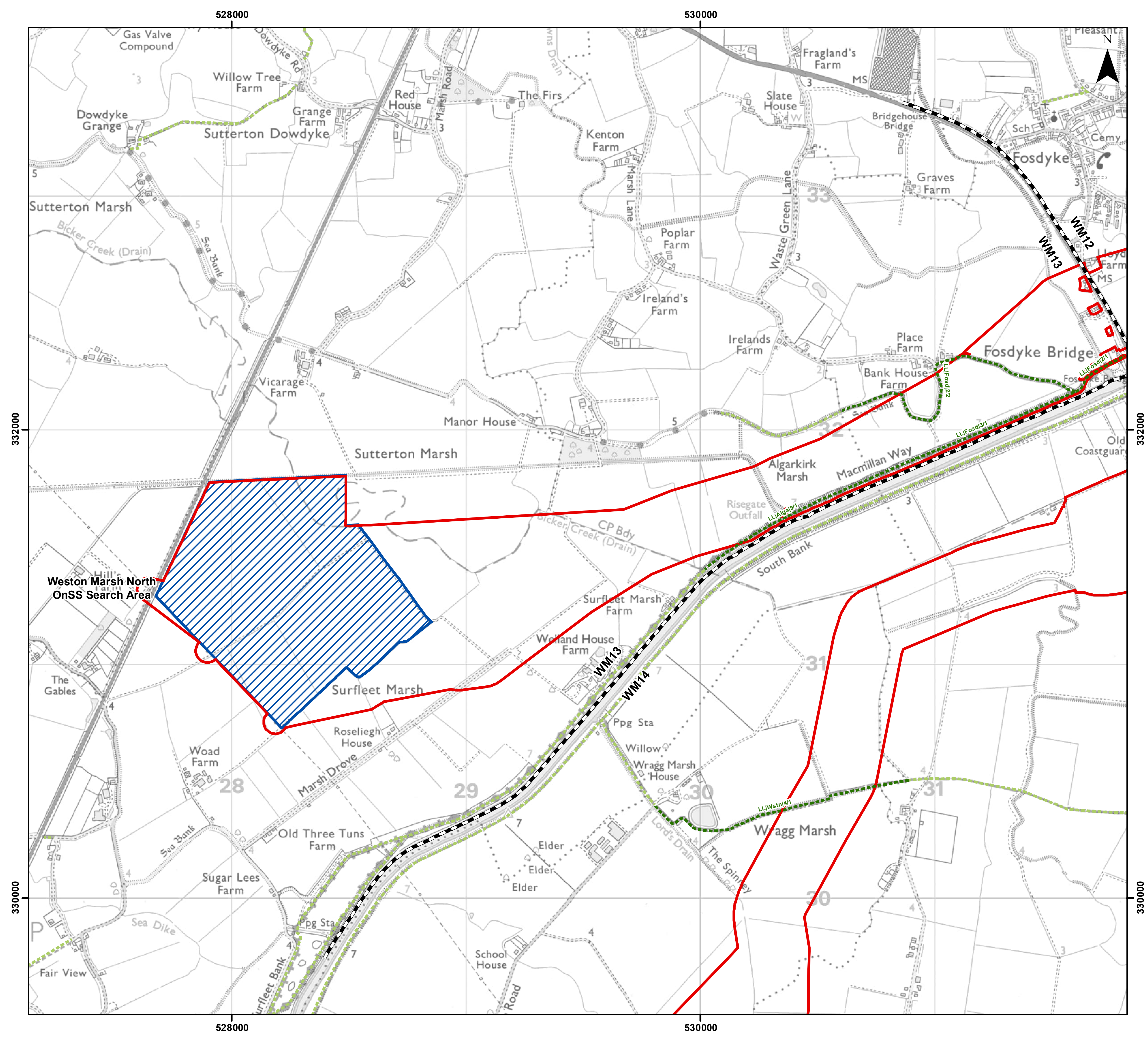

528000
530000
332000
330000
Gas Valve Compound
Dowdyke Rd
Willow Tree Farm
Dowdyke Grange
Grange Farm
Sutterton Dowdyke
Red House
Marsh Road
The Firs
Kenton Farm
Fragland's Farm
Slate House
Bridgehouse Bridge
Fosdyke
Graves Farm
Sutterton Marsh
Bicker Creek (Drain)
Sea Bank
Marsh Lane
Poplar Farm
Waste Green Lane
Ireland's Farm
Irelands Farm
Place Farm
Fosdyke Bridge
Bank House Farm
Vicarage Farm
Manor House
Sutterton Marsh
Algarkirk Marsh
Macmillan Way
Risegate Outfall
CP Bdy
Bicker Creek (Drain)
South Bank
Old Coastguard
WM12
WM13
WM14
LL|Fosd|2/2
LL|Fosd|2/1
LL|Fosd|3/1
LL|Alga|9/1
LL|Wstn|4/1
Weston Marsh North OnSS Search Area
The Gables
Surfleet Marsh Farm
Welland House Farm
Surfleet Marsh
Roseliegh House
Ppg Sta
Willow
Wragg Marsh House
Woad Farm
Marsh Drove
Sea Bank
Old Three Tuns Farm
Elder
Wragg Marsh
Lord's Drain
The Spinney
Sugar Lees Farm
Sea Dike
Ppg Sta
School House
Fair View
Surfleet Bank
Road

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Weston Marsh North OnSS Search Area
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.15

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548000 550000 552000

362000 360000

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.16

OUTER DOWSING OFFSHORE WIND

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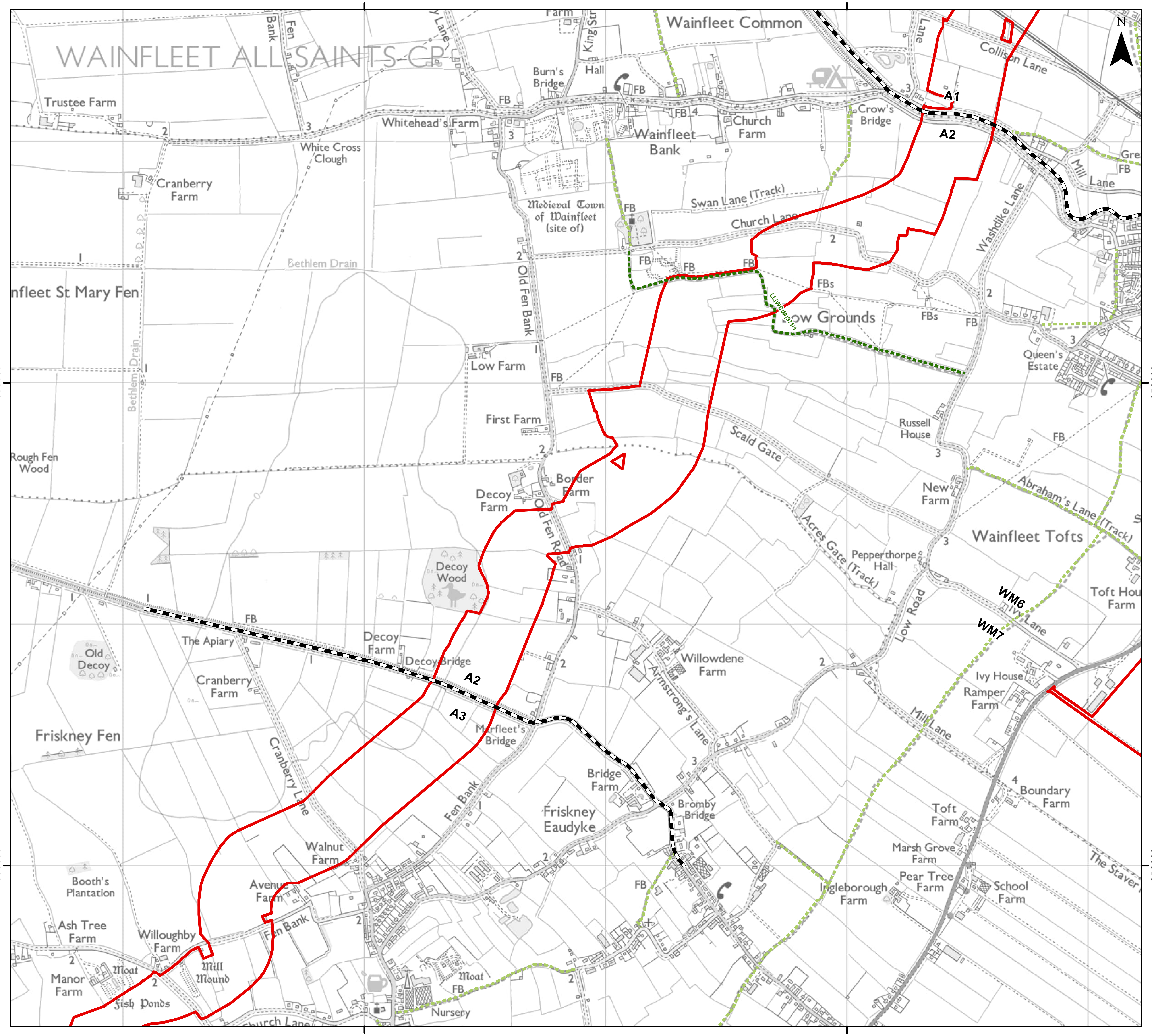

546000
548000
358000
356000
WAINFLEET ALL SAINTS CP
Wainfleet Common
Trustee Farm
Whitehead's Farm
White Cross Clough
Burn's Bridge
Hall
Wainfleet Bank
Church Farm
Crow's Bridge
Collison Lane
A1
A2
A3
WM6
WM7
Cranberry Farm
Medieval Town of Wainfleet (site of)
Swan Lane (Track)
Church Lane
Bethlem Drain
Old Fen Bank
Low Grounds
Washdike Lane
Mill Lane
Queen's Estate
Low Farm
First Farm
Russell House
Scald Gate
Rough Fen Wood
Border Farm
Decoy Farm
Decoy Wood
New Farm
Abraham's Lane (Track)
Wainfleet Tofts
Acres Gate (Track)
Pepperthorpe Hall
Toft House Farm
Low Road
Ivy Lane
Old Fen Road
The Apiary
Old Decoy
Decoy Bridge
Willowdene Farm
Armstrong's Lane
Ivy House
Ramper Farm
Friskney Fen
Cranberry Lane
Marfleet's Bridge
Bridge Farm
Brombly Bridge
Friskney Eaudyke
Fen Bank
Boundary Farm
Toft Farm
Walnut Farm
Marsh Grove Farm
Pear Tree Farm
School Farm
Ingleborough Farm
The Stavers
Booth's Plantation
Avenue Farm
Ash Tree Farm
Willoughby Farm
Manor Farm
Moat
Mill Mound
Fish Ponds
Church Lane
Nursery
FB

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.17

OUTER DOWSING OFFSHORE WIND

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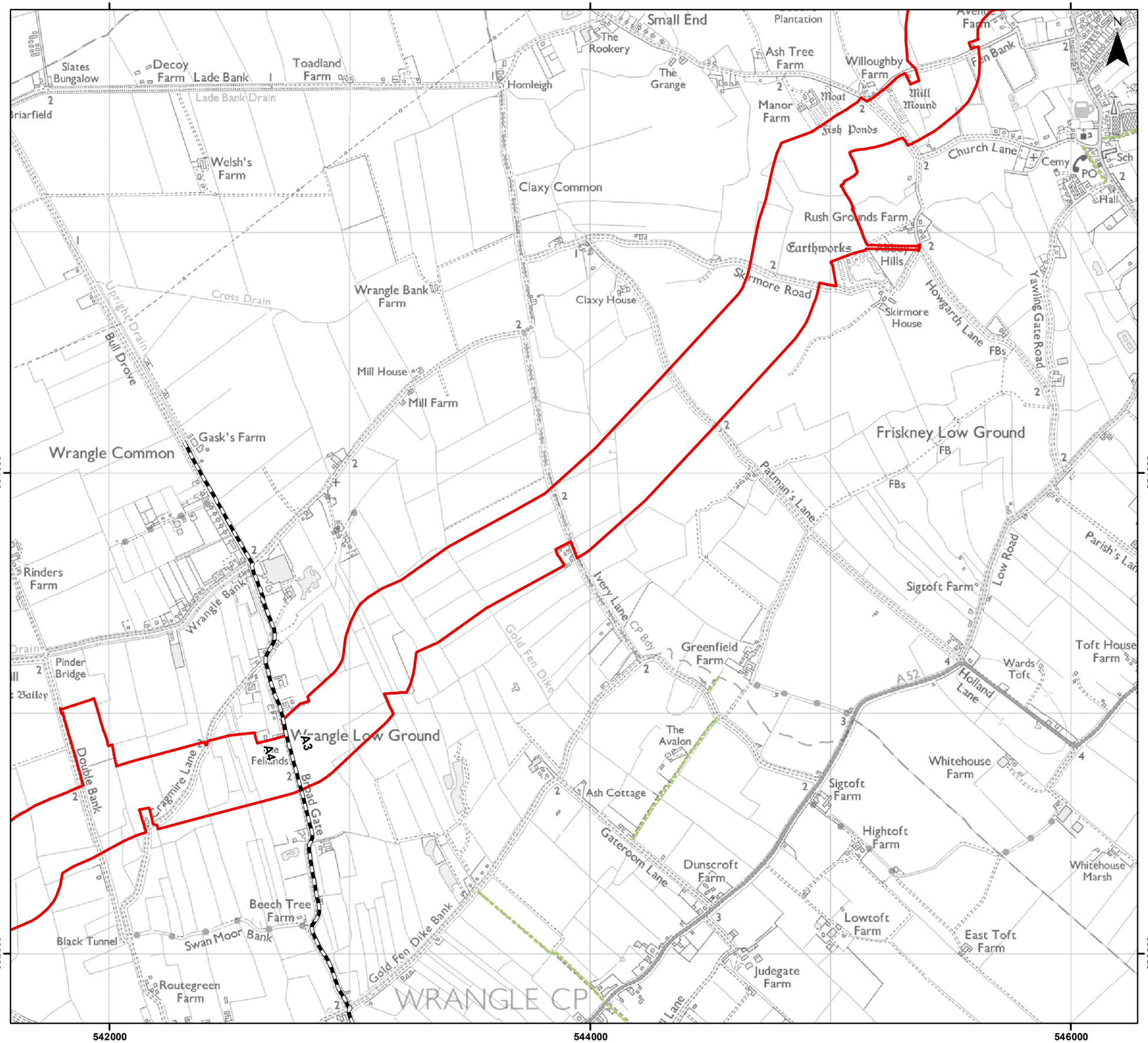

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.18

OUTER DOWSING OFFSHORE WIND

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538000 540000 542000

352000 350000

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

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Public Rights of Way
(All Onshore Route Options)

Figure 27.14.19

OUTER DOWSING OFFSHORE WIND

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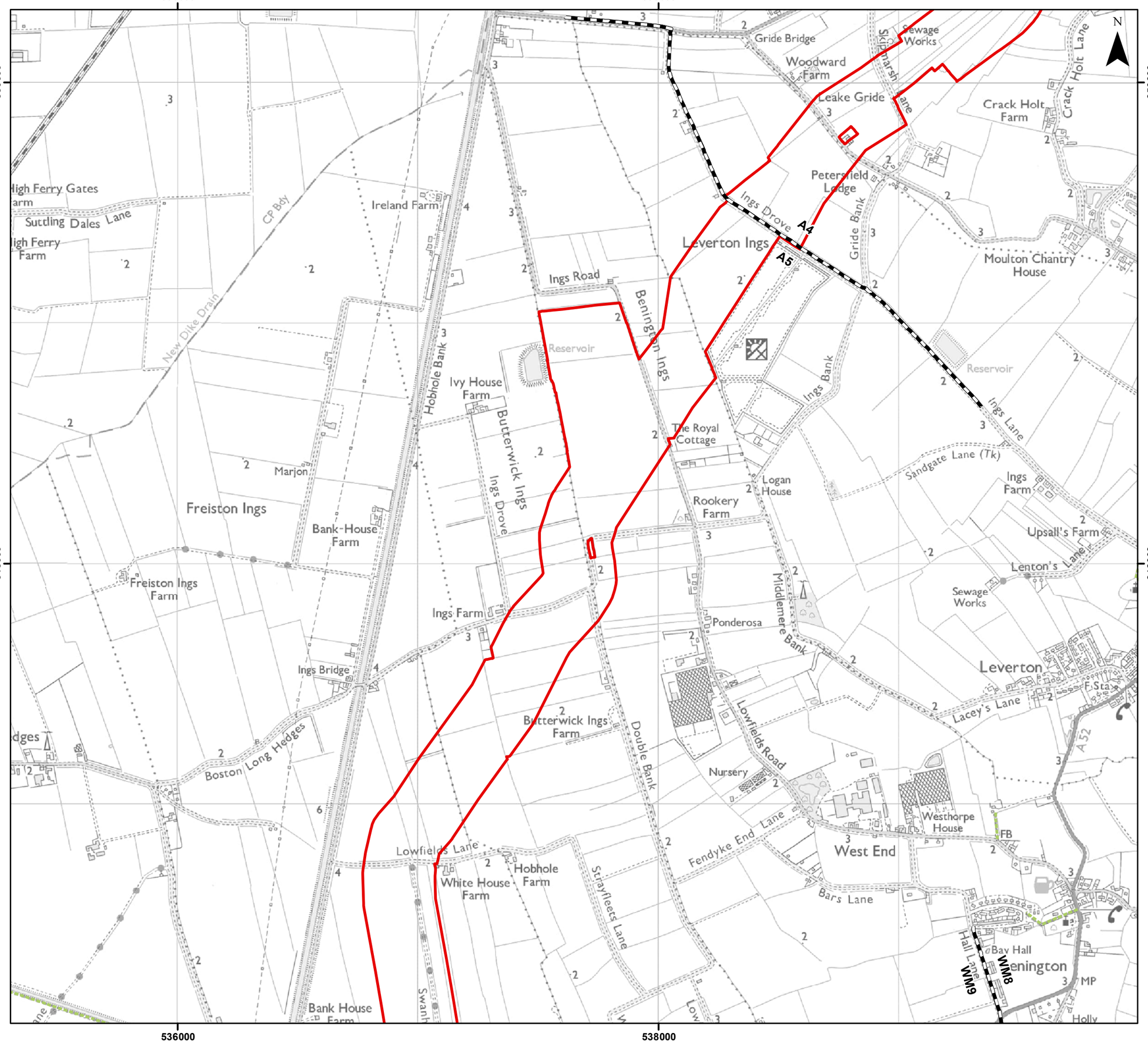

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.20

OUTER DOWSING OFFSHORE WIND

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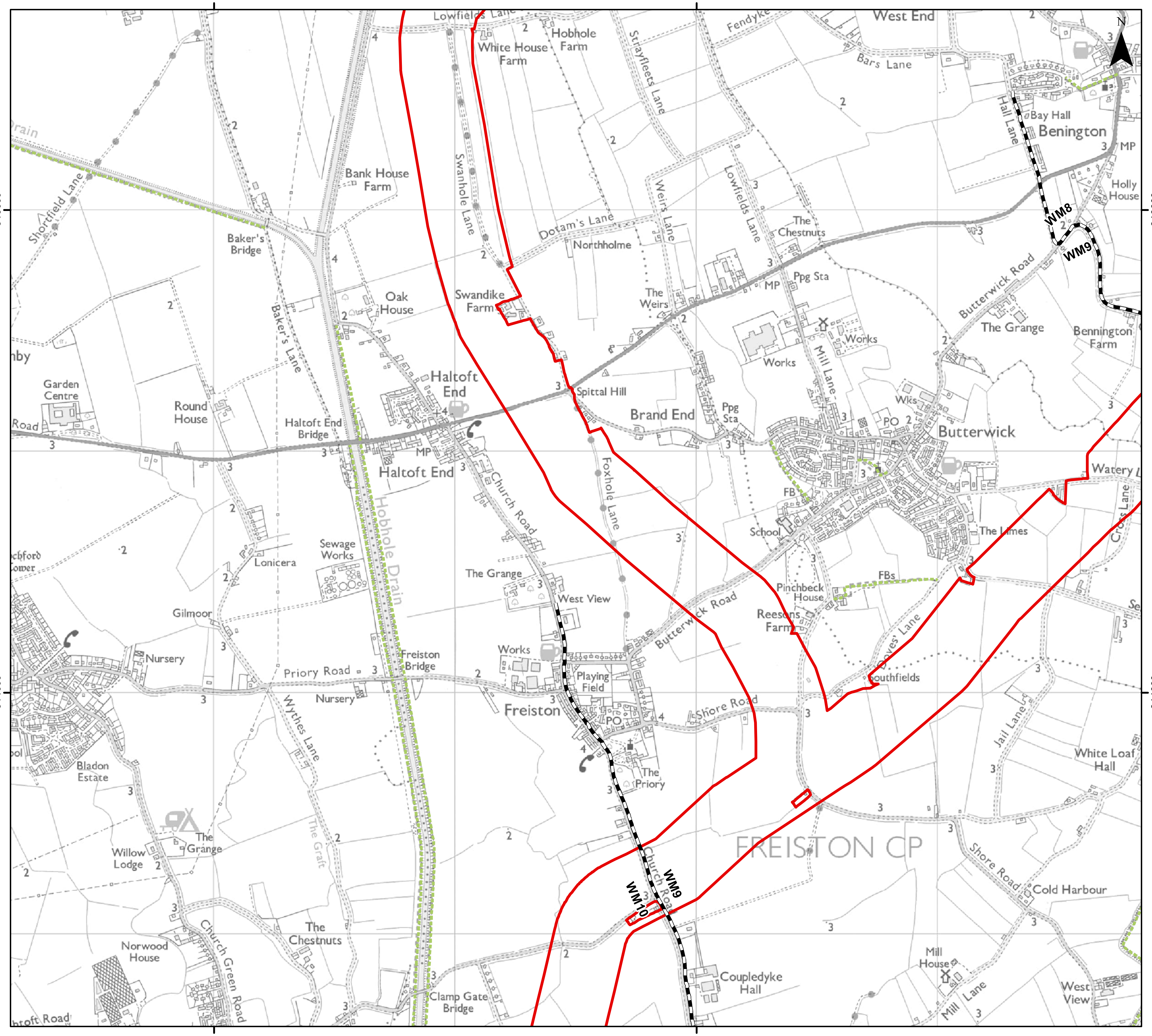

536000
538000
346000
344000
Lowfields Lane
West End
Fendyke
Hobhole Farm
White House Farm
Strayfleets Lane
Bars Lane
Bay Hall
Benington
Hall Lane
MP
Holly House
Bank House Farm
Swanhole Lane
Shortfield Lane
Baker's Bridge
Dotam's Lane
Northolme
Weirs Lane
Lowfields Lane
The Chestnuts
WM8
WM9
Ppg Sta
Butterwick Road
Oak House
Swandike Farm
The Weirs
Works
The Grange
Bennington Farm
Baker's Lane
Mill Lane
Garden Centre
Round House
Haltoft End
Spittal Hill
Brand End
Ppg Sta
Wks
PO
Butterwick
Halftoft End Bridge
MP
Haltoft End
Foxhole Lane
Church Road
Watery Lane
Hobhole Drain
FB
School
The Limes
Cross Lane
Sewage Works
Lonicera
The Grange
Pinchbeck House
FBs
West View
Gilmoor
Reesons Farm
Butterwick Road
Doves' Lane
Nursery
Works
Freiston Bridge
Priory Road
Playing Field
Southfields
Nursery
Wythes Lane
Freiston
PO
Shore Road
Jail Lane
White Loaf Hall
Bladon Estate
The Priory
The Grange
Willow Lodge
FREISTON CP
The Graft
Church Road
WM9
WM10
Shore Road
Cold Harbour
The Chestnuts
Norwood House
Church Green Road
Mill House
Coupledyke Hall
Clamp Gate Bridge
Mill Lane
West View

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
(All Onshore Route Options)

Figure 27.14.21

OUTER DOWSING OFFSHORE WIND

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548000 550000 552000

376000 374000

Lincolnshire Node OnSS Search Area

BILSBY CP

RLESTHORPE CP

CUMBERWORTH CP

Turn Farm Oed Farm Fields End Farm East Fa

Low Barn Woodbine Farm Sewage Works Flour Mills Huttoft

Bridge House Sch

Dryby Farm Rose Cottage The Willows Moat Moat House Poultry Houses

Bridge Lea Griffin Farm The Manor South Fen Drain

Grove Farm Thurlby White House Farm Thurlby House Station House

Anderby Turn Bluebell Farm Rectory Wexham

The Laurels Long Lane B 1449 Station Farm Thurlby Drain

Patmans Cottage Hillfoot Station Road A52 LN1 LN2

Farlesthorpe Fen Alford Road

Mumby Manor House FBs Field House Farm

Farlesthorpe House Farm Thorn-Holt Bridge Nursery Pine Hill House

Rose Cottage Oakleigh Field House Farm Mill Hill Moat Farm Main Drain

School Farm Cumberworth Cumberworth West Barn Rose Cottage

WM2 WM1

LL|Bils|13/1 LL|Huth|132 LL|Bils|69/1 LL|Mumb|67/1 LL|Mumb|63/2 LL|Mumb|62/1 LL|Mumb|62/2 LL|Mumb|63/3 LL|Mumb|58/4

FB 75 76 77 74

N

Legend

- Onshore PEIR Boundary
- Onshore Segment Break
- Lincolnshire Node OnSS Search Area
- Public Right of Way Intersecting with Onshore PEIR Boundary
- Wider Public Right of Way Network

Sources:
Public Right of Way Data Supplied by Lincolnshire County Council

Coordinate System: British National Grid

0 0.5 1 km

Scale: 1:15,000

Preliminary Environmental Information Report

Public Rights of Way
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Figure 27.14.22

OUTER DOWSING OFFSHORE WIND

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Highway Links (Increase in Traffic)

27.4.36 Using the review of the construction access routes and a summary of road safety in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and Paragraphs 27.4.29 to 27.4.34 of this Chapter, Table 27.24 identifies the sensitivity of each highway link to changes in the volume of traffic, based on the criteria in Table 27.38 and professional judgement.

Table 27.24: Link based sensitive receptors (core and local access routes)

Highway link	Sensitivity level	Rationale for receptor sensitivity
A1028; between A1104 and A158	Low	A main (A) road designed to carry high quantities of traffic.
A1104; east of A1028 towards Alford	High	A main (A) road, but with residential properties, shops and a school close to the road in Alford that would be susceptible to increases in traffic flows.
A158; between Horncastle and B1195	Medium	A main (A) road designed to carry high quantities of traffic, but has residential properties close to the road as it passes through Horncastle.
A158; between B1195 /A16	Low	A main (A) road designed to carry high quantities of traffic.
A158; between A16 and A1028	Low	A main (A) road designed to carry high quantities of traffic.
A158; between A1028 and Lincoln Road	Low	A main (A) road designed to carry high quantities of traffic. In recent years the route has been realigned to avoid Burgh le Marsh.
A158; between Lincoln Road and A52	High	A main (A) road designed to carry high quantities of traffic, but with residential development to both sides, a caravan park, a college, and some shops which could be susceptible to increases in traffic flow.
A16; north of A1104 towards Burwell	Low	A main (A) road designed to carry high quantities of traffic.
A16; between A1028 and A158	Low	A main (A) road designed to carry high quantities of traffic.
A16; between A158 and B1195	Medium	A main (A) road designed to carry high quantities of traffic, but with residential developments on one side and access to a school as it passes through Spilsby.
A16; between B1195 and A155	Low	A main (A) road designed to carry high quantities of traffic.
A16; between A155 and A52	Medium	A main (A) road designed to carry high quantities of traffic, but has residential properties close to the road as it passes through Spilsby, and Pilgrim hospital is located along the link which would be susceptible to increases in traffic flow.
A16; between A52 and Shirbeck Quarter	High	A main (A) road designed to carry high quantities of traffic, but with residential properties, a school, and shops close to the road that would be susceptible to increases in traffic.
A16; between Shirbeck Quarter and A17	Low	A main (A) road designed to carry high quantities of traffic.

Highway link	Sensitivity level	Rationale for receptor sensitivity
A52; north of Marsh Lane towards Hogsthorpe	Medium	A main (A) road designed to carry high quantities of traffic, but with pockets of residential developments and would be utilised to access a number of large caravan sites.
A52; between Marsh Lane and A158	High	A main (A) road designed to carry high quantities of traffic, but has residential properties, caravan parks and shops close to the road which would be susceptible to increases in traffic flow.
A52; between A158 and B1195	High	A main (A) road designed to carry high quantities of traffic, but has residential properties and shops on both sides, and provides access to the train station.
A52; between B1195 and A16	Low	A main (A) road designed to carry high quantities of traffic.
A52; between A1121 and A16	Medium	A main (A) road designed to carry high quantities of traffic, but with residential developments close to the road that would be susceptible to increases in traffic flows.
A1121; between A17 /A52	Low	A main (A) road designed to carry high quantities of traffic.
A17; west of A1121 towards Heckington	Low	A main (A) road designed to carry high quantities of traffic.
A17; between A1121 and A52	Low	A main (A) road designed to carry high quantities of traffic.
A17; between A52 and A16	Low	A main (A) road designed to carry high quantities of traffic.
B1449; between A1111 and A52	Medium	This is a main (B) road but has pockets of residential properties adjacent to the road through Bilsby which would be susceptible to increases in traffic flow.
A16; between A17/Station Road and Weston Marsh OnSS locations	Low	A main (A) road designed to carry high quantities of traffic.
A17; between A16 and Red Cow Drove	Low	A main (A) road designed to carry high quantities of traffic.
South Ings Lane; between Marsh Lane, Sloothby High Lane and Listoft Lane	Low	Rural unclassified roads with limited receptors.
Marsh Lane (between the Onshore ECC and the A52)	Low	A rural unclassified road with limited receptors.
Marsh Lane between the A158 and the Onshore ECC	Medium	A rural unclassified road which runs through the village of Orby, where there are residential developments on both sides and a footway provided, though limited facilities, which would be susceptible to increases in traffic flow.

Highway link	Sensitivity level	Rationale for receptor sensitivity
Lincoln Road (Skegness)	High	Residential properties, shops and school, Skegness Hospital and other local facilities.
Sea Lane (Wainfleet St Mary)	Low	Negligible receptors.
Unnamed Road /Track (Worth MJ)	Low	Negligible receptors.
Sea Lane (Staples Farm)	Medium	Used frequently by agricultural vehicles.
Hall Lane, Butterwick Lane and Crowhall Lane	High	Minor rural roads providing access to residential properties.
Church Road, Church Road/Church End Road,	High	Residential properties and local facilities, some on-street parking, church.
Clampgate Road, Cut End Road and Pinfold Lane	Medium	Minor rural roads providing access to a small number of properties and businesses.
Millfield Lane East, Low Road, Streetway and Streetway/Wyberton Roads	Low	Rural road with several properties set back from the road.
Station Road, Skeldyke Road, Nidd's Lane and Marsh Road	High	Residential properties, local facilities, playground.
Wash Road and Craven's Lane	High	Residential properties close to the carriageway.
Middle Marsh Road	Negligible	No receptors.
Surfleet Bank	High	Residential properties close to the carriageway and tight bend, shared route with the Macmillan Way.
B1195	Low	A principal (B) road.
Mill Lane and Gunby Lane	Low	Rural unclassified roads with a small number of residential properties mainly set back from the carriageway.
Church Lane (Croft)	Low	Rural unclassified road, two residential properties, caravan storage facility.
Collision Gate, Crow's Lane and Brewster Lane	Low	Rural unclassified roads with no sensitive receptors.
Boston Road between the A52 and Mill Lane	Low	A principal (B) road with no sensitive receptors.
Low Road/Vicarage Lane	Medium	Residential properties, sheltered housing.
Mill Lane	High	Narrow section at the brewery, with no footways and restricted visibility, allotments and potential for moderate pedestrian activity.
Ivy Lane, Low Road, Scald Gate and Church Lane	Low	Rural unclassified roads with limited residential frontage or activity.

Highway link	Sensitivity level	Rationale for receptor sensitivity
Low Road, Yawing Gate Road and Howgarth Lane	Low	Rural unclassified roads with limited residential frontage or activity.
Broadgate	Medium	A rural unclassified road where on the southern section of this route there are residential frontages on both sides. A footway is also provided on one side where properties are present. This road would be susceptible to increases in traffic flow.
Common Road	Low	A rural unclassified road with only a small number of residential frontages.
West End Lane/Lowfield Road/Ings Road	Low	A rural unclassified road already used by HGVs due to it having an existing commercial presence.

Highway Links (Temporary Lane Closure)

27.4.37 Using the review of the highway network within the study area, the sensitivity of each highway link to a temporary lane closure (the worst case scenario for these links) based on the criteria in Table 27.38 and professional judgement is summarised in Table 27.25 for the Weston Marsh Onshore ECC option (both alignments) and in Table 27.26 for the Weston Marsh north of the A52 Onshore ECC option .

Table 27.25: Highway link sensitivity for a temporary lane closure - Weston Marsh Onshore ECC route option (both alignments)

Highway link	Review of link sensitivity	Sensitivity
Sloothby High Lane	Relatively low traffic flows, not likely to be a main route for emergency services, would be a short delay.	Low
South Ings Lane		
Marsh Lane		
Ingoldmells Road		
Church Road/Church End Road	Very low traffic flows, access to North Sea Camp Open Prison, would be a short delay.	Medium

Table 27.26: Highway link sensitivity for a temporary lane closure - Weston Marsh (north of the A52) Onshore ECC route option

Highway link	Review of link sensitivity	Sensitivity
Church Road	Serves several businesses with limited alternative route choice for HGVs, would be a short delay.	Low

27.4.38 There would be no temporary lane closures for the separate segments of the Weston Marsh south of the A52 route Option or the Lincolnshire Node Onshore ECC options.

Highway Links (Temporary Road Closure)

27.4.39 Using the review of the highway network in the study area, the sensitivity of each highway link to a temporary road closure (the worst case scenario for these links) based on the criteria in Table 27.38 and professional judgement is summarised in Table 27.27 for the Weston Marsh Onshore ECC option (both alignments), Table 27.28 in for the Weston Marsh south of the A52 Onshore ECC option and in Table 27.29 for the Weston Marsh north of the A52 Onshore ECC option.

Table 27.27: Highway link sensitivity for a temporary road closure - Weston Marsh Onshore ECC route option (both alignments)

Highway link	Review of link sensitivity	Sensitivity
Langham Road	Very low traffic flows, relatively convenient alternative route available.	Low
Lowgate Road		
Listoft Lane		
Bracken Lane		

Highway link	Review of link sensitivity	Sensitivity
Billgate Lane		
Middlemarsh Road	Very low traffic flows, re-routing could involve a journey via Skegness.	Medium
Low Road	Very low traffic flows, relatively convenient alternative route available.	Low
Pinchbeck Lane		
Clampgate Road	Very low traffic flows, convenient alternative route available.	Low
Grovefield Lane		
Frampton Roads	Would restrict vehicular access to RSPB Frampton Marsh but alternative access.	Low
Marsh Road	Would restrict vehicular access to Fosdyke Wash, no alternative access. Dependant on time of year.	Low to high

Table 27.28: Highway link sensitivity for a temporary road closure - Weston Marsh (south of the A52) Onshore ECC route Option

Highway link	Review of link sensitivity	Sensitivity
Sea Lane (Staples Farm access)	Limited /no alternative route options to and from the A52. Negligible number of users affected, would require steel plates to allow local access over the open trenches.	Low
Sea Lane (Wainfleet St Mary)		
Sea Lane (RAF Wainfleet)		
Sea Lane (Roman Bank Cottage)		
Oldfield Lane (east)	Low traffic flows, convenient alternative route.	Low
Oldfield Lane (south)		
Leverton Marsh access road	No alternative route options, likely to affect a small number of leisure users in cars as no parking area and some agricultural vehicles, would require steel plates to allow local access over the open trenches.	Low
Sea Lane (Leverton Lucasgate)	No alternative route options, likely to affect agricultural vehicles, would require steel plates to allow local access over the open trenches.	Low
Spicer's Lane	Low traffic flows, convenient alternative route.	Low
Churchway		
Crowhall Lane		
Watery Lane		
Sea Lane (Butterwick)		

Table 27.29: Highway link sensitivity for a temporary road closure - Weston Marsh (north of the A52) Onshore ECC option

Highway link	Review of link sensitivity	Sensitivity
Church Lane	Low traffic flows, relatively convenient alternative route choice.	Low
Brewster Lane		Low

Highway link	Review of link sensitivity	Sensitivity
Collision Gate	Very low traffic flows, convenient alternative route choice.	
Church Lane		
Scald Gate		
Burgh Road	Very low traffic flows, convenient alternative route choice.	Low
Cranberry Lane	Very low traffic flows, convenient alternative route choice.	Low
Mill Hill		
Small End Road		
Skirmore Road	Very low traffic flows, relatively convenient alternative route choice.	Low
Patman's Lane		
Ivery Lane		
Broadgate		
Cragmire Lane		
Double Bank		
Manor Lane		
Seadyke Lane		
Faunt Bridge	Very low traffic flows, convenient alternative route choice.	Low
Pode Lane		
Skipmarsh Lane		
Southfields		
Ings Drove		
Ings Road		
Double Bank	Very low traffic flows, relatively convenient alternative route choice.	Low
Lowfield Lane		

27.4.40 There would be no temporary road closures for the Lincolnshire Node Onshore ECC option.

Public Rights of Way (PRoW)

27.4.41 Using the review of the PRoW in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline and in Paragraphs 27.4.29 to 27.4.35 of this chapter, the sensitivity of each PRoW, based on the criteria in Table 27.38 and professional judgement, has been identified. Given the tourism in the study area, for the purposes of the assessment at PEIR and taking into account the large network of PRoW and alternatives for recreation purposes such as dog walking, all routes have been assigned a medium sensitivity, rising to high sensitivity for the summer months when these routes would have a much more frequent use. Given there may be some routes that are infrequently used, in the absence of user data, this is considered to be a robust assessment.

Future Baseline

27.4.42 The background traffic on the highway links in the study area may increase between the baseline and the anticipated years of construction of the Project.

Baseline Year 2027

27.4.43 The Trip End Model Presentation Program (TEMPRO) database, which determines background traffic growth on an annual basis for a specified time period, has been used to factor the 2019, 2022 and 2023 data (Table 27.15 to Table 27.19) to an estimated construction start year.

27.4.44 A traffic growth rate has been applied to the observed traffic flows in Figure 27.11 using the DfT software TEMPRO to create base 2027 traffic flows.

27.4.45 The TEMPRO software presents the output of the DfT's National Trip End Model which forms part of the National Transport Model (NTM). The DfT's Webtag guidance Unit 3.15.2 advises the use of NTM in preference to the National Road Traffic Forecasts (NRTF) as the NTM data is based on a more up-to-date model.

27.4.46 The TEMPRO factors are:

- A Roads
  - 2019 to 2027 - 1.0627;
  - 2022 to 2027 - 1.0413; and
  - 2023 to 2027 – 1.0377.
- Minor Roads
  - 2019 to 2027 - 1.0657;
  - 2022 to 2027 - 1.0401; and
  - 2023 to 2027 – 1.0321.

27.4.47 The 2027 AADT flows are shown in Figure 27.15 (total vehicles) and Figure 27.16 (HGVs).

Table 27.30: 2027 AADT – highway links for all Onshore ECC options

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
6	25	A1104 (Alford)	7,464	357	4.8
7	23	B1449 Thurlby Road	4,414	236	5.3
8	24	B1449 Long Lane	2,632	144	5.5
5	26	A52 (south of Hogsthorpe)	3,987	158	4.0
9	27	A52 (south of Marsh Lane)	3,825	155	4.1
25	60	A16 (south of Boston)	23,012	1,169	5.1
26	64	A17 (north of the A16)	89,53	1,279	14.3
27	62/63	A17 (south/north of River Welland)	9,959	1,466	14.7
28	66	A16 (south of the A17)	16,942	1,507	8.9

Table 27.31: 2027 AADT - highway links for Weston Marsh Onshore ECC option (both alignments)

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
11	28	South Ings Lane	1,105	67	6.1
12	29/30	Marsh Lane	5,094	233	4.6
14	31/32	A158 (east/west of Skegness)	13,005	598	4.4
15	33/34	A52 (East of Croft)	8,359	361	4.3
53	35	A52 Holland Lane	5,035	289	5.7
17	36	A52 (Wrangle)	6,618	412	6.2
18	37	A52 (Butterwick)	8,843	525	5.9
1	38	A52 Wainfleet Road (Haltoft End)	12,096	550	4.5
21	14	Church Road/Church End Road	1,567	92	5.9
22	15	Cut End Road	221	14	6.4
23	16	Streetway/Wyberton Roads	222	11	5.0
24	17	Station Road/Skeldyke Road	334	17	5.2
76	18	Wash Road	222	9	3.9
77	80	Lincoln Road	9,111	269	3.0

Table 27.32: 2027 AADT - highway links for Weston Marsh south of the A52 Onshore ECC route option

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
18	8	Sea Lane (Staples Farm)	1,056	77	7.3
19	9	David's Lane	612	64	10.4

Table 27.33: 2027 AADT - highway links for Weston Marsh north of the A52 Onshore ECC route Option

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
30	77	Gunby Lane (south of the A158)	1,084	117	10.8
31	78	B1195 (Irby in the Marsh)	1,141	62	5.4
32	79	B1195 (Thorpe St Peter)	860	47	5.5
33	41	Brewster Lane	35	2	5.8
34	42	Mill Lane	318	12	3.8

ATC reference	Location reference (Figure 27.11)	Highway link	AADT		HGV (%)
			Total vehicles	HGVs	
35	40	Church Lane	1,038	64	6.2
36	43	Mill Lane (at Brewery)	507	10	2.1
38	4	Boston Road	1,328	66	5.0
39	45	Church Lane	47	5	9.8
43	47	Low Road	1,112	43	3.8
44	46	Scald Gate	25	1	5.9
45	49	Ivy Lane	55	11	20.4
49	51	Howgarth Lane	127	3	2.4
52	52	Low Road	807	4	0.4
59	53	Broadgate	311	5	1.6
56	54	Common Road	232	44	19.2
58	55	Common Road (near the A52)	243	18	7.3
62	58	Ings Road	289	12	4.1
64	59	West End Road	579	15	2.6

525000 550000

375000 350000 325000

N

Lincolnshire Node OnSS Search Area

Weston Marsh North OnSS Search Area

Weston Marsh South OnSS Search Area

Horncastle Alford Hogsthorpe Spilsby Skegness Wainfleet All Saints Wrangle Boston Butterwick Kirton Spalding

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 AADT - HGV's

Figure 27.15

OUTER DOWSING OFFSHORE WIND

Date: 15/05/2023
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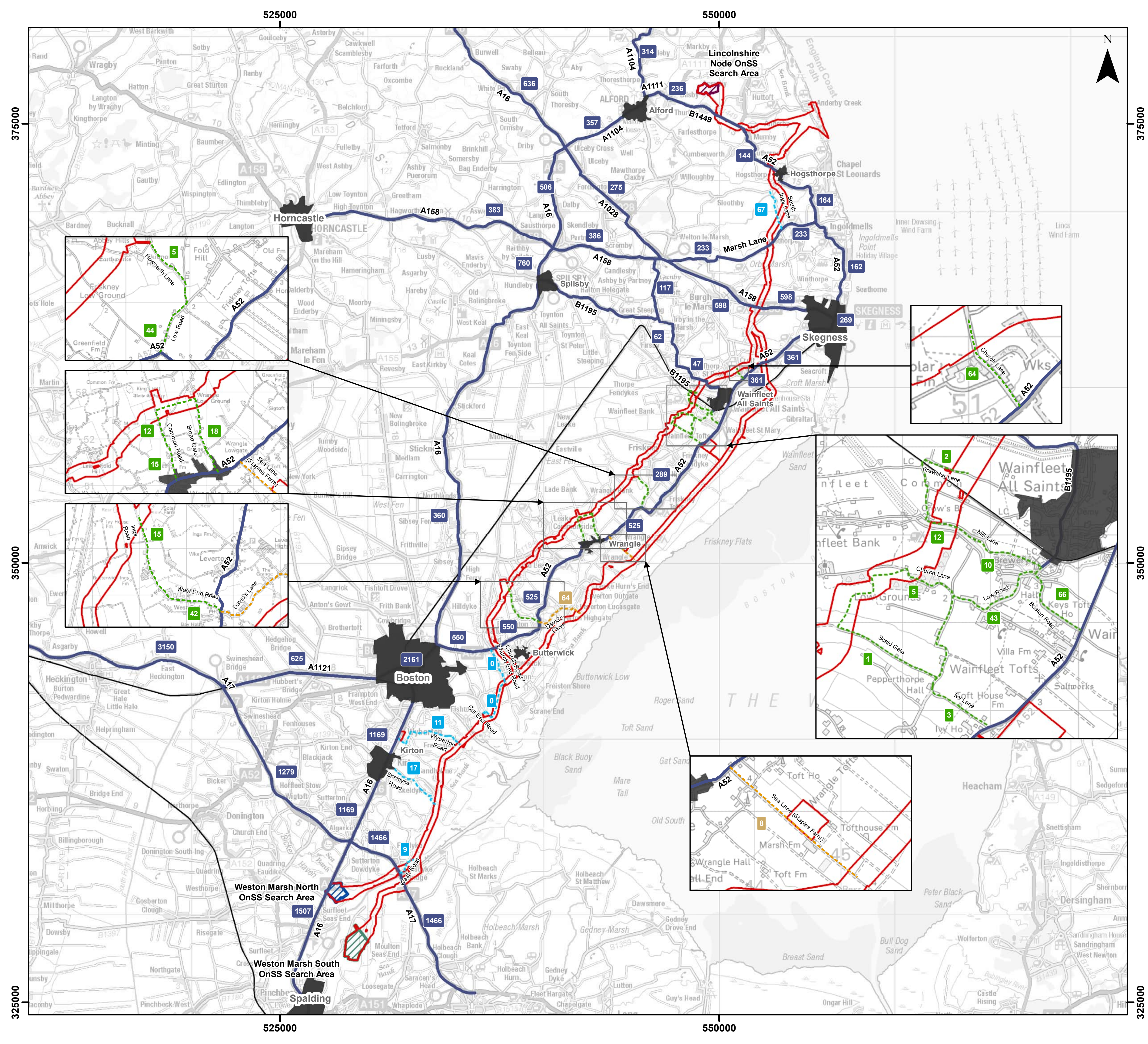

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 AADT - HGV's

Figure 27.16

OUTER DOWSING OFFSHORE WIND

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27.5 Basis of Assessment

Scope of Assessment

27.5.1 The assessment of traffic and transport and the potential traffic impacts in relation to the Project has been undertaken with reference to the following key guidance documents:

- Ministry for Levelling Up, Housing and Communities (MLHC), Planning Practice Guidance - Overarching Principles on Travel Plans, Transport Assessments and Statements, 2014);
- Institute of Environmental Management and Assessment (IEMA), Guidelines for Environmental Assessment of Road Traffic (GEART), 1993; and
- Design Manual for Roads and Bridges (DMRB), LA 112 Population and Human Health

27.5.2 The MLHC guidance sets out how the transport impacts of a proposed development on the highway and public transport networks should be assessed within a Transport Assessment. The MLHC guidance also states that a Transport Assessment should include measures to promote sustainable travel through the preparation of a Travel Plan and identify mitigation measures to address any impacts. These are also the requirements for assessment as set out in the EN-1 and therefore the assessment will take account of this guidance.

27.5.3 Based on the guidance in GEART, the following factors have been identified as being the most discernible potential environmental effects likely to arise from changes in traffic movements. These are considered in the assessment as potential effects which may arise from changes in traffic flows resulting from the Project:

- Driver severance and delay - the potential delays to existing drivers and their potential severance from other areas;
- Community severance – the potential severance to communities and the delays to movements between communities;
- Vulnerable road users and road safety – the potential effect on the safety of users of the road, particularly pedestrians and cyclists;
- Pedestrian Amenity - the relative pleasantness of a journey affected by traffic flow, traffic composition, footway width and separation from traffic;
- Dust and Dirt - The potential effect of dust, dirt and other detritus being brought onto the road; and
- AILs - the potential effect on road users and local residents and users of the highway network caused by the movement of AILs.

Driver Severance and Delay

27.5.4 GEART recommends the use of proprietary software packages to model junction delay and therefore estimate increased vehicle delays. However, it is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to, capacity.

27.5.5 During consultation with LCC, no sensitive junctions have specifically been identified that would automatically require an assessment of potential delays for drivers during periods when baseline traffic flows are at their greatest (the highway peak hours).

27.5.6 As discussed during ETG meetings, 30 two-way vehicle movements on an approach arm to a junction is typically the threshold for the consideration of the requirement to undertake a junction capacity assessment, primarily if a junction has known existing capacity issues.

27.5.7 For the potential delay to users of the highway links that may require a temporary closure to enable open trenching technology to be utilised for the Onshore ECC, the assessment is based on the relative importance of each link and the availability of an alternative route, using professional judgement.

Community Severance

27.5.8 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people.

27.5.9 Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself. It can also relate to relatively minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians.

27.5.10 GEART suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate and substantial respectively. However, GEART states that these figures should be used cautiously, and the assessment should pay full regard to specific local conditions.

27.5.11 In addition to the GEART guidance, DMRB LA 112 provides guidance to both the direct effects of a new scheme, and to effects caused by increases in traffic levels on existing roads. The guidance provides example definitions of where severance could be experienced and notes that for pedestrians crossing at-grade (i.e. on the same level), AADT flows of 4,000 or less, 4,000 to 8,000, 8,000 to 16,000 and 16,000 plus the relative sensitivity would be low, medium, high and very high respectively.

Vulnerable Road Users and Road Safety

27.5.12 GEART states the following in terms of the assessment of road safety:

> *"Where a development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to assess the implications of local circumstances, or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts."*

27.5.13 In this context, an examination of the existing PIAs occurring within the onshore highway study area has been undertaken to identify any areas of the highway with concentrations of PIAs, or roads with PIA rates that are higher than the 2019 GB rate (using 2019 data to avoid the Covid-19 pandemic period). These locations are considered to be sensitive to changes in traffic flows (sensitive receptors) and therefore a more detailed analysis of significance has been undertaken in the context of the Project.

Pedestrian Amenity

27.5.14 GEART broadly defines pedestrian amenity as the "relative pleasantness of a journey". It is affected by traffic flow, traffic composition, footway width and separation from traffic. GEART suggests that a tentative threshold for judging the significance of changes in

pedestrian amenity is where the traffic flow (or its lorry component) is halved or doubled. It is therefore considered that a change in the traffic flow of - 50 % or +100 % would produce a 'major' change in pedestrian amenity.

Dust and Dirt

27.5.15 Certain types of development, particularly construction sites, can give rise to deposition of dust and dirt on surrounding roads. The overall impact of this phenomenon normally depends to a large extent on the management practices adopted at the site in question, such as vehicle sheeting and wheel washing.

27.5.16 Problems with dust and dirt are unlikely to occur at distances greater than 50m from the road (IEMA, March 1993). Where relevant, the effects relating to dust and dirt are considered within this chapter and the magnitude of impact identified using professional judgement and the advice provided in the above guidance document.

27.5.17 The impact of dust associated with the construction of the Project on air quality is provided in Volume 1, Chapter 19: Onshore Air Quality.

Abnormal Indivisible Loads (AILs)

27.5.18 The transportation of large AILs may lead to delays on the highway network. The construction of the OnSS would require the delivery of AILs, which will be set out in the traffic and transport chapter of the DCO submission once the preferred OnSS option has been identified.

Users of Public Rights of Way (PRoW)

27.5.19 The criteria in DMRB LA 112 Population and Human Health have been adopted to assess the impact of the construction works associated with the Project on these users.

27.5.20 Where a PRoW intersects with highway links, the potential effects are considered on a traffic flow percentage increase basis. However, where PRoW are proposed to be diverted or closed in part, these are considered on the basis of the disruption incurred to the existing route.

27.5.21 DMRB LA 112 states:

"The study area shall be based on the construction footprint/project boundary (including compounds and temporary land take) plus a 500m area surrounding the project boundary."

27.5.22 However, it goes on to say:

"Where effects are unlikely to occur within the 500m area surrounding the project boundary, the study area should be reduced accordingly."

27.5.23 The scope of assessment at PEIR has been defined as all PRoW within the PEIR boundary that might be directly impacted by the construction works.

Other Impacts

27.5.24 Traffic-borne noise and vibration effects and air quality effects informed by the traffic data outlined in this chapter are assessed in Volume 1, Chapter 26: Noise and Vibration and Volume 1 Chapter 19: Air Quality, respectively.

27.5.25 The traffic data provided to inform Volume 1 Chapter 19: Onshore Air Quality and Volume 1 Chapter 26: Noise and Vibration are not reported in this chapter as the data requirements for the assessments undertaken in those chapters differ from the traffic and transport assessment; however, both the noise and air quality assessments are derived from the same dataset of forecast construction traffic for the Project.

Operational and Maintenance Activities

27.5.26 Following the Inspectorate comments contained within the Scoping Opinion (the Inspectorate, 2022), as summarised in Table 27.2, it was agreed that effects associated with operational and maintenance activities could be scoped out, given that expected number of vehicle movements would be negligible.

27.5.27 It is anticipated that at a maximum, there would be approximately four to eight traffic movements per day; however, limited to a two-week period for annual testing. Outside of this period, there are likely to be approximately four to eight traffic movements per week. In addition, there is expected to be one visit to each Transition Joint Bay (TJB) per year.

Decommissioning Activities

27.5.28 Decommissioning activities are not anticipated to exceed the construction phase worst case criteria assessed. In addition, it is also recognised that policy, legislation, and local sensitivities constantly evolve, which will limit the relevance of undertaking an assessment at this stage.

27.5.29 Furthermore, the decommissioning methodology would be finalised nearer to the end of the lifetime of the Project, to be in line with current guidance, policy and legislation. As such, any methodology would be agreed with the relevant authorities and statutory consultees at the appropriate time.

27.5.30 As such, in recognition of the above, a qualitative assessment of likely decommissioning activities has been undertaken, given the uncertainty of potential works.

Realistic Worst-Case Scenario

Key Parameters for Assessment

27.5.31 The trip generation and distribution parameters are described in detail in Volume 2, Appendix 27.2: Traffic and Transport Trip Generation and the associated appendices and summarised in Paragraphs 27.5.33 and 27.5.32 below.

Trip Generation Parameters

27.5.32 The key trip generation parameters are:

- Core working hours – 07:00 to 19:00 (Monday to Saturday), which doesn't take into account some 24 hour working that may be required for trenchless crossing works;
- The construction workforce would arrive and depart in cars and LGVs;
- The construction workforce arrival and departures:
  - 80% arriving before 07:00 and leaving after 18:00 (April to October), or before 16:00 (November to March), based on approximate daylight hours; and

- 20% arriving between 07:00 and 09:00 and leaving between 16:00 and 18:00 (the peak hour periods identified on the highway network) at any time of the year;

- Core HGV deliveries - 07:00 to 19:00 (Monday to Saturday);
- The two-way HGV movements assumes a vehicle arriving at a construction access and TCC, uploading and departing at the same access;
- Car occupancy – two people per car, which is considered a conservative estimate, given core working hours will be the same for the majority of workers, who may frequent the same local accommodation and wish to share travel costs; and
- The two-way employee movements assumes a vehicle arriving at a construction access and TCC in the morning and leaving in the evening, as per the assumptions above.

Trip Distribution Parameters - HGVs

27.5.33 In terms of the traffic distribution parameters, all HGV traffic associated with the construction phase of the Project is assumed to use the routes identified in Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline, in Table 3.4 the Weston Marsh south of the A52 Onshore ECC option, Table 3.5 for the Weston Marsh north of the A52 Onshore ECC option and Table 3.6 for the Lincolnshire Node Onshore ECC option/ This is with the exception of AILs which would follow the route(s) confirmed with the AIL route assessment. The AIL route assessment will be undertaken for the selected OnSS, to be set out in the ES submitted with the DCO application.

Trip Distribution Parameters – Construction Workforce

27.5.34 A simple population/distance (squared) gravity model has been prepared based on settlements within an approximate one-hour journey time from the centre of the study area to distribute the likely vehicle movements from the construction workforce, noting that this will be highly dependent on the availability of accommodation at the time of the construction period.

27.5.35 For the purposes of the assessment HGVs and construction workforce vehicles will use the same routes to ensure a robust assessment along these highway links and junctions. However, in reality, depending on the proportion of local employees and the availability of local accommodation for workers who do not live in the local area, the distribution of construction worker vehicles is likely to be spread across the wider network, reducing the level of likely impact across the LRN.

27.5.36 The construction workforce distribution is summarised in Table 27.34 for the Weston Marsh (both alignments) and Lincolnshire Node Onshore ECC options.

Table 27.34: Construction workforce trip distribution

Location	Population	Distance (km)	Weighted (Population/distance)	Distribution (%)
Boston	58,124	14	297	33.0
Grantham	44,000	44	23	2.5
Grimsby	88,243	42	50	5.6
Horncastle	6,651	22	14	1.5

Kings Lynn	42,800	47	19	2.2
Lincoln	130,200	40	81	9.1
Louth	16,419	27	23	2.5
Mablethorpe	12,531	22	26	2.9
Newark	37,084	50	15	1.7
Peterborough	186,400	48	81	9.0
Skegness	24,876	12	173	19.2
Sleaford	17,359	32	17	1.9
Spalding	28,722	27	39	4.4
Spilsby	3,440	12	24	2.7
Wisbech	31,573	42	18	2.0

Assessment Scenarios

Weston Marsh Onshore ECC Route Option (Both Alignments)

27.5.37 Two assessment scenarios have been considered to take account of the maximum likely impact on all highway links in the study area, for the Weston Marsh Onshore ECC option (both alignments), as described in Volume 2, Appendix 27.2: Traffic and Transport Trip Generation, including the routing assumptions.

27.5.38 The assessment scenarios are:

- Scenario 1: Maximum impact in Skegness; and
- Scenario 2: Use of a haul road between the A158 and the A52 for HGV through movements to avoid Skegness.

27.5.39 The maximum forecast daily traffic flows (total and HGVs) across the study area for Scenarios 1 and 2, for the Weston Marsh south of the A52 and Weston Marsh north of the A52 Onshore ECC options are shown in Figure 27.17 to Figure 27.24.

Lincolnshire Node Onshore ECC Route Option

27.5.40 There is only one assessment scenario for the Lincolnshire Node Onshore ECC option, with all HGV movements via Alford as described in Volume 2, Appendix 27.2: Traffic and Transport Trip Generation, including the routeing assumptions.

27.5.41 The maximum forecast daily traffic flows (total and HGVs) across the study area for the Lincolnshire Node Onshore ECC option are shown in Figure 27.25 and Figure 27.26.

525000

550000

375000

350000

325000

N

Lincolnshire Node OnSS Search Area

Weston Marsh North OnSS Search Area

Weston Marsh South OnSS Search Area

Horncastle

Alford

Hogsthorpe

Spilsby

Skegness

Wainfleet All Saints

Wrangle

Boston

Butterwick

Kirton

Spalding

Marsh Lane

Sea Lane (Staples Farm)

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (South of the A52) Onshore ECC Route Option - Total Vehicles

Figure 27.17

OUTER DOWSING OFFSHORE WIND

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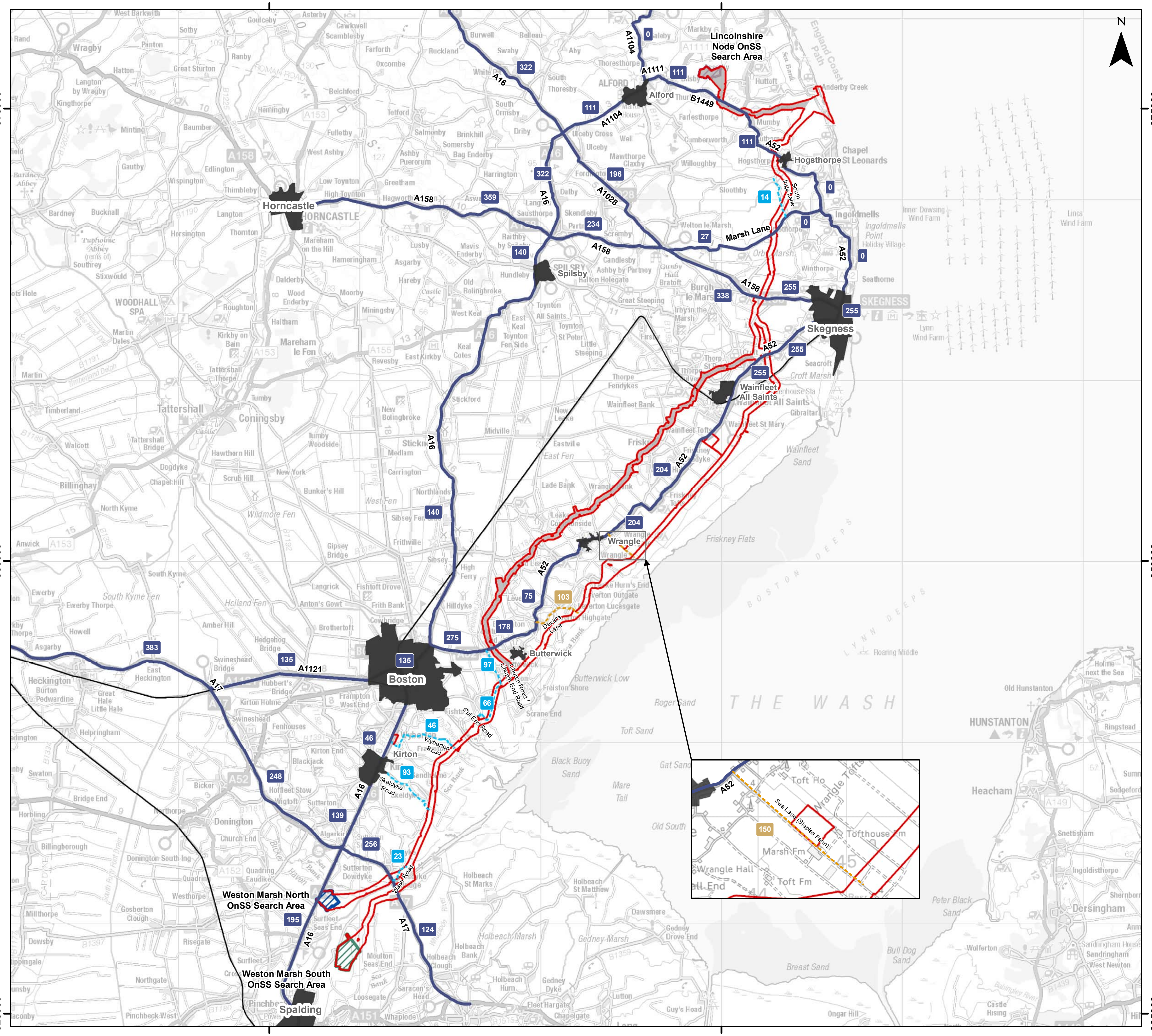

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

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Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (South of the A52) Onshore ECC Route Option - Total HGVs

Figure 27.18

OUTER DOWSING OFFSHORE WIND

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525000

550000

375000

350000

325000

N

Lincolnshire Node OnSS Search Area

Weston Marsh North OnSS Search Area

Weston Marsh South OnSS Search Area

Horncastle

Alford

Hogsthorpe

Spilsby

Skegness

Wainfleet All Saints

Wrangle

Boston

Butterwick

Kirton

Spalding

Marsh Lane

Sea Lane (Staples Farm)

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (South of the A52) Onshore ECC Route Option - Total Vehicles

Figure 27.19

OUTER DOWSING OFFSHORE WIND

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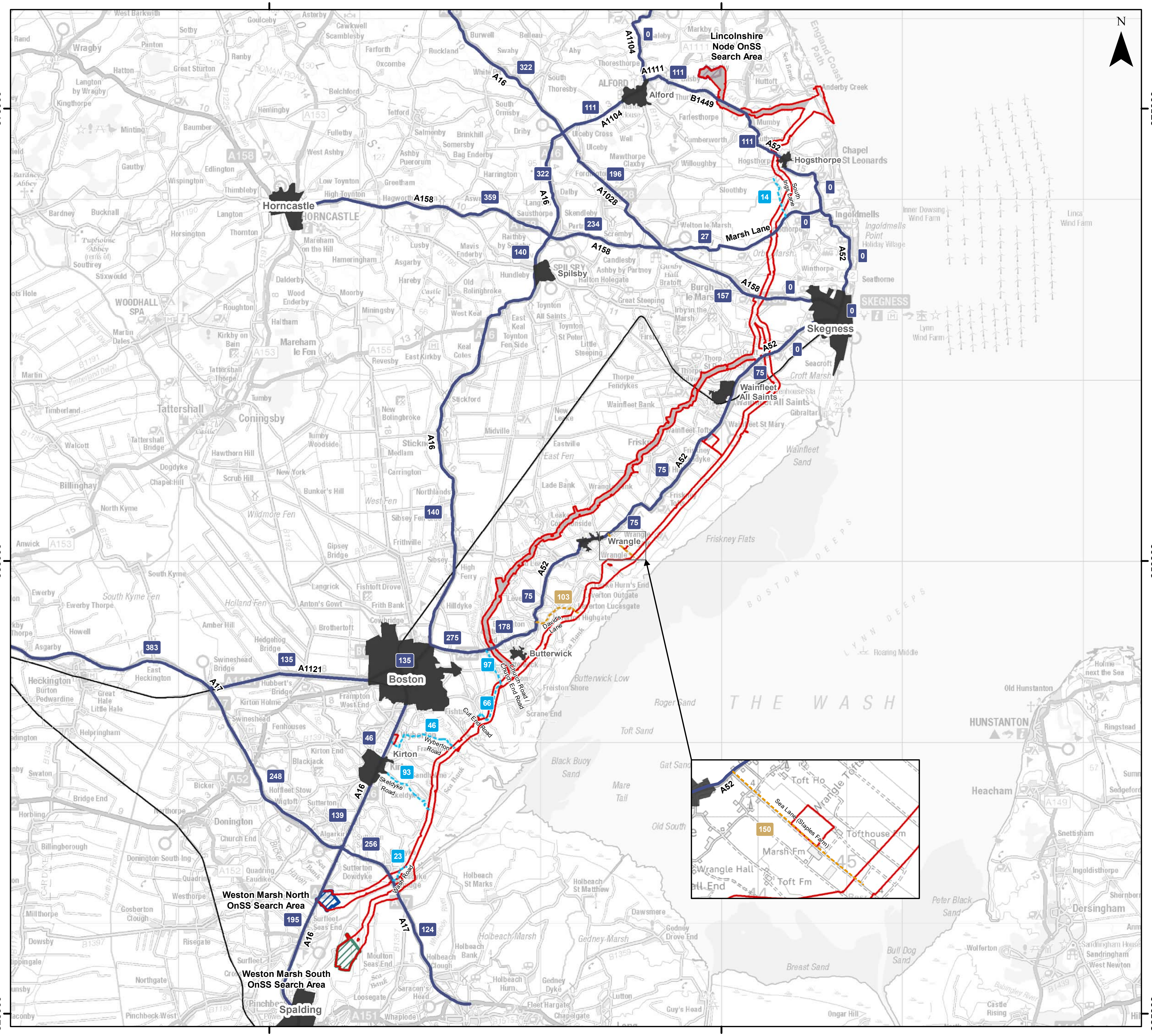

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (South of the A52) Onshore ECC Route Option - HGVs

Figure 27.20

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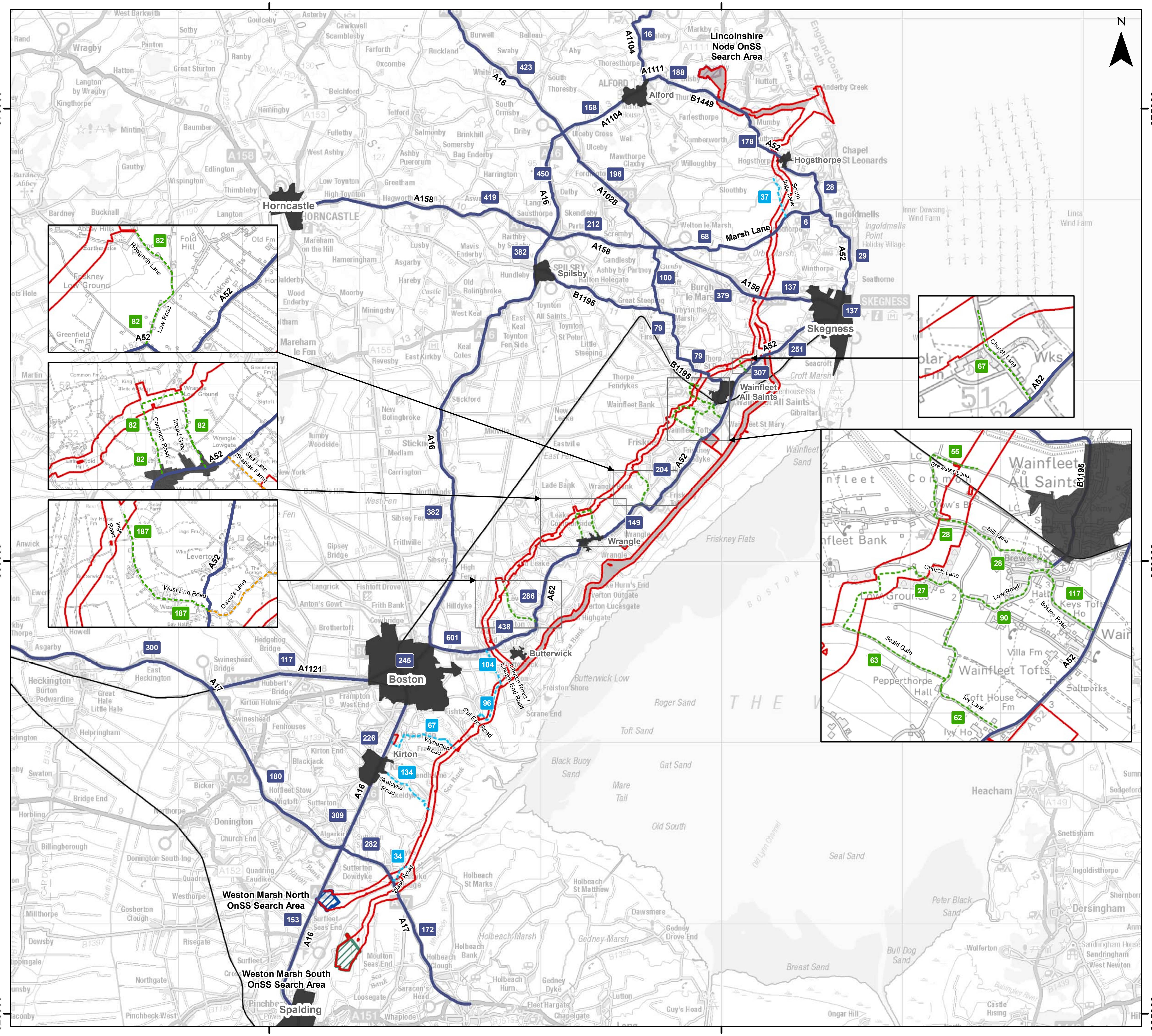

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (North of the A52) Onshore ECC Route Option - Total Vehicles

Figure 27.21

OUTER DOWSING OFFSHORE WIND

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Legend

🟥 Onshore PEIR Boundary

▨ Lincolnshire Node OnSS Search Area

▨ Weston Marsh North OnSS Search Area

▨ Weston Marsh South OnSS Search Area

— Railway Line

Construction Access Vehicle Route Type

— Core Access Route

--- Weston Marsh (Both Alignments)

--- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

XX Core Access Route

XX Weston Marsh (Both Alignments)

XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (North of the A52) Onshore ECC Route Option - HGVs

Figure 27.22

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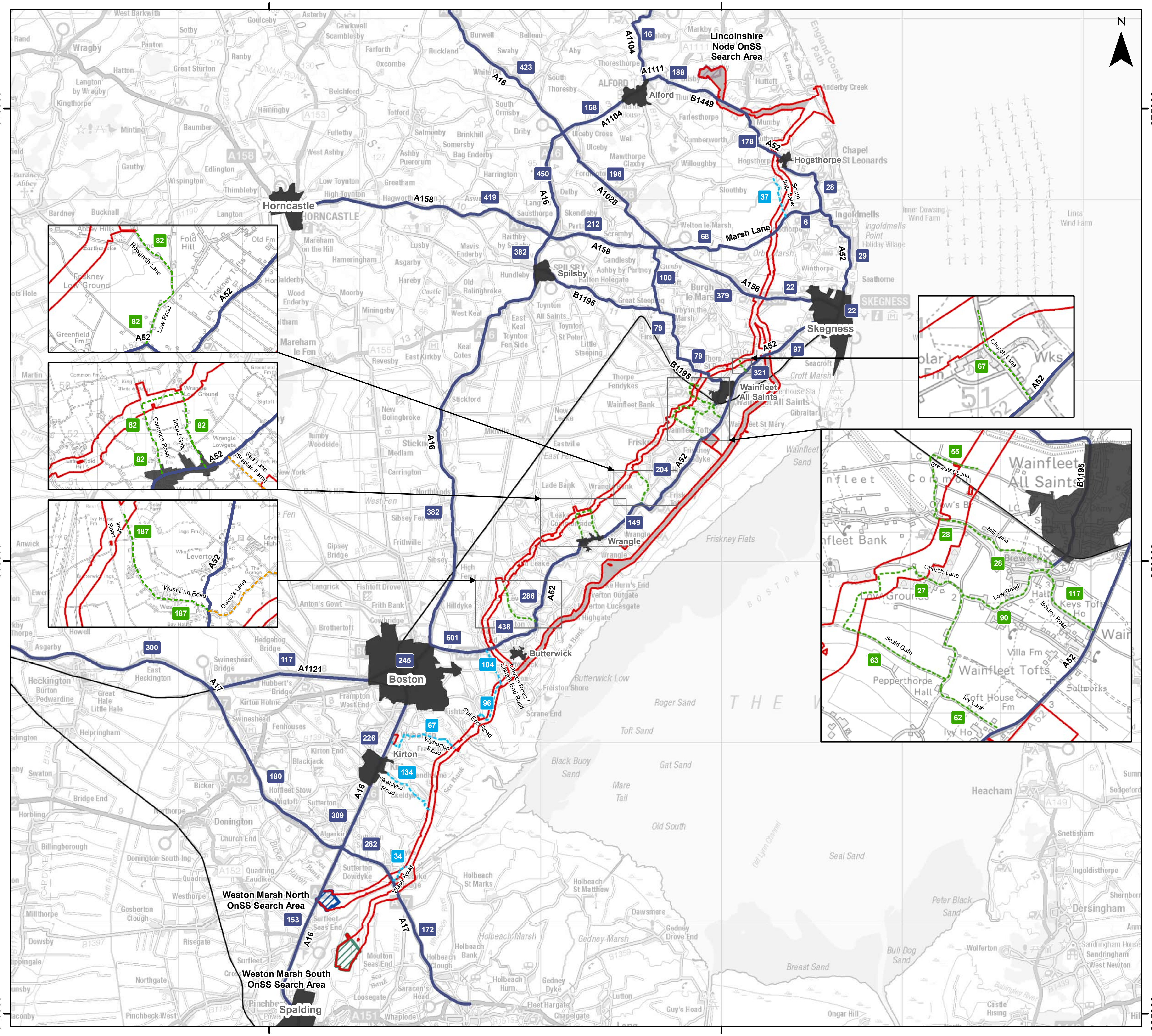

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (North of the A52) Onshore ECC Route Option - Total Vehicles

Figure 27.23

OUTER DOWSING OFFSHORE WIND

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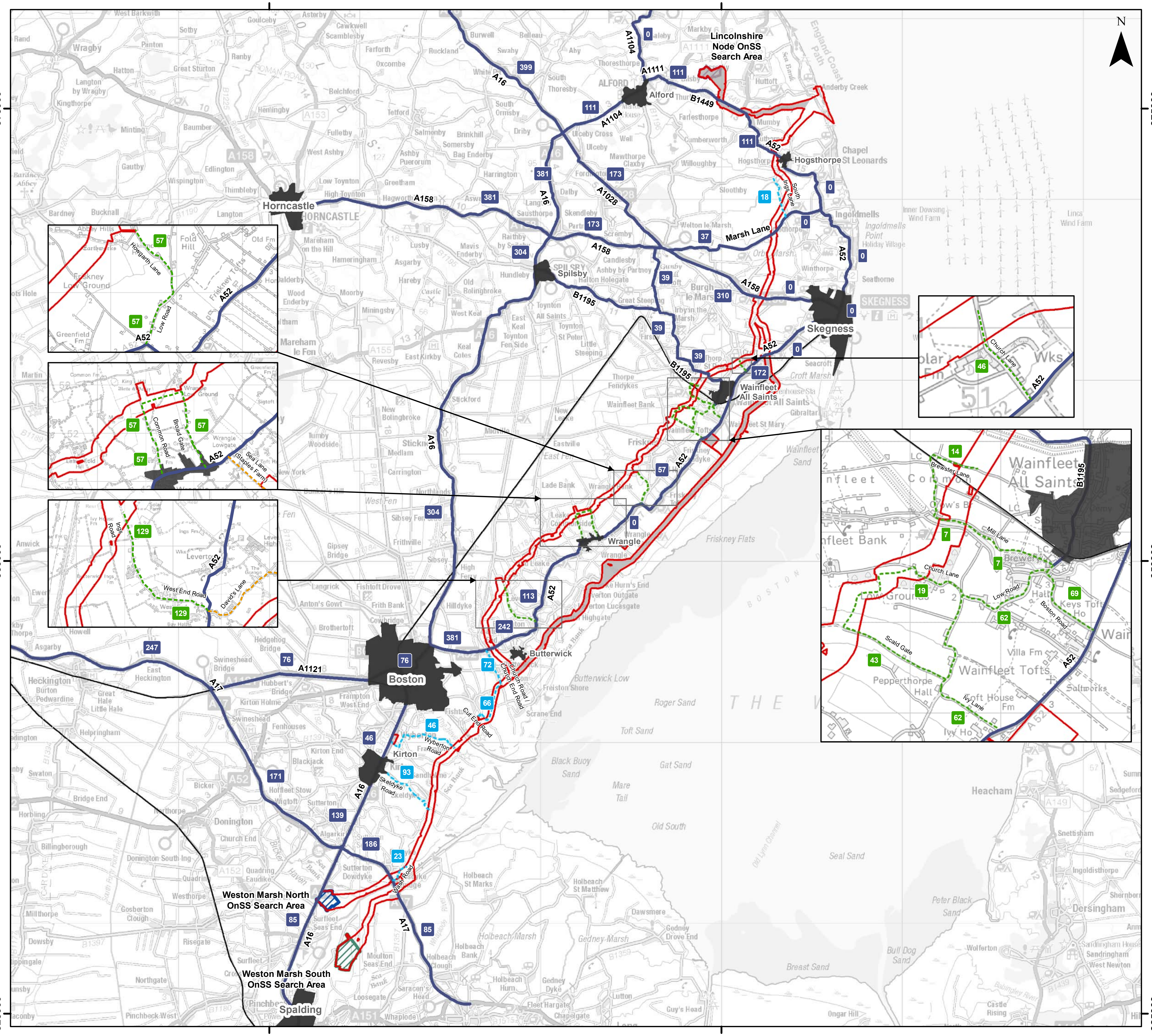

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (North of the A52) Onshore ECC Route Option - HGVS

Figure 27.24

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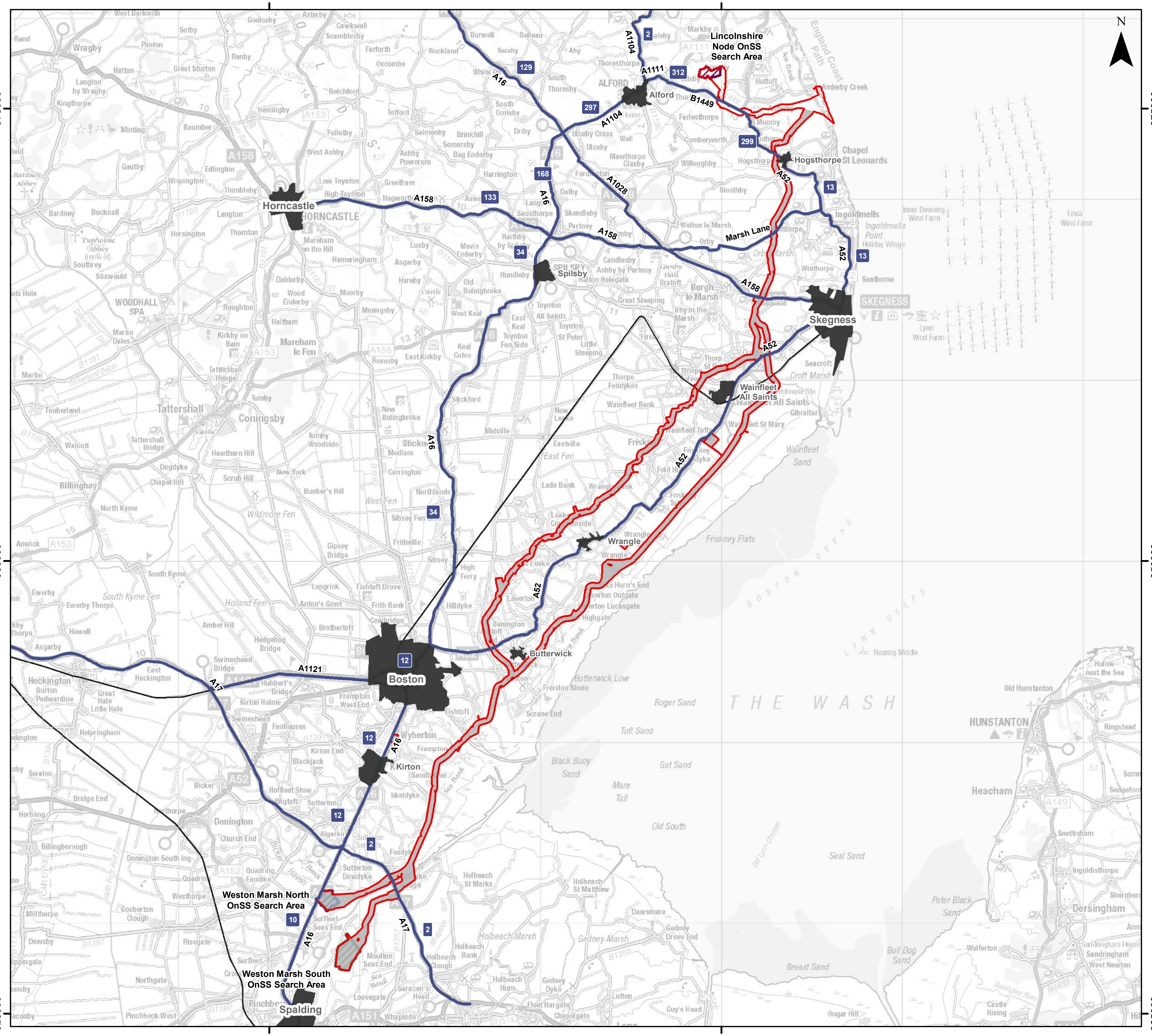

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

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Maximum Daily Construction Traffic - Lincolnshire Node Onshore ECC Route Option - Total Vehicles

Figure 27.25

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525000
550000
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Lincolnshire Node OnSS Search Area
Weston Marsh North OnSS Search Area
Weston Marsh South OnSS Search Area
Horncastle
Spilsby
Alford
Hogsthorpe
Ingoldmells
Skegness
Wainfleet All Saints
Wrangle
Butterwick
Boston
Kirton
Spalding
A16
A158
A52
A1104
A1111
A1028
A1121
A17
B1449
Marsh Lane
122
244
0
THE WASH
Friskney Flats
Roger Sand
Toft Sand
Black Buoy Sand
Gat Sand
Mare Tail
Old South
Seal Sand
Peter Black Sand
Buff Dog Sand
Breast Sand
Wainfleet Sand
Inner Dowsing Wind Farm
Lincs Wind Farm
Lynn Wind Farm

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

Maximum Daily Construction Traffic - Lincolnshire Node Onshore ECC Route Option - HGVs

Figure 27.26

OUTER DOWSING OFFSHORE WIND

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Maximum Design Scenario

27.5.42 Table 27.35 sets out the Maximum Design Scenario (MDS) in environmental terms, defined by the project design envelope.

Table 27.35: Maximum design scenario for Traffic and Transport for the Project alone

Potential effect	Maximum adverse scenario assessed	Justification
Construction		
▪ Driver severance and delay;	The maximum number of total vehicles/HGVs expected at each construction access location, as set out in Table 27.48. Where open trenching technology is an option for the export cable to be installed under a road, it is assumed that there would be a temporary lane or road closure (the worst case for each).	The maximum forecast vehicle movements at each construction access will not necessarily occur simultaneously. The assessment does not consider 24-hour working that may be required for trenchless crossings activities in exceptional circumstance, which would spread employee vehicle movements over a wider time period, although this would only involve construction worker movements associated with different shift times, not HGV movements. The assessment uses a conservative estimate of car sharing and does not take into account the implementation of measures within the Outline TP (Document Reference 8.1.6). The assessment includes a sensitivity test of a proportion of employee vehicle movements (20%) in the morning and evening highway peak hours.
▪ Community severance; ▪ Vulnerable road users and road safety; ▪ Pedestrian Amenity; and	The maximum number of total vehicles/HGVs expected at each construction access location and highway link, as set out in Table 27.48.	

▪ Dust and dirt		
Decommissioning		
All effects considered	Assumed to be no worse than the construction phase.	

Embedded Mitigation

27.5.43 Mitigation measures that were identified and adopted as part of the evolution of the project design (embedded into the project design) and that are relevant to traffic and transport are listed in Table 27.36. The mitigation includes embedded measures such as design changes, and applied mitigation, which is subject to further study or approval of details; these include avoidance measures that will be informed by pre-construction surveys, and necessary additional consents where relevant. The composite of embedded and applied mitigation measures apply to all parts of the Project development works, including pre-construction, construction, operation and maintenance and decommissioning.

Table 27.36: Mitigation relating to Traffic and Transport

Project phase	Mitigation measures embedded into the project design
Construction	
Outline CTMP	An Outline CTMP has been prepared alongside the PEIR (Document reference 8.1.5), which sets out the key principles and types of measures to be implemented during construction of the Project.
Outline TP	An Outline TP is provided alongside the PEIR (see Document reference 8.1.6) and includes a range of demand management measures including a target car share ratio. The Outline TP also provides details of how compliance with targets will be measured, monitored and reported upon.
Outline PAMP	An Outline PAMP has been prepared alongside the PEIR (Document reference 8.1.7) and will form part of the Outline CoCP to be submitted at DCO application, which sets out the anticipated mechanisms for managing the use of PRoW.
Strategy for access	The strategy for access has selected routes that where possible, seek to reduce the impact of traffic upon local communities. Trenchless techniques will be used underneath the railway (if required) and key roads (this will be assessed based on the importance of the road and the impacts on driver delay and the feasibility of using open trenching with single lane closures).
Only roads where the width of the carriageway is unlikely to permit one lane to be kept	A trenchless crossing technique will be utilised for the installation of the export cable under a number of roads, including the main 'A' roads and other key roads in the study area.

Project phase	Mitigation measures embedded into the project design
open will be temporarily closed to install the cable.	Where feasible, for the roads where the open trenching method is to be adopted to remain open at all times and to minimise disruption, it is proposed that: ▪ The road crossings would be completed in two stages maintaining one traffic lane in each direction; ▪ Traffic would be controlled through temporary traffic signals; ▪ A safe route would be maintained for pedestrians through the works areas; ▪ Advanced signing would be implemented to assist drivers in finding alternative routes; and ▪ The works would be staggered so that multiple roads would not be closed at the same time, minimising the potential impact to users of the highway network.
Use of temporary haul roads.	The Project have committed to construction of a Haul road along each open trenched section of the onshore ECC, with distinct access points to reduce construction traffic on local roads. Prioritise the use of haul roads where practicable, to minimise construction vehicles on the highway network. In particular, using the haul road to form a by-pass so that HGVs can avoid Skegness and also part of one-way systems with local access routes, where feasible. Haul routes along the LRN would be identified and agreed with the relevant highway authority between these compounds and the SRN.
Decommissioning	
Best practice construction measures	Decommissioning works would be undertaken in accordance with best practice measures at the relevant time.

27.6 Assessment Criteria and Assignment of Significance

27.6.1 The magnitude of traffic impacts is a function of the existing volumes of traffic, the percentage increase and, changes in the type of traffic and the temporal distribution of traffic due to a development. The determination of magnitude has been undertaken by considering the parameters of the Project, establishing the scope of the receptors that may be affected and quantifying these effects utilising GEART, DMRB LA 112 and professional judgement.

27.6.2 Consideration is given to the composition of the traffic on the road network under both existing and proposed conditions. For example, LGVs have less impact on traffic and the road system than HGVs. Similarly, HGVs can have less impact than AIL vehicles, depending on the frequency of the AILs.

27.6.3 The magnitude of impact has been considered according to the criteria defined in Section 27.5.

27.6.4 The magnitude of the impact is defined in Table 27.37.

Table 27.37: Impact magnitude definitions

Magnitude of impact	Driver severance and delay	Community severance/Dust and dirt	Vulnerable road users and road safety	Pedestrian amenity	Users of PRoW
High	Quantitative assessment of road capacity based on existing traffic flows and predicted future traffic levels Qualitative assessment of inconvenience associated with a temporary lane or road closure	>60% increase in traffic	Qualitative assessment of existing accident records and predicted increases in traffic	Greater than 100% increase in traffic (or HGV component) and a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall	Increase in total traffic flows or HGV flows of 90% and above on a link intersecting a PRoW OR >500m increase (adverse) /decrease (beneficial) in WCH journey length.
Medium	Quantitative assessment of road capacity based on existing traffic flows and predicted future traffic levels Qualitative assessment of inconvenience associated with a	31% to 60% increase in traffic	Qualitative assessment of existing accident records and predicted increases in traffic	Greater than 100% increase in traffic (or HGV component) and a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall	Increase in total traffic flows or HGV flows of 60 to 89% (40 to 89% HGVs) on a link intersecting a PRoW. OR >250m – 500m increase (adverse) or decrease

Magnitude of impact	Driver severance and delay	Community severance/Dust and dirt	Vulnerable road users and road safety	Pedestrian amenity	Users of PRoW
	temporary lane or road closure				(beneficial) in WCH journey length.
Low	Quantitative assessment of road capacity based on existing traffic flows and predicted future traffic levels Qualitative assessment of inconvenience associated with a temporary lane or road closure	<30% increase in traffic	Qualitative assessment of existing accident records and predicted increases in traffic	Greater than 100% increase in traffic (or HGV component) and a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall	Increase in total traffic flows of 30 to 59% (or increase in HGV flows of 10% to 39% on a link intersecting a PRoW. OR 50m to 250m increase (adverse) or decrease (beneficial) in WCH journey length.
Negligible	<30 two-way vehicle movements at a junction approach No temporary lane or road closure	<10% increase in traffic	<10% increase in traffic	Change in traffic flows (or HGV component) less than 100%.	Increase in total traffic flows or HGV flows of 29 % or under (or increase in HGV flows under 10 %) on a link intersecting a PRoW. OR

Magnitude of impact	Driver severance and delay	Community severance/Dust and dirt	Vulnerable road users and road safety	Pedestrian amenity	Users of PRoW
					<50m increase (adverse) or decrease (beneficial) in WCH journey length.

27.6.5 The potential sensitivity of receptors to changes in traffic levels has been determined by considering the study area and the presence of receptors in relation to each potential impact.

27.6.6 For impacts associated with the increase in vehicle movements on the highway network, GEART provide two thresholds, whereby a full assessment of the impact is required:

- Rule 1 – Include highway links where total traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- Rule 2 - Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.

27.6.7 Rules 1 and 2 are used as a screening tool to determine whether or not a full assessment of effects on routes within the study area is required as a result of intensification of road traffic. Where anticipated construction traffic volumes are not greater than 30% (or 10% at sensitive locations), a detailed assessment of effects is not necessary.

27.6.8 In this context, GEART does not define a sensitive area and, therefore, the assessor makes a professional judgement based on experience and the nature of the study area. Each receptor has been assessed individually to determine its sensitivity, between negligible and high, and the assessment criteria chosen are shown in Table 27.38.

27.6.9 For the impacts associated with WCH on PROW, Table 3.11 of DMRB LA 112 sets out the sensitivities, between negligible and very high, based on the hierarchy of the route, the type of use and potential for alternatives.

27.6.10 For the assessment of potential driver severance and delay associated with the use of open trenching technology, the sensitivity of each link has been based on professional judgement and identified based on the following:

- The strategic importance of the road/highway hierarchy;
- The existing types of users of the road; and
- Availability of suitable alternative routes.

Table 27.38: Sensitivity/importance of the environment

Sensitivity	Impact	Description/reason
High	Increase in traffic	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident black spots (with reference to accident data), retirement homes, urban/residential roads without footways that are used by pedestrians.
	WCH users of PRoW	Regional trails and routes (e.g. promoted circular walks) likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution. PRoW for WCH crossing roads with >8,000 to 16,000 vehicles per day.

Sensitivity	Impact	Description/reason
	Use of open trenching	'A' Roads or any roads with no alternative route available, that serve residential properties or farms.
Medium	Increase in traffic	Traffic flow sensitive receptors: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycleways, community centres, parks, recreation facilities.
	WCH users of PRoW	PRoW and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys. PRoW for WCH crossing roads with >4,000 to 8,000 vehicles per day.
	Use of open trenching	Roads that are regularly used, with alternative routes available
Low	Increase in traffic	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions, residential areas with adequate footways.
	WCH users of PRoW	WCH routes which have fallen into disuse through past severance, or which are scarcely used because they do not currently offer a meaningful route for utility/recreational use. PRoW for WCH crossing roads with <4,000 vehicles per day.
	Use of open trenching	Roads that are unlikely to be regularly used, with alternative routes available.
Negligible	Increase in traffic	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads/junctions
	WCH users of PRoW	n/a
	Use of open trenching	n/a

27.6.11 Sensitivity and magnitude of impact as set out within the detailed criteria have then been considered collectively to determine the potential effect and its significance. The collective assessment represents a 'considered assessment' by the assessor, based on the likely sensitivity of the receptor to the change (e.g. is a receptor present which would be affected by the change), and then the magnitude of that change. Table 27.39 is used as a guide to determine the level of effect. 'Major' and 'moderate' effects are considered to be 'significant' in terms of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Table 27.39: Matrix to determine effect significance

Sensitivity of receptor	Magnitude of impact: *Negligible*	*Low*	*Medium*	*High*
Negligible	Negligible (Not significant)	Negligible (Not significant)	Minor (Not significant)	Minor (Not significant)
Low	Negligible (Not significant)	Minor (Not significant)	Minor (Not significant)	Moderate (Significant)
Medium	Minor (Not significant)	Minor (Not significant)	Moderate (Significant)	Major (Significant)
High	Minor (Not significant)	Moderate (Significant)	Major (Significant)	Major (Significant)

Assumptions and Limitations

Covid-19 and the Impact on Personal Injury Accident (PIA) Data Collection

27.6.12 The Covid-19 pandemic, and the associated periods of lockdown and travel restrictions, reduced the number of vehicles on the highway network during 2020 and 2021. Therefore, the period of Personal Injury Accident (PIA) data collection has been extended to 2015 and the most recent data available (which is September 2022), for a robust assessment.

ATC Inaccuracies

27.6.13 There are inaccuracies with the vehicle class categories used in the ATC data, in terms of the identification of HGVs and an overestimated Other Goods Vehicle 1 (OGV1) category. This is due to the method of traffic data collection using ATC equipment, which is based on wheelbase (the distance between the front and rear axles of a vehicle). Since the inception of this method of traffic flow data collection there has been an increase in wheelbase of many non-goods delivery vehicles (such as twin-cab pickup vehicles).

27.6.14 The method of compensating for the inaccuracies in the ATC data is described in Section 4.1.2 of Volume 2, Appendix 27.1: Traffic and Transport Technical Baseline, and in Paragraphs 27.4.24 and 27.4.25 of this chapter.

27.7 Impact Assessment

Construction

27.7.1 This section presents the assessment of impacts arising from the construction phase of the Project.

Driver Severance and Delay

Peak Hour Traffic Impact

27.7.2 A screening process has been undertaken for each construction vehicle route highway link to identify routes that are likely to have sufficient changes in traffic flows in the peak hours on the highway network (which fall between 07:00 to 09:00 and 16:00 to 18:00 at different locations on the highway network) and therefore require further impact assessment for driver severance and delay.

27.7.3 The consideration of potential driver severance and delay has been assessed across the highway network in the study area based on the forecast peak hour trip generation of the Project during the construction phase, using the worst-case assumptions set out in the MDS.

27.7.4 Volume 2, Appendix 27.2: Traffic and Transport Trip Generation sets out the maximum forecast vehicle movements (HGV and LGV) for the construction of the Project during the peak hours on the highway network for the assessment scenarios as described in Paragraphs 27.5.37 to 27.5.41 and the two-way peak hour vehicle movements are shown in Table 27.40 for the Weston Marsh south of the A52 Onshore ECC option (Scenario 1 as the worst case), Table 27.41 for the Weston Marsh north of the A52 Onshore ECC option (Scenario 1 as the worst case) and Table 27.42 for Lincolnshire Node Onshore ECC option.

Table 27.40: Peak hour vehicle movements – Weston Marsh south of the A52 Onshore ECC option

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
8	Sea Lane (Staples Farm)	6	4	10
9	David's Lane	3	2	5
10	Church Road/Church End Road	5	4	9
11	Cut End Road	7	4	11
12	Streetway/Wyberton Roads	4	2	6
13	Station Road/Skeldyke Road	4	2	6
14	Wash Road	11	6	17
23	B1449 Thurlby Road	9	7	16
24	B1449 Long Lane	9	8	17
25	A1104	9	5	14
26	A52 (south of Hogsthorpe)	0	3	3
27	A52 (south of Marsh Lane)	0	3	3
28	South Ings Lane	1	2	3
29	Marsh Lane (between Onshore ECC and the A52)	0	1	1
30	Marsh Lane (between Onshore ECC and the A158)	2	3	5
31	A158 Skegness Road	21	1	22
32	A158 Skegness Road	28	6	34
33	A52 (east of Croft)	21	9	30
34	A52 (Wainfleet)	21	14	35
35	A52 (Holland Lane)	17	14	31

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
36	A52 (Wrangle)	17	17	34
37	A52 (Butterwick)	6	18	24
38	A52 Wainfleet Road (Haltoft End)	15	19	34
39	A52 Wainfleet Road (Haltoft End)	23	19	42
60	A16 (south of Boston)	4	21	25
61	A16 (south of Boston)	12	20	32
62	A17 (south of River Welland)	10	9	19
63	A17 (north of River Welland)	21	12	33
64	A17 (north of the A16)	21	2	23
65	A17 (west of the A1221)	32	6	38
66	A16 (south of the A17)	16	9	25
67	A1121	11	3	14
68	A16 (south of the A155)	12	8	20
69	A16 (north of the A155)	12	8	20
70	A16 (between the A158 and the A1028)	27	7	34
71	A16 (north of the A1028)	27	4	31
72	A1028	16	2	18
73	A158 (between the A1028 and the A16)	19	4	23
74	A158 (west of the A16)	30	4	34
75	A1104 (north of the B1149)	0	2	2
76	A16 (Boston)	11	17	28
80	Lincoln Road, Skegness	21	1	22

Table 27.41: Peak hour vehicle movements – Weston Marsh north of the A52 Onshore ECC option

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
15	Cut End Road	3	6	9
16	Streetway/Wyberton Roads	2	4	6
17	Skeldyke Road	4	8	12
18	Wash Road	1	2	3
23	B1449 Thurlby Road	7	9	16
24	B1449 Long Lane	8	9	17
25	A1104 (Alford)	5	9	14
26	A52 (south of Hogsthorpe)	3	0	3
27	A52 (south of Marsh Lane)	3	0	3

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
28	South Ings Lane	2	2	4
29	Marsh Lane (between Onshore ECC and the A52)	1	0	1
30	Marsh Lane (between Onshore ECC and the A158)	3	3	6
31	A158 Skegness Road	2	10	12
32	A158 Skegness Road	7	26	33
33	A52 (east of Croft)	9	10	19
34	A52 (Wainfleet)	15	15	30
35	A52 (Holland Lane)	15	5	19
36	A52 (Wrangle)	15	0	15
37	A52 (Butterwick)	17	9	26
38	A52 Wainfleet Road (Haltoft End)	20	20	40
39	A52 Wainfleet Road (Haltoft End)	22	32	54
40	Church Lane	2	4	6
41	Brewster Lane	4	1	5
42	Mill Lane	2	1	3
43	Mill Lane (at Brewery)	2	1	3
44	Boston Road	5	6	11
45	Church Lane	1	2	2
46	Low Road (north)	3	5	8
47	Scald Gate	2	4	6
49	Ivy Lane	0	5	5
51	Howgarth Lane	3	5	8
52	Low Road	3	5	8
53	Broadgate	3	5	8
54	Common Road	3	5	8
55	Common Road (near the A52)	3	5	8
58	Ings Road	6	11	17
59	West End Road	6	11	17
60	A16 (south of Boston)	18	4	22
61	A16 (south of Boston)	17	12	29
62	A17 (south of River Welland)	9	7	16
63	A17 (north of River Welland)	10	16	26
64	A17 (north of the A16)	1	14	15
65	A17 (west of the A1121)	5	21	26
66	A16 (south of the A17)	7	7	14
67	A1121	4	6	10
68	A16 (south of the A155)	8	25	33
69	A16 (north of the A155)	8	25	33
70	A16 (between the A158 and the A1028)	7	33	40

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
71	A16 (north of the A1028)	4	33	37
72	A1028	2	16	18
73	A158 (between the A1028 and the A16)	4	16	20
74	A158 (west of the A16)	4	33	37
75	A1104 (north of the B1449)	2	0	2
76	A16 (Boston)	17	6	23
77	Gunby Lane	6	3	9
78	B1195 (Irby in the Marsh)	4	3	7
79	B1195 (Thorpe St. Peter)	4	3	7
80	Lincoln Road, Skegness	2	10	12

Table 27.42: Peak hour vehicle movements – Lincolnshire Node Onshore ECC option

location reference (Figure 27.11)	Highway link	Maximum two-way		
		LGV	HGV	Total
23	B1449 Thurlby Road	4	7	11
24	B1449 Long Lane	1	3	4
25	A1104 (Alford)	1	10	11
26	A52 (south of Hogsthorpe)	7	20	27
27	A52 (south of Marsh Lane)	6	20	26
60	A16 (south of Boston)	5	20	25
61	A16 (south of Boston)	1	0	1
62	A17 (south of River Welland)	1	0	1
63	A17 (north of River Welland)	1	0	1
64	A16 (south of the A17)	1	0	1
65	A16 (south of the A155)	0	0	0
66	A16 (north of the A155)	0	0	0
67	A16 (between the A158 and the A1028)	1	0	1
68	A16 (north of the A1028)	3	0	3
69	A158 (west of the A16)	3	0	3
75	A1104	5	10	15
76	A16 (Boston)	1	10	11

27.7.5 Table 27.40 to Table 27.42 show that the locations forecast to have greater than 30 two-way vehicle movements on the LRN are:

- A16 (between the A158 and A1028, south of the A155, north of the A155, north of A1028 and south of Boston);
- A52 (east of Croft, Wainfleet, Holland Lane, Wrangle and Haltoft End);
- A158 Skegness Road and west of A16; and
- A17 (north of River Welland and west of A1121).

27.7.6 The majority of the peak hour forecasts for the highway links stated above are marginally over the 30 two-way vehicle threshold, for the consideration of undertaking junction capacity assessments, with the exception of the A52 at the A16 junction in the northwest of Boston, which is 54 for Weston Marsh north of the A52 Onshore ECC option. The forecast 2027 morning peak hour traffic flow on the A52 at the junction with the A16 (using the A52 Wainfleet Road (Haltoft End highway link) is 958 (two-way) and therefore the additional 54 vehicle movements associated with the construction of the Project is approximately 6% of the baseline, which is significantly less than the minimum 10% threshold for assessment under EIA Regulations.

27.7.7 Given the robust assessment parameters, it is unlikely the vehicle movements in the peak hours on the highway network would have a material impact at the junctions on these routes. LCC has agreed that, based on these peak hour vehicle forecasts, junction capacity assessments would not need to be undertaken (ETG on the 29th March 2023).

27.7.8 No further assessment of driver severance and delay in terms of peak hour highway capacity is undertaken in this chapter.

Impact of Open Trenching on Highway Links

27.7.9 The other aspect of driver severance and delay would be as a result of the installation of the export cable across roads using open trenching technology, as set out in Paragraph 27.5.7.

27.7.10 Where possible, the affected roads would be kept open with traffic management measures in place to ensure minimal disruption to existing vehicles on the highway network. In this scenario (known as shuttle working) there would be a slight delay as a result of temporary traffic lights or manually operated 'STOP/GO' boards to keep one lane open; however, the works for crossing these roads will be for a short period, no longer than seven days. For some of the roads where the width of the carriageway is unlikely to permit one lane to be kept open, an assessment has been undertaken on the assumption that a temporary road closure would be required.

27.7.11 It is assumed that any temporary road closure would be for a maximum of seven days and should more than one temporary road closure be required during the construction of the Project these would not be simultaneous unless agreed with LCC in advance or via approval of the Final CTMP.

27.7.12 Table 27.43 provides the assessment of driver severance and delay on the highway links as a result of a temporary road or lane closure (the worst-case scenario forecast for each link).

27.7.13 For the identified magnitude of impact for each link, the use of traffic management measures in the Outline CTMP (Document reference 8.1.5) such as suitable signage warning users of the temporary road closures and diversions available, have been considered and will be developed as part of the final CTMP, which would need to be approved by LCC. Where direct access would be affected by a temporary road closure, the Applicant would liaise with those users directly to ensure disruption is as minimal as possible whilst an access is temporarily closed, which could include 24-hour working and/or providing an alternative crossing, where appropriate. This would include liaising with the emergency services, to ensure access could be maintained during the closure.

Table 27.43: Assessment of severance and delay on the highway links as a result of a temporary lane closure – Weston Marsh Onshore ECC option (both alignments)

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Sloothby High Lane	Lane closure	Low	Low - Short duration of temporary closure	**Minor adverse (not significant)**
South Ings Lane				
Marsh Lane				
Ingoldmells Road				
Church Road/Church End Road		Medium		

Table 27.44: Assessment of severance and delay on the highway links as a result of a temporary lane closure – Weston Marsh north of the A52 onshore ECC option

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Church Road	Temporary lane closure	Low	Low - Short duration of temporary closure	**Minor adverse (not significant)**

Table 27.45: Assessment of severance and delay on the highway links as a result of a temporary road closure – Weston Marsh Onshore ECC option (both alignments)

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Langham Road	Temporary road closure	Low	Low - Short duration of temporary closure	**Minor adverse (not significant)**
Lowgate Road				
Listoft Lane				
Bracken Lane				
Billgate Lane				
Middlemarsh Road		Medium		**Minor adverse (not significant)**

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Frampton Roads		Low		**Minor adverse (not significant)**
Marsh Road		Low to High		**Minor to Moderate adverse (significant)**

Table 27.46: Assessment of severance and delay on the highway links as a result of a temporary road closure – Weston Marsh south of the A52 Onshore ECC option

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Sea Lane (Staples Farm access)	Temporary road closure	Low	Low – Short duration of temporary closure	**Minor adverse (not significant)**
Sea Lane (Wainfleet St Mary)				
Sea Lane (RAF Wainfleet)				
Sea Lane (Roman Bank Cottage)				
Oldfield Lane (east)				
Oldfield Lane (south)				
Sea Lane (Leverton Lucasgate)				
Spicer's Lane				
Churchway				
Crowhall Lane				
Clamgpgate Road				
Cut End Road				
Watery Lane				
Sea Lane (Butterwick)				
Leverton Marsh access road		Low		**Minor adverse (significant)**

Table 27.47: Assessment of severance and delay on the highway links as a result of a temporary road closure – Weston Marsh north of the A52 Onshore ECC option

Highway link	Impact (worst case)	Sensitivity	Magnitude of impact	Level of effect
Church Lane	Temporary road closure	Low	Low – Short duration of temporary closure	**Minor adverse (not significant)**
Brewster Lane				
Collision Gate				
Church Lane				
Scald Gate				
Burgh Road				
Cranberry Lane				
Mill Hill				
Small End Road				
Skirmore Road				
Patman's Lane				
Ivery Lane				
Broadgate				
Cragmire Lane				
Double Bank				
Manor Lane				
Seadyke Lane				
Faunt Bridge				
Pode Lane				
Skipmarsh Lane				
Southfields				
Ings Drove				
Ings Road				
Double Bank				

27.7.14 Based on the analysis in Table 27.43 to Table 27.47, for the majority of the highway links, the temporary adverse effects on driver severance and delay would be **minor** in significance, which is **not significant** in terms of the EIA Regulations.

27.7.15 For Marsh Road, if the cable crossing works were undertaken during the summer when tourism is at its' peak, the sensitivity is considered to be high and therefore the level of effect would be **moderate adverse**, which is **significan**t in terms of the EIA Regulations; however, the Applicant will endeavour to programme these to be outside of the summer months when there would much fewer traffic movements on these links and with early communication to the public of the planned temporary closure, which would be for a short duration, the effect would reduce to **minor adverse**, which is **not significant** in terms of the EIA Regulations.

The AADT Percentage Impact Assessment Screening

27.7.16 A screening process has been undertaken for each link to identify routes that are likely to have sufficient changes in daily traffic flows and therefore require further impact assessment for:

- Community severance;
- Vulnerable road users and highway safety;
- Pedestrian amenity; and
- Dust and dirt.

27.7.17 The screening process has been undertaken in accordance with GEART (Rule 1/Rule 2):

- Rule 1 - Include highway links where total traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- Rule 2 - Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.

27.7.18 Percentage impact calculations against a future baseline of 2027, have been undertaken for:

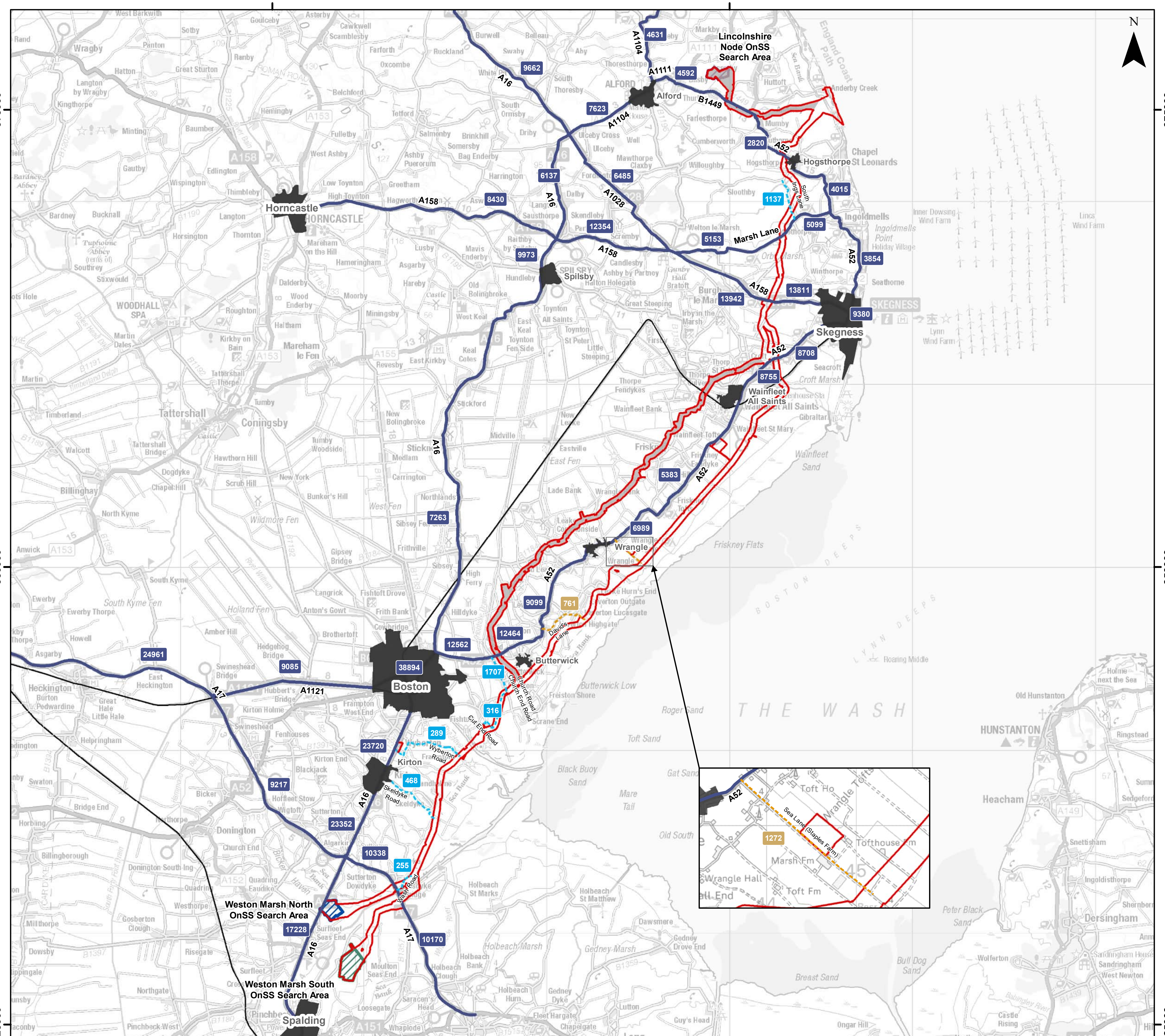
- The trip generation assessment scenarios as set out in Paragraphs 27.5.37 to 27.5.40; and
- The maximum two-way daily trip generation on each highway link shown in Volume 2, Appendix 27.2: Traffic and Transport Trip Generation and Figure 27.17 to Figure 27.26.

27.7.19 The 2027 future baseline traffic flows with the forecast maximum vehicle movements associated with the Project are shown in Figure 27.27 to Figure 27.36

27.7.20 The percentage impacts for the Weston Marsh south of the A52 Onshore ECC option are shown in Table 27.48 for Scenario 1 (HGVs via Skegness) and in Table 27.49 for the highway links with different percentage impacts for Scenario 2 (no HGVs via Skegness).

27.7.21 The percentage impacts for the Weston Marsh north of the A52 Onshore ECC option are shown in Table 27.50 for Scenario 1 (HGVs via Skegness) and in Table 27.51 for the highway links with different percentage impacts for Scenario 2 (no HGVs via Skegness).

27.7.22 The percentage impacts for the Lincolnshire Node Onshore ECC option are shown in Table 27.52.



Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (South of the A52) Onshore ECC Route Option - Total Vehicles
Figure 27.27

OUTER DOWSING OFFSHORE WIND

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Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (South of the A52) Onshore ECC Route Option - HGVs
Figure 27.28

OUTER DOWSING OFFSHORE WIND

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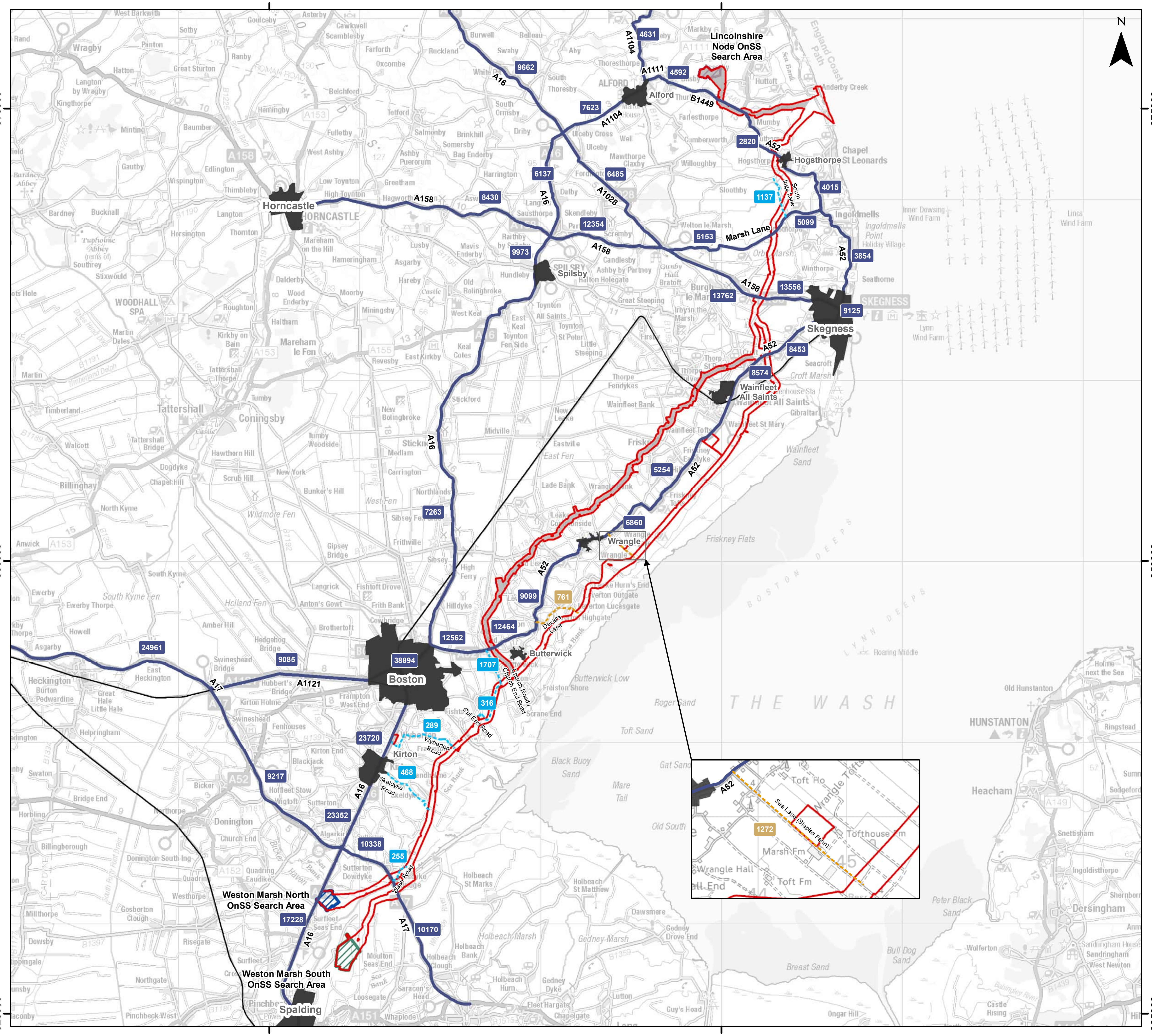

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (South of the A52) Onshore ECC Route Option - Total Vehicles
Figure 27.29

OUTER DOWSING OFFSHORE WIND

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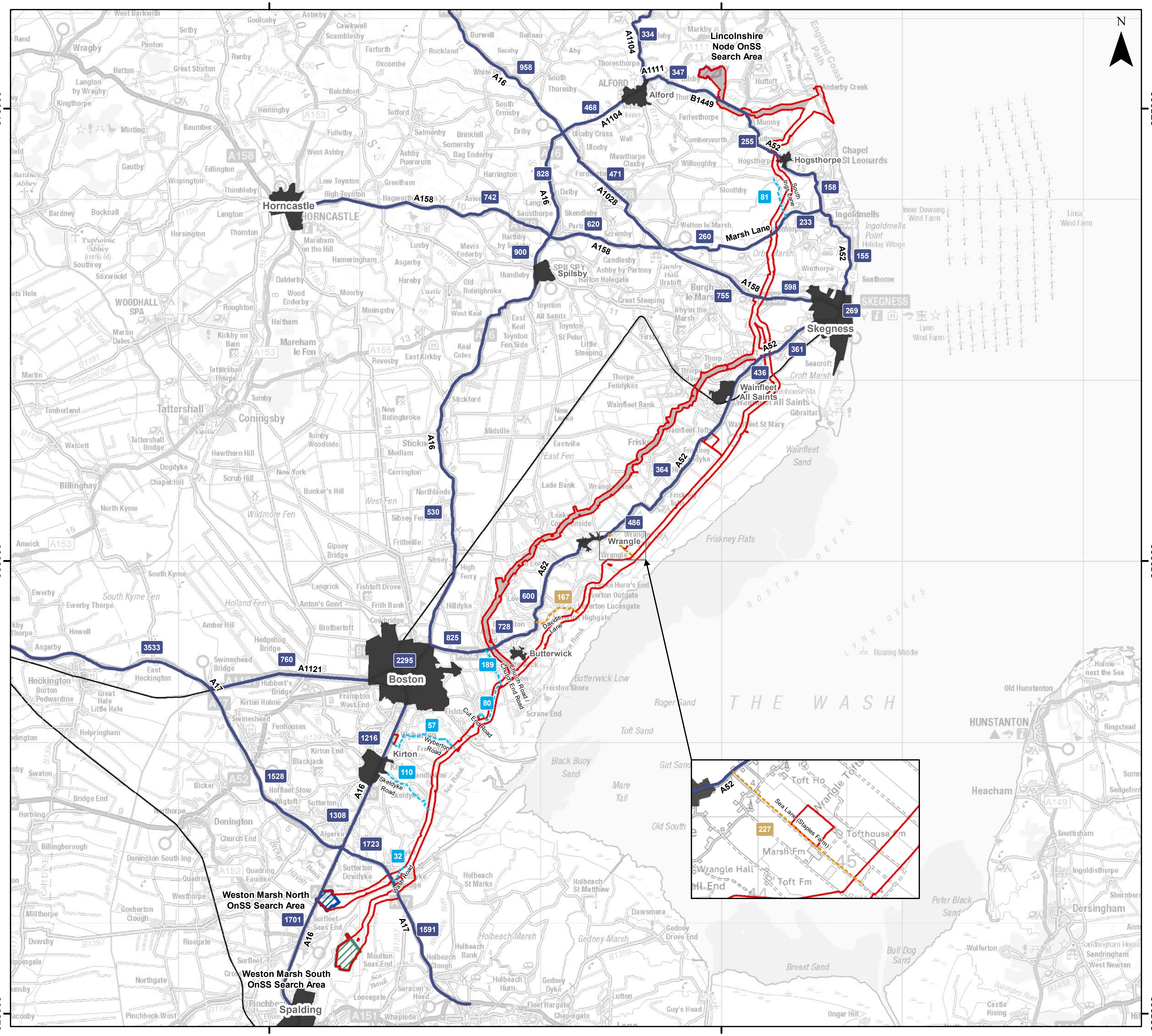

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (South of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (South of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (South of the A52) Onshore ECC Route Option - HGVs
Figure 27.30

OUTER DOWSING OFFSHORE WIND

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Legend

▭ Onshore PEIR Boundary

▨ Lincolnshire Node OnSS Search Area

▨ Weston Marsh North OnSS Search Area

▨ Weston Marsh South OnSS Search Area

— Railway Line

Construction Access Vehicle Route Type

— Core Access Route

- - - Weston Marsh (Both Alignments)

- - - Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

XX Core Access Route

XX Weston Marsh (Both Alignments)

XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (North of the A52) Onshore ECC Route Option - Total Vehicles
Figure 27.31

OUTER DOWSING OFFSHORE WIND

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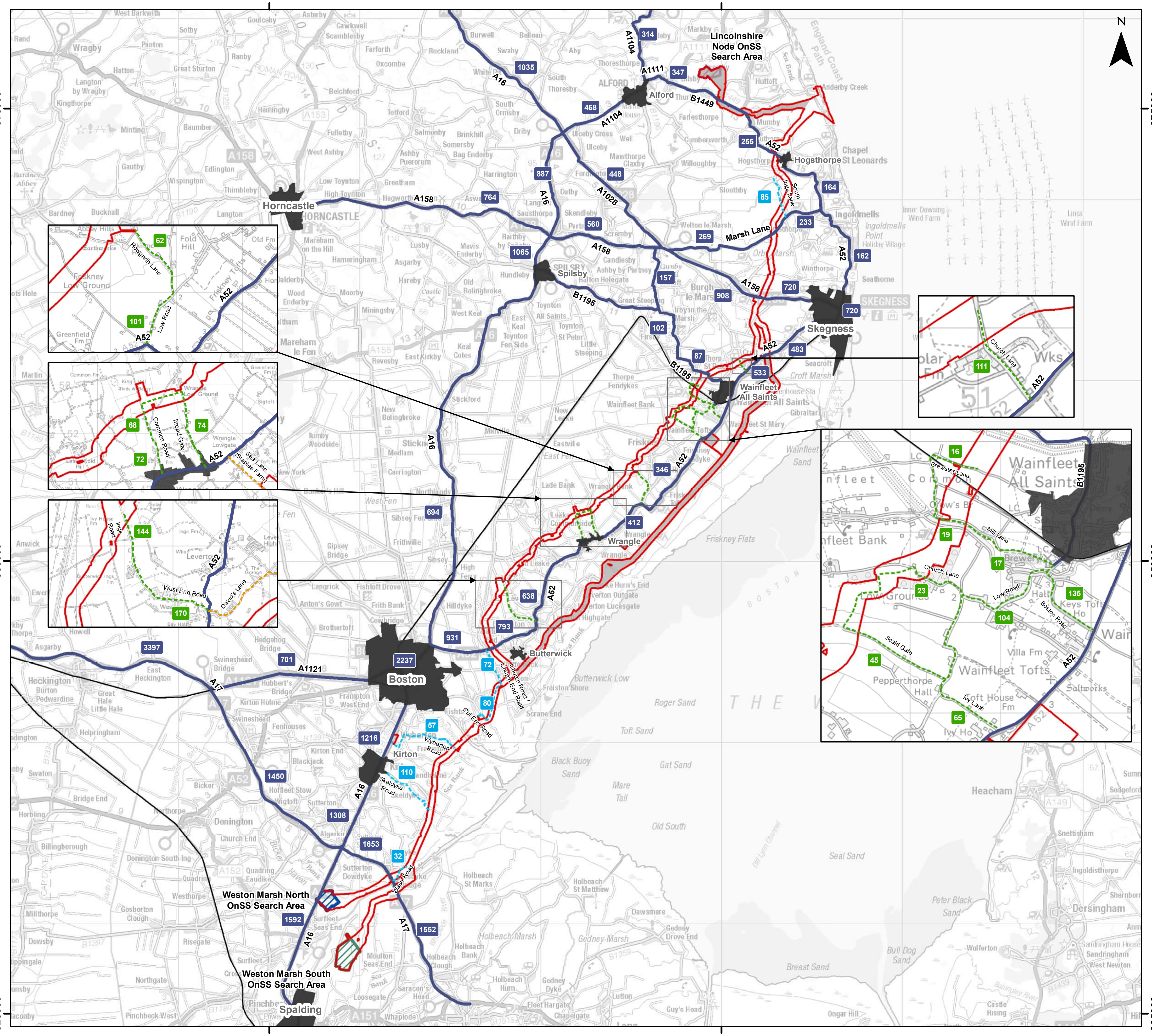

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 1) - Weston Marsh (North of the A52) Onshore ECC Route Option - HGVs
Figure 27.32

OUTER DOWSING OFFSHORE WIND

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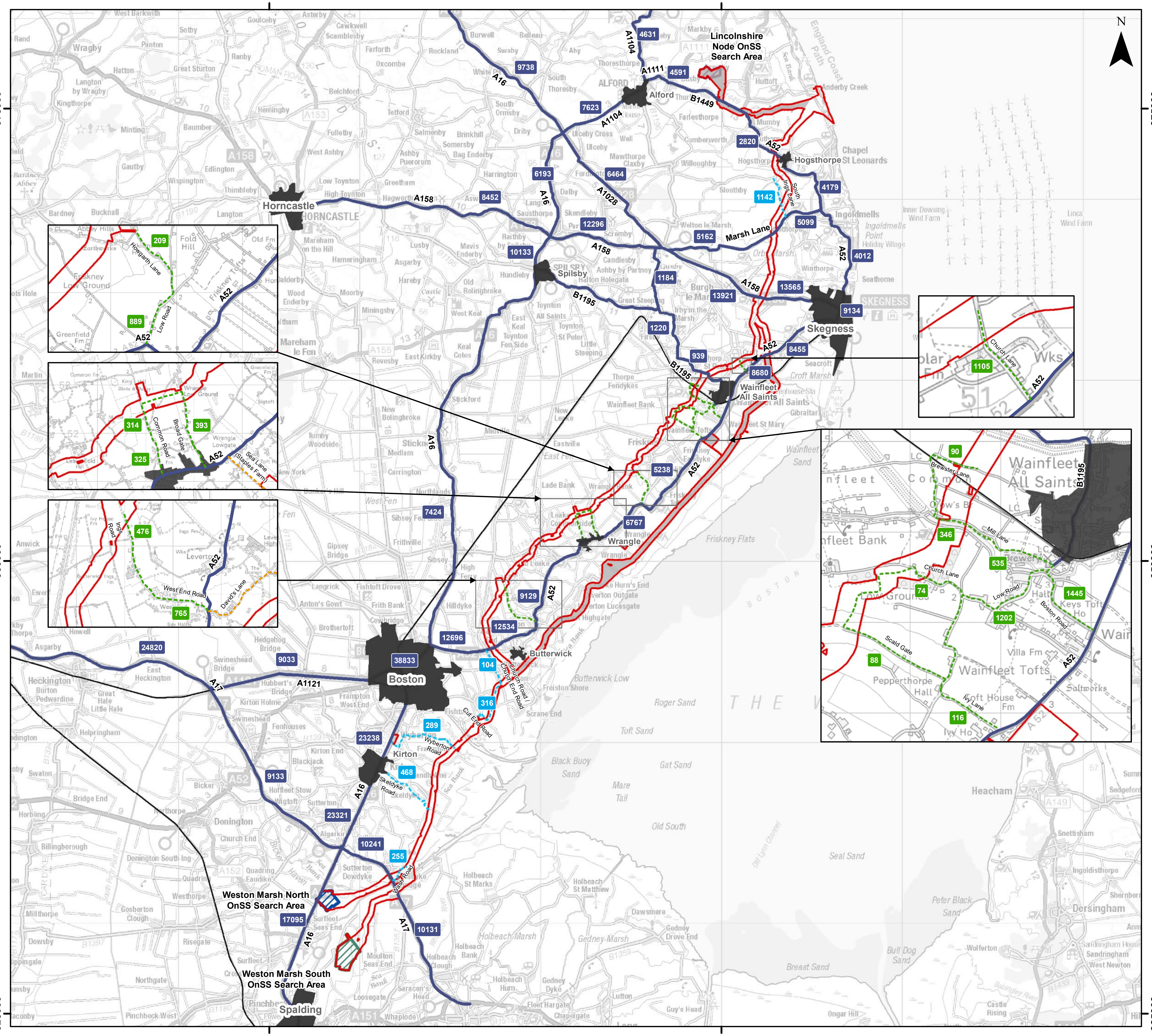

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (North of the A52) Onshore ECC Route Option - Total Vehicles
Figure 27.33

OUTER DOWSING OFFSHORE WIND

Date: 15/05/2023
Produced By: JRS
Revision: 0.1

SLR

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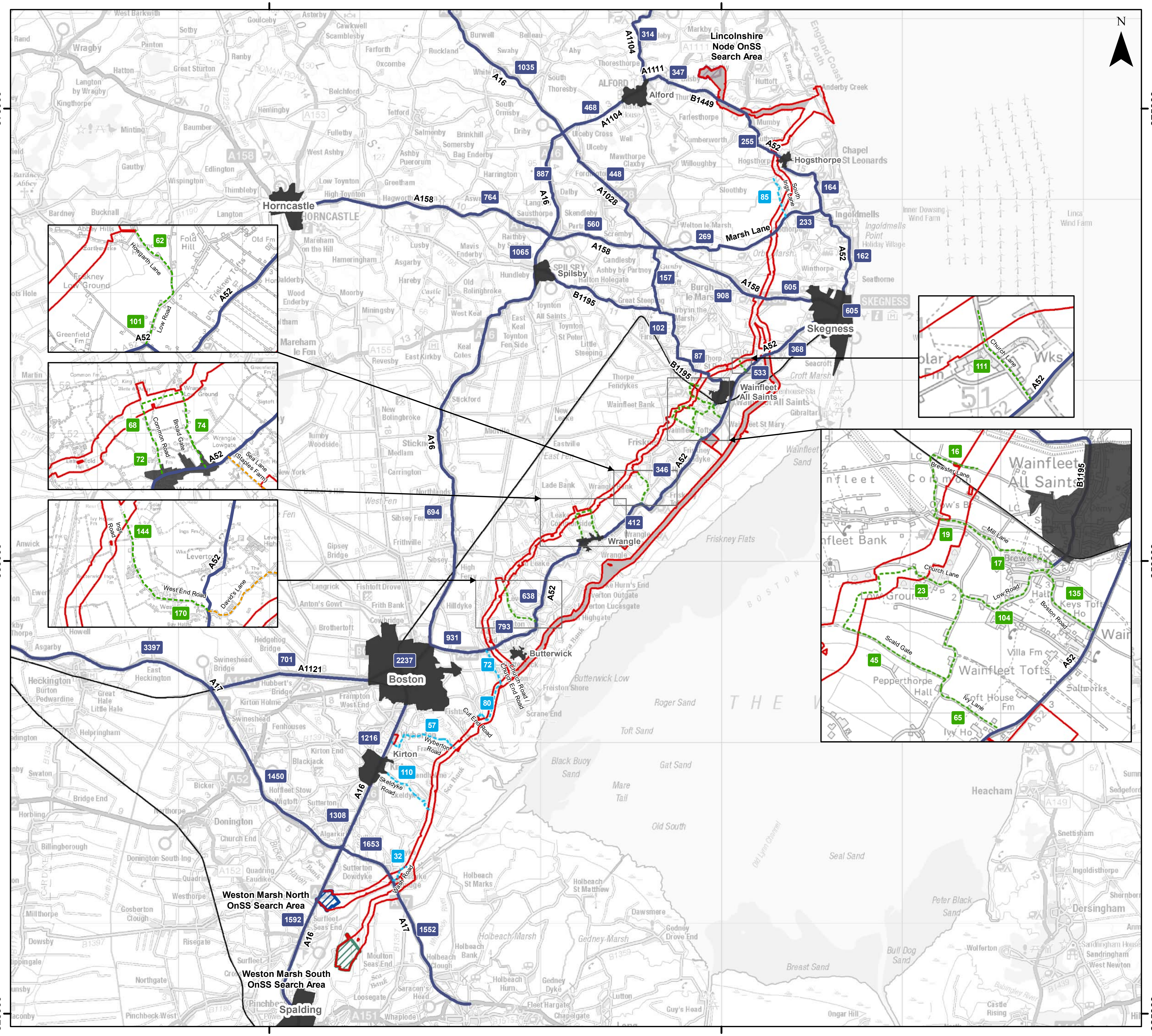

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route
- Weston Marsh (Both Alignments)
- Weston Marsh (North of A52)

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route
- XX Weston Marsh (Both Alignments)
- XX Weston Marsh (North of A52)

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic (Scenario 2) - Weston Marsh (North of the A52) Onshore ECC Route Option - HGVs
Figure 27.34

OUTER DOWSING OFFSHORE WIND

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525000
550000
375000
350000
325000
N
Lincolnshire Node OnSS Search Area
Weston Marsh North OnSS Search Area
Weston Marsh South OnSS Search Area
Horncastle
Alford
Hogsthorpe
Skegness
Wainfleet All Saints
Wrangle
Butterwick
Boston
Kirton
Spilsby
Spalding
4617
9426
4726
7753
2931
5911
4164
8166
9785
3996
7076
38600
23024
9961
16952
A16
A158
A1104
A1111
B1449
A52
A1028
Marsh Lane
A1121
A17
Legend
Onshore PEIR Boundary
Lincolnshire Node OnSS Search Area
Weston Marsh North OnSS Search Area
Weston Marsh South OnSS Search Area
Railway Line
Construction Access Vehicle Route Type
Core Access Route
Construction Access Vehicle Route - Number of Vehicles
XX Core Access Route
Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC
Sources:
Kingston upon Hull
Sheffield
Lincoln
Nottingham
Leicester
Norwich
Coventry
ENGLAND
Coordinate System: British National Grid
0 5 10 km
Scale: 1:200,000
Preliminary Environmental Information Report
2027 Future Baseline with Maximum Daily Construction Traffic - Lincolnshire Node Onshore ECC Route Option - Total Vehicles
Figure 27.35
OUTER DOWSING OFFSHORE WIND
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525000

550000

375000

350000

325000

N

Lincolnshire Node OnSS Search Area

Weston Marsh North OnSS Search Area

Weston Marsh South OnSS Search Area

Horncastle

Alford

Hogsthorpe

Skegness

Spilsby

Wainfleet All Saints

Wrangle

Butterwick

Boston

Kirton

Spalding

A16

A158

A52

A1104

A1111

B1449

A1028

A1121

A17

Marsh Lane

758

314

480

601

388

628

164

505

760

162

1169

1466

1507

390

2161

Legend

- Onshore PEIR Boundary
- Lincolnshire Node OnSS Search Area
- Weston Marsh North OnSS Search Area
- Weston Marsh South OnSS Search Area
- Railway Line

Construction Access Vehicle Route Type

- Core Access Route

Construction Access Vehicle Route - Number of Vehicles

- XX Core Access Route

Note:
Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Sources:

Coordinate System: British National Grid

0 5 10 km

Scale: 1:200,000

Preliminary Environmental Information Report

2027 Future Baseline with Maximum Daily Construction Traffic - Lincolnshire Node Onshore ECC Route Option - HGVs

Figure 27.36

OUTER DOWSING OFFSHORE WIND

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Table 27.48: Maximum daily trip generation percentage impacts – Weston Marsh south of the A52 Onshore ECC option (Scenario 1)

Location reference (Figure 27.11)	Highway link	2027		Peak ODOW trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
8	Sea Lane (Staples Farm)	1,056	77	216	150	1,272	227	20.5	194.8
9	David's Lane	612	64	149	103	761	167	24.3	160.9
14	Church Road/Church End Road	1567	92	140	97	1,707	189	8.9	105.4
15	Cut End Road	221	14	96	66	317	80	43.4	471.4
16	Streetway/Wyberton Roads	222	11	67	46	289	57	30.2	418.2
17	Skeldyke Road	334	17	134	93	468	110	40.1	547.1
18	Wash Road	222	9	34	23	256	32	15.3	255.6
23	B1449 Thurlby Road	4,414	236	178	111	4,592	347	4.0	47.0
24	B1449 Long Lane	2,632	144	188	111	2,820	255	7.1	77.1
25	A1104 (Alford)	7,464	357	158	111	7,622	468	2.1	31.1
26	A52 (south of Hogsthorpe)	3,987	158	28	0	4,015	158	0.7	0.0
27	A52 (south of Marsh Lane)	3,825	155	29	0	3,854	155	0.8	0.0
28	South Ings Lane	1,105	67	32	14	1,137	81	2.9	20.9
29	Marsh Lane (between Onshore ECC and the A52)	5,094	233	6	0	5,100	233	0.1	0.0
30	Marsh Lane (between Onshore ECC and the A158)	5,094	233	59	27	5,153	260	1.2	11.6
31	A158 Skegness Road (east of the Onshore ECC)	13,542	598	269	255	13,811	853	2.0	42.6
32	A158 Skegness Road (west of the Onshore ECC)	13,542	598	400	338	13,942	936	3.0	56.5
33	A52 (east of Croft)	8,359	361	349	255	8,708	616	4.2	70.6
34	A52 (Wainfleet)	8,359	361	396	255	8,755	616	4.7	70.6
35	A52 (Holland Lane)	5,035	289	349	204	5,384	493	6.9	70.6
36	A52 (Wrangle)	6,618	412	371	204	6,989	616	5.6	49.5
37	A52 (Butterwick)	8,843	525	256	75	9,099	600	2.9	14.3
38	A52 Wainfleet Road (Haltoft End)	12,096	550	368	178	12,464	728	3.0	32.4

Location reference (Figure 27.11)	Highway link	2027		Peak ODOW trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
39	A52 Wainfleet Road (Haltoft End)	12,096	550	466	275	12,562	825	3.9	50.0
60	A16 (south of Boston)	23,012	1,169	257	46	23,269	1,215	1.1	3.9
61	A16 (south of Boston)	23,012	1,169	340	139	23,352	1,308	1.5	11.9
62	A17 (south of River Welland)	9,959	1,466	211	124	10,170	1,590	2.1	8.5
63	A17 (north of River Welland)	9,959	1,466	379	256	10,338	1,722	3.8	17.5
64	A17 (north of the A16)	8,953	1,279	264	248	9,217	1,527	2.9	19.4
65	A17 (west of the A1221)	24,521	3,150	440	383	24,961	3,533	1.8	12.2
66	A16 (south of the A17)	16,942	1,507	286	195	17,228	1,702	1.7	12.9
67	A1121	8,916	625	170	135	9,086	760	1.9	21.6
68	A16 (south of the A155)	7,042	390	222	140	7,264	530	3.2	35.9
69	A16 (north of the A155)	9,751	760	222	140	9,973	900	2.3	18.4
70	A16 (between the A158 and the A1028)	5,743	506	394	322	6,137	828	6.9	63.6
71	A16 (north of the A1028)	9,297	636	365	322	9,662	958	3.9	50.6
72	A1028	6,268	275	217	196	6,485	471	3.5	71.3
73	A158 (between the A1028 and the A16)	12,083	386	271	234	12,354	620	2.2	60.6
74	A158 (west of the A16)	8,033	383	397	359	8,430	742	4.9	93.7
75	A1104 (north of the B1149)	4,615	314	16	0	4,631	314	0.3	0.0
76	A16 (Boston)	38,588	2161	305	135	38,893	2,296	0.8	6.2
80	Lincoln Road, Skegness	9,111	269	269	255	9,380	524	3.0	94.8

Table 27.49: Maximum daily trip generation percentage impacts – Weston Marsh south of the A52 Onshore ECC option (Scenario 2)

Location reference (Figure 27.11)	Highway link	2027		Peak ODOW trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
31	A158 Skegness Road (east of the Onshore ECC)	13,542	598	14	0	13,556	598	0.1	0.0
33	A52 (east of Croft)	8,359	361	94	0	8,453	361	1.1	0.0
80	Lincoln Road, Skegness	9,111	269	14	0	1,225	269	0.1	0.0

Table 27.50: Maximum daily trip generation percentage impacts – Weston Marsh north of the A52 Onshore ECC option (Scenario 1)

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
15	Cut End Road	221	14	96	66	316	80	43.2	468.8
16	Streetway/Wyberton Roads	222	11	67	46	289	57	30.2	420.3
17	Skeldyke Road	334	17	134	93	468	110	40.3	531.7
18	Wash Road	222	9	34	23	255	32	15.2	268.8
23	B1449 Thurlby Road	4414	236	178	111	4591	347	4.0	47.3
24	B1449 Long Lane	2632	144	188	111	2820	255	7.1	77.4
25	A1104 (Alford)	7464	357	158	111	7623	468	2.1	31.2
26	A52 (south of Hogsthorpe)	4151	164	28	0	4179	164	0.7	0.0
27	A52 (south of Marsh Lane)	3983	162	29	0	4012	162	0.7	0.0
28	South Ings Lane	1105	67	37	18	1142	85	3.3	27.4
29	Marsh Lane (between the Onshore ECC and the A52)	5094	233	6	0	5099	233	0.1	0.0
30	Marsh Lane (between the Onshore ECC and the A158)	5094	233	68	37	5162	269	1.3	15.7

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
31	A158 Skegness Road (east of the A52)	13,542	598	140	124	13,682	722	1.0	20.8
32	A158 Skegness Road (west of the A52)	13,542	598	379	310	13,921	908	2.8	51.8
33	A52 (east of Croft)	8,359	361	214	124	8,572	485	2.6	34.4
34	A52 (Wainfleet)	8,359	361	324	174	8,682	535	3.9	48.3
35	A52 (Holland Lane)	5,035	289	204	57	5,238	346	4.0	19.6
36	A52 (Wrangle)	6,618	412	149	0	6,767	412	2.3	0.0
37	A52 (Butterwick)	8,843	525	286	113	9,129	638	3.2	21.6
38	A52 Wainfleet Road (Haltoft End)	12,096	550	438	242	12,534	793	3.6	44.0
39	A52 Wainfleet Road (Haltoft End)	12,096	550	601	381	12,696	931	5.0	69.1
40	Church Lane	1,038	64	67	46	1,105	111	6.5	72.3
41	Brewster Lane	35	2	55	14	90	16	159.4	689.0
42	Mill Lane	318	12	28	7	346	19	8.7	57.4
43	Mill Lane (at Brewery)	507	10	28	7	535	17	5.5	66.9
44	Boston Road	1,328	66	117	69	1,445	135	8.8	103.8
45	Church Lane	47	5	27	19	74	23	57.6	406.3
46	Low Road	1,112	43	90	62	1,202	104	8.1	145.5
47	Scald Gate	25	1	63	43	88	45	246.7	2,900.0
49	Ivy Lane	55	3	62	62	116	65	113.5	2,041.4
51	Howgarth Lane	127	5	82	57	209	62	64.7	1173.8,
52	Low Road	807	44	82	57	889	101	10.2	127.7
53	Broadgate	311	18	82	57	393	74	26.4	321.2
54	Common Road	232	12	82	57	314	68	35.4	481.8
55	Common Road (near the A52)	243	15	82	57	325	72	33.8	377.5
58	Ings Road	289	15	187	129	476	144	64.5	865.6
59	West End Road	579	42	187	129	765	170	32.2	310.2

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
60	A16 (south of Boston)	23,012	1,169	226	46	23,238	1,216	1.0	4.0
61	A16 (south of Boston)	23,012	1,169	309	139	23,321	1,308	1.3	11.9
62	A17 (south of River Welland)	9,959	1,466	172	85	10,131	1,552	1.7	5.8
63	A17 (north of River Welland)	9,959	1,466	282	186	10,241	1,653	2.8	12.7
64	A17 (north of the A16)	8,953	1,279	180	171	9,133	1,450	2.0	13.3
65	A17 (west of the A1221)	24,521	3,150	300	247	24,820	3,397	1.2	7.8
66	A16 (south of the A17)	16,942	1,507	153	85	17,095	1,592	0.9	5.7
67	A1121	8,916	625	117	76	9,033	701	1.3	12.2
68	A16 (south of the A155)	7,042	390	382	304	7,424	694	5.4	78.1
69	A16 (north of the A155)	9,751	760	382	304	10,133	1,065	3.9	40.0
70	A16 (between the A158 and the A1028)	5,743	506	450	381	6,193	887	7.8	75.3
71	A16 (north of the A1028)	9,297	636	423	381	9,720	1,017	4.6	59.9
72	A1028	6,268	275	196	173	6,464	448	3.1	63.0
73	A158 (between the A1028 and the A16)	12,083	386	212	173	12,296	560	1.8	44.8
74	A158 (west of the A16)	8,033	383	419	381	8,452	764	5.2	99.5
75	A1104 (north of the B1449)	4,615	314	16	0	4,631	314	0.3	0.0
76	A16 (Boston)	38,588	2161	245	76	38,833	2,237	0.6	3.5
77	Gunby Lane	1,084	117	100	39	1,184	157	9.2	33.6
78	B1195 (Irby in the Marsh)	1,141	62	79	39	1,220	102	6.9	63.5
79	B1195 (Thorpe St. Peter)	8,60	47	79	39	939	87	9.2	83.4
80	Lincoln Road, Skegness	9,111	598	137	122	9,249	720	1.5	20.4

Table 27.51: Maximum daily trip generation percentage impacts – Weston Marsh north of the A52 Onshore ECC option (Scenario 2)

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
31	A158 Skegness Road (east of the Onshore ECC)	13,542	598	15	0	13,557	598	0.1	0.0
33	A52 (east of Croft)	8,359	361	90	0	8,459	361	1.1	0.0
80	Lincoln Road, Skegness	9,111	269	15	0	9,126	269	0.2	0.0

Table 27.52: Maximum daily trip generation percentage impacts – Lincolnshire Node Onshore ECC option

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
23	B1449 Thurlby Road	4,413	236	312	244	4,725	480	7.1	103.7
24	B1449 Long Lane	2,631	144	299	244	2,930	388	11.4	169.8
25	A1104	7,455	356	297	244	7,752	600	4.0	68.6
26	A52 (south of Hogsthorpe)	4,151	164	13	0	4,164	164	0.3	0.0
27	A52 (south of Marsh Lane)	3,983	162	13	0	3,996	162	0.3	0.0
60	A16 (south of Boston)	23,012	1,169	12	0	23,024	1,169	0.1	0.0
61	A16 (south of Boston)	23,012	1,169	12	0	23,024	1,169	0.1	0.0
62	A17 (south of River Welland)	9,959	1,466	2	0	9,961	1,466	0.0	0.0
63	A17 (north of River Welland)	9,959	1,466	2	0	9,961	1,466	0.0	0.0
64	A16 (south of A17)	16,942	1,507	10	0	16,952	1,507	0.1	0.0

Location reference (Figure 27.11)	Highway link	2027		Peak Project trip generation		2027 with peak ODOW		Percentage impact (%)	
		Total	HGV	Total	HGV	Total	HGV	Total	HGV
68	A16 (south of the A155)	7,041	390	34	0	7,075	390	0.5	0.0
69	A16 (north of the A155)	9,750	760	34	0	9,784	760	0.4	0.0
70	A16 (between A158 and A1028)	5,742	506	168	122	5,910	628	2.9	24.1
71	A16 (north of A1028)	9,296	636	129	122	9,425	758	1.4	19.2
74	A158 (west of A16)	8,032	383	133	122	8,165	505	1.7	31.9
75	A1104	4,614	314	2	0	4,616	314	0.0	0.0
76	A16 (Boston)	3,858	2,161	12	0	3,870	2,161	0.0	0.0

27.7.23 Using Table 27.48 to Table 27.52, which shows the maximum predicted daily total and HGV traffic increases on each highway link and in accordance with GEART, Rule 1 and Rule 2, a screening process has been undertaken for each link to identify routes that are likely to have sufficient changes in traffic flows and therefore require further impact assessment.

27.7.24 The screening assessment, which identifies the sensitivity of each link to changes in traffic is shown in Table 27.53 to Table 27.57.

Table 27.53: EIA screening – Weston Marsh south of the A52 Onshore ECC option (Scenario 1)

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
8	Sea Lane (Staples Farm)	20.5	194.8	Medium	10	30	Yes
9	David's Lane	24.3	160.9	Medium	10	30	Yes
14	Church Road/Church End Road	8.9	105.4	High	10	30	Yes
15	Cut End Road	43.4	471.4	Medium	10	30	Yes
16	Streetway/Wyberton Roads	30.2	418.2	Low	30	30	Yes
17	Skeldyke Road	40.1	547.1	High	10	30	Yes
18	Wash Road	15.3	255.6	High	10	30	Yes
23	B1449 Thurlby Road	4.0	47.0	Medium	10	30	Yes
24	B1449 Long Lane	7.2	77.1	Medium	10	30	Yes
25	A1104 (Alford)	2.1	31.1	High	10	30	Yes
26	A52 (south of Hogsthorpe)	0.7	0.0	Medium	10	30	No
27	A52 (south of Marsh Lane)	0.8	0.0	Medium	10	30	No
28	South Ings Lane	2.9	20.9	Low	30	30	No
29	Marsh Lane (between Onshore ECC and the A52)	0.1	0.0	Low	30	30	No
30	Marsh Lane (between Onshore ECC and the A158)	1.2	11.6	Medium	10	30	No
31	A158 Skegness Road (east of the Onshore ECC)	2.0	42.6	Low	30	30	Yes
32	A158 Skegness Road (west of the Onshore ECC)	3.0	56.5	Low	30	30	Yes
33	A52 (east of Croft)	4.2	70.6	High	10	30	Yes
34	A52 (Wainfleet)	4.7	70.6	Low	30	30	Yes
35	A52 (Holland Lane)	6.9	70.6	Low	30	30	Yes
36	A52 (Wrangle)	5.6	49.5	Low	30	30	Yes
37	A52 (Butterwick)	2.9	14.3	Low	30	30	No
38	A52 Wainfleet Road (Haltoft End)	3.0	32.4	Low	30	30	Yes

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
39	A52 Wainfleet Road (Haltoft End)	3.9	50.0	Low	30	30	Yes
60	A16 (south of Boston)	1.1	3.9	Low	30	30	No
61	A16 (south of Boston)	1.5	11.9	Low	30	30	No
62	A17 (south of River Welland)	2.1	8.5	Low	30	30	No
63	A17 (north of River Welland)	3.8	17.5	Low	30	30	No
64	A17 (north of the A16)	2.9	19.4	Low	30	30	No
65	A17 (west of the A1221)	1.8	12.2	Low	30	30	No
66	A16 (south of the A17)	1.7	12.9	Low	30	30	No
67	A1121	1.9	21.6	Low	30	30	No
68	A16 (south of the A155)	3.2	35.9	Low	30	30	Yes
69	A16 (north of the A155)	2.3	18.4	Medium	10	30	No
70	A16 (between the A158 and the A1028)	6.9	63.6	Low	30	30	Yes
71	A16 (north of the A1028)	3.9	50.6	Low	30	30	Yes
72	A1028	3.5	71.3	Low	30	30	Yes
73	A158 (between the A1028 and the A16)	2.2	60.6	Low	30	30	Yes
74	A158 (west of the A16)	4.9	93.7	Medium	10	30	Yes
75	A1104 (north of the B1149)	0.3	0.0	Medium	10	30	No
76	A16 (Boston)	0.8	6.2	High	10	30	No
80	Lincoln Road, Skegness	3.0	94.8	High	10	30	Yes

Table 27.54: EIA screening – Weston Marsh south of the A52 Onshore ECC option (Scenario 2)

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
31	A158 Skegness Road (east of the Onshore ECC)	0.1	0.0	Low	30	30	No
33	A52 (east of Croft)	1.1	0.0	High	10	30	No
80	Lincoln Road, Skegness	0.1	0.0	High	10	30	No

Table 27.55: EIA screening – Weston Marsh north of the A52 Onshore ECC option (Scenario 1)

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
15	Cut End Road	43.2	468.8	Medium	10	30	Yes
16	Streetway/Wyberton Roads	30.2	420.3	Low	30	30	Yes
17	Skeldyke Road	40.3	531.7	High	10	30	Yes
18	Wash Road	15.2	268.8	High	10	30	Yes
23	B1449 Thurlby Road	4.0	47.3	Medium	10	30	Yes
24	B1449 Long Lane	7.2	77.4	Medium	10	30	Yes
25	A1104 (Alford)	2.1	31.2	High	10	30	Yes
26	A52 (south of Hogsthorpe)	0.7	0.0	Medium	10	30	No
27	A52 (south of Marsh Lane)	0.7	0.0	Medium	10	30	No
28	South Ings Lane	3.3	27.4	Low	30	30	No
29	Marsh Lane (between the Onshore ECC and the A52)	0.1	0.0	Low	30	30	No

Location reference (Figure 27.11)	Highway link	Percentage impact Total	HGV	Sensitivity	Threshold (%) Total	HGV	Assessment under EIA Regulations?
30	Marsh Lane (between the Onshore ECC and the A158)	1.3	15.7	Medium	10	30	No
31	A158 Skegness Road (east of the A52)	1.0	20.8	Low	30	30	No
32	A158 Skegness Road (west of the A52)	2.8	51.8	Low	30	30	Yes
33	A52 (east of Croft)	2.6	34.4	High	10	30	Yes
34	A52 (Wainfleet)	3.9	48.3	Low	30	30	Yes
35	A52 (Holland Lane)	4.1	19.7	Low	30	30	No
36	A52 (Wrangle)	2.3	0.0	Low	30	30	No
37	A52 (Butterwick)	3.2	21.5	Low	30	30	No
38	A52 Wainfleet Road (Haltoft End)	3.6	44.0	Low	30	30	Yes
39	A52 Wainfleet Road (Haltoft End)	5.0	69.3	Low	30	30	Yes
40	Church Lane	6.5	71.9	Medium	10	30	Yes
41	Brewster Lane	159.4	689.0	Low	30	30	Yes
42	Mill Lane	8.7	57.4	High	10	30	Yes
43	Mill Lane (at Brewery)	5.5	66.9	High	10	30	Yes
44	Boston Road	8.8	103.8	Low	30	30	Yes
45	Church Lane	57.4	380.0	Low	30	30	Yes
46	Low Road	8.1	144.2	Medium	10	30	Yes
47	Scald Gate	252.0	4,300.0	Low	30	30	Yes
49	Ivy Lane	112.7	2,066.7	Low	30	30	Yes
51	Howgarth Lane	64.6	1,140.0	Low	30	30	Yes
52	Low Road	10.2	129.5	Low	30	30	Yes
53	Broadgate	26.4	316.7	Medium	10	30	Yes
54	Common Road	35.3	475.0	Low	30	30	Yes
55	Common Road (near the A52)	33.7	380.0	Low	30	30	Yes
58	Ings Road	64.7	860.0	Low	30	30	Yes

Location reference (Figure 27.11)	Highway link	Percentage impact Total	HGV	Sensitivity	Threshold (%) Total	HGV	Assessment under EIA Regulations?
59	West End Road	32.3	307.1	Low	30	30	Yes
60	A16 (south of Boston)	1.0	3.9	Low	30	30	No
61	A16 (south of Boston)	1.3	11.9	Low	30	30	No
62	A17 (south of River Welland)	1.7	5.8	Low	30	30	No
63	A17 (north of River Welland)	2.8	12.7	Low	30	30	No
64	A17 (north of the A16)	2.0	13.4	Low	30	30	No
65	A17 (west of the A1221)	1.2	7.8	Low	30	30	No
66	A16 (south of the A17)	0.9	5.6	Low	30	30	No
67	A1121	1.3	12.2	Low	30	30	No
68	A16 (south of the A155)	5.4	77.9	Low	30	30	Yes
69	A16 (north of the A155)	3.9	40.0	Medium	10	30	Yes
70	A16 (between the A158 and the A1028)	8.1	78.9	Low	30	30	Yes
71	A16 (north of the A1028)	4.7	62.7	Low	30	30	Yes
72	A1028	3.4	69.5	Low	30	30	Yes
73	A158 (between the A1028 and the A16)	1.9	49.5	Low	30	30	Yes
74	A158 (west of the A16)	5.4	104.2	Medium	10	30	Yes
75	A1104 (north of the B1449)	0.3	0.0	Medium	10	30	No
76	A16 (Boston)	0.6	3.5	High	10	30	No
77	Gunby Lane	9.2	33.6	Low	30	30	Yes
78	B1195 (Irby in the Marsh)	6.9	63.5	Low	30	30	Yes
79	B1195 (Thorpe St. Peter)	9.2	83.4	Low	30	30	Yes
80	Lincoln Road, Skegness	1.5	20.4	High	10	30	No

Table 27.56: EIA screening – Weston Marsh north of the A52 Onshore ECC option (Scenario 2)

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
31	A158 Skegness Road (east of the Onshore ECC)	0.1	0.0	Low	30	30	No
33	A52 (east of Croft)	1.1	0.0	High	10	30	No
80	Lincoln Road, Skegness	0.2	0.0	High	10	30	No

Table 27.57: EIA screening – Lincolnshire Node Onshore ECC option

Location reference (Figure 27.11)	Highway link	Percentage impact		Sensitivity	Threshold (%)		Assessment under EIA Regulations?
		Total	HGV		Total	HGV	
4	B1449 Thurlby Road	7.1	103.7	Medium	10	30	Yes
5	B1449 Long Lane	11.4	169.8	Medium	10	30	Yes
6	A1104	4.0	68.6	High	10	30	Yes
7	A52 (south of Hogsthorpe)	0.3	0.0	Medium	10	30	No
8	A52 (south of Marsh Lane)	0.3	0.0	Medium	10	30	No
16	A16 (south of Boston)	0.1	0.0	Low	30	30	No
17	A16 (south of Boston)	0.1	0.0	Low	30	30	No
18	A17 (south of River Welland)	0.0	0.0	Low	30	30	No
19	A17 (north of River Welland)	0.0	0.0	Low	30	30	No
22	A16 (south of A17)	0.1	0.0	Low	30	30	No
24	A16 (south of the A155)	0.5	0.0	Low	30	30	No
25	A16 (north of the A155)	0.4	0.0	Low	30	30	No
26	A16 (between A158 and A1028)	2.9	24.1	Low	30	30	No
27	A16 (north of A1028)	1.4	19.2	Low	30	30	No
30	A158 (west of A16)	1.7	31.9	Medium	10	30	Yes

31	A1104	0.0	0.0	Low	30	30	No
32	A16 (Boston)	0.0	0.0	High	10	30	No

27.7.25 The highway links that are identified for further assessment in terms of the impact of a change in traffic volume are summarised in Table 27.58 in relation to the relevant Onshore ECC option being assessed.

Table 27.58: Highway links taken forward for assessment

Location reference (Figure 27.11)	Highway link	Percentage impacts for the relevant Onshore ECC option (%)		Onshore ECC option
		Total	HGV	
8	Sea Lane (Staples Farm)	20.5	194.8	Weston Marsh south of the A52 Onshore ECC route Option
9	David's Lane	24.3	160.9	
15	Church Road/Church End Road	8.9/8.9	105.4/105.4	Weston Marsh Onshore ECC option (both alignments)
16	Cut End Road	43.2/43.2	468.8/468.8	
17	Streetway/Wyberton Roads	30.2/30.2	420.3/420.3	
18	Skeldyke Road	40.3/40.3	531.7/531.7	
14	Wash Road	15.2/15.2	268.8/268.8	
23	B1449 Thurlby Road	4.0/4.0/7.1	47.3/47.3/103.7	All Onshore ECC options
24	B1449 Long Lane	7.2/7.2/11.4	77.4/77.4/169.8	
25	A1104 (Alford)	2.1/4	31.2/68.6	
31	A158 (east of the Onshore ECC)	1.0/2.0	20.8/42.6	Weston Marsh Onshore ECC option (both alignments)
32	A158 (west of the Onshore ECC)	3.0/3.0	51.8/56.5	
33	A52 (east of Croft)	2.6/4.2	34.4/70.7	
34	A52 (Wainfleet)	3.9/4.7	48.3/70.7	
35	A52 (Holland Lane)	4.0/6.9	19.6/70.4	
36	A52 (Wrangle)	2.3/5.6	49.5	
38	A52 Wainfleet Road (Haltoft End)	3.0/3.6	32.3/44.0	
39	A52 Wainfleet Road (Haltoft End)	3.9/5.0	49.9/69.1	
68	A16 (south of the A155)	3.2/5.4	35.9/78.1	
69	A16 (north of the A155)	3.9	40.0	Weston Marsh north of the A52 Onshore ECC option
70	A16 (between the A158 and the A1028)	3.9/6.9	63.6/78.9	Weston Marsh Onshore ECC option (both alignments)
71	A16 (north of the A1028)	3.9/8.1	50.6/62.7	

Location reference (Figure 27.11)	Highway link	Percentage impacts for the relevant Onshore ECC option (%)		Onshore ECC option
		Total	HGV	
72	A1028	3.5/4.7	69.6/71.4	
73	A158 (between the A1028 and the A16)	2.2/3.4	49.5/62.7	
74	A158 (west of the A16)	1.7/1.9/4.9	31.9/93.8/104.2	All Onshore ECC options
80	Lincoln Road, Skegness	1.5/3.0	20.4/94.8	Weston Marsh Onshore ECC option (both alignments)
40	Church Lane	6.5	72.3	Weston Marsh north of the A52 Onshore ECC option
41	Brewster Lane	159.4	689.0	
42	Mill Lane	8.7	57.4	
43	Mill Lane (at Brewery)	5.5	66.9	
44	Boston Road	8.8	103.8	
45	Church Lane	57.6	406.3	
46	Low Road	8.1	145.5	
47	Scald Gate	246.7	2,900.0	
49	Ivy Lane	113.5	2,041.4	
51	Howgarth Lane	64.7	1,173.8	
52	Low Road	10.2	127.7	
53	Broadgate	26.4	321.2	
54	Common Road	35.4	481.8	
55	Common Road (near the A52)	33.8	377.5	
58	Ings Road	64.5	865.6	
59	West End Road	32.2	310.2	
77	Gunby Lane	9.2	33.6	
78	B1195 (Irby in the Marsh)	6.9	63.5	
79	B1195 (Thorpe St. Peter)	9.2	83.4	

Community Severance

27.7.26 In Table 27.37 (Magnitude of Impact definitions), less than a 10% increase in total traffic is considered a negligible magnitude of impact of the potential effects of community severance. Table 27.59 summarises the level of effects on the highway links with a negligible magnitude of impact (less than 10% increase in total traffic).

Table 27.59: Negligible magnitude of impact (community severance) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
23	B1449 Thurlby Road	Medium	**Minor**	All of the Onshore ECC options
24	B1449 Long Lane	Medium	**Minor**	
25	A1104 (Alford)	High	**Minor**	
74	A158 (west of the A16)	Medium	**Minor**	
14	Church Road/Church End Road	High	**Minor**	Weston Marsh Onshore ECC option (both alignments)
32	A158 (west of the Onshore ECC)	Low	**Negligible**	
33	A52 (east of Croft)	High	**Minor**	
34	A52 (Wainfleet)	Low	**Negligible**	
35	A52 (Holland Lane)	Low	**Negligible**	
38	A52 Wainfleet Road (Haltoft End)	Low	**Negligible**	
39	A52 Wainfleet Road (Haltoft End)	Low	**Negligible**	
36	A52 (Wrangle)	Low	**Negligible**	
31	A158 (east of the Onshore ECC)	Low	**Negligible**	
32	A158 (west of the Onshore ECC)	Low	**Negligible**	
68	A16 (south of the A155)	Low	**Negligible**	
70	A16 (between the A158 and the A1028)	Low	**Negligible**	
71	A16 (north of the A1028)	Low	**Negligible**	
72	A1028	Low	**Negligible**	
73	A158 (between the A1028 and the A16)	Low	**Negligible**	
80	Lincoln Road, Skegness	High	**Minor**	
69	A16 (north of the A155)	High	**Minor**	Weston Marsh north of the A52 Onshore ECC option
40	Church Lane	Medium	**Minor**	
42	Mill Lane	Medium	**Minor**	
43	Mill Lane (at Brewery)	High	**Minor**	
44	Boston Road	Low	**Negligible**	
46	Low Road	Medium	**Minor**	
77	Gunby Lane	Low	**Negligible**	
78	B1195 (Irby in the Marsh)	Low	**Negligible**	
79	B1195 (Thorpe St. Peter)	Low	**Negligible**	

27.7.27 In summary, there would be a **negligible** or **minor adverse** effect of community severance on all the highway links in Table 27.59, which is **not significant** in terms of the EIA Regulations.

27.7.28 Table 27.60 summarises the level of effects on the highway links with a low magnitude of impact (11% to 30% increase in total traffic).

Table 27.60: Highway links with a low magnitude of impact (community severance) – summary of effects

Location reference (Figure 27-12)	Highway link	Sensitivity	Level of effect	Onshore ECC option
18	Wash Road	High	**Moderate**	Weston Marsh Onshore ECC option (both alignments)
8	Sea Lane (Staples Farm)	Medium	**Minor**	Weston Marsh south of the A52 Onshore ECC route Option
9	David's Lane			
53	Broadgate	Medium	**Minor**	Weston Marsh north of the A52 Onshore ECC option

27.7.29 As Table 27.60 shows, the level of effect in terms of community severance on Sea Lane (Staples Farm), David's Lane and Broadgate would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

27.7.30 The level of effect on Wash Road would be **moderate adverse** and therefore **significant** in terms of EIA regulations. However, given the very low baseline traffic flows on Wash Road, the number of daily vehicles forecast to use Wash Road for the construction of the Project (less than one HGV per hour) and since there is an open field on the other side of the carriageway to the dwellings, the magnitude of impact can be reduced to negligible resulting in a **minor adverse** level of effect, which is **not significant** in terms of EIA Regulations. The implementation of the Final CTMP would further reduce any likely effects of community severance.

27.7.31 Table 27.61 summarises the level of effects on the highway links with a medium magnitude of impact (31% to 60% increase in total traffic).

Table 27.61: Highway links with a Medium magnitude of impact (community severance) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
15	Cut End Road	Medium	**Moderate**	Weston Marsh Onshore ECC option (both alignments)
16	Streetway/Wyberton Roads	Low	**Minor**	
17	Skeldyke Road	High	**Major**	

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
45	Church Lane	Low	**Minor**	Weston Marsh north of the A52 Onshore ECC option
54	Common Road	Low	**Minor**	
55	Common Road (near the A52)	Low	**Minor**	
59	West End Road	Low	**Minor**	

27.7.32 As Table 27.61 shows, for Streetway/Wyberton Roads (Weston Marsh Onshore ECC option (both alignments) and Church Lane, Common Road and West End Road (Weston Marsh north of the A52 Onshore ECC option, the level of effect in terms of community severance would be **minor adverse** and therefore **not significant** in terms of EIA regulations.

27.7.33 The level of effect in terms of community severance on Cut End Road and Skelydye Road would be **moderate adverse** and **major adverse** and therefore **significant** in terms of EIA regulations.

27.7.34 For Cut End Road, the **moderate adverse** effect on community severance would only be experienced for approximately 450m and a passing bay would be provided if required. Taking into consideration the very low baseline vehicle movements (212 two-way over 24 hours) and given in reality, the forecast 66 two-way daily HGVs would be much less as this figure would be spread across the various work areas in this location, one of which would be accessed using the haul road only), with the implementation of measures in the Final CTMP, and the implementation of the Final Travel Plan to minimise the number of construction workforce vehicle movements, the actual magnitude of impact can be considered low adverse. This results in a **minor adverse** level of effect on community severance, which is **not significant** in terms of the EIA Regulations

27.7.35 For Skeldyke Road, (including Station Road connecting from the A52), where the identified **major adverse** effect of community severance would be felt the most, there are footways for pedestrians to access the playground and a controlled pedestrian crossing on the A16 to access the local facilities in Kirton. Taking this into consideration, the sensitivity can be reduced to medium. Given the low baseline vehicle movements (334 two-way over 24 hours), the additional 94 two-way HGVs per day associated with the Project (which would be approximately one every 20 minutes in each direction), and with the implementation of measures in the Final CTMP, and the implementation of the Final Travel Plan to minimise the number of construction workforce vehicle movements, the magnitude of impact can be considered low adverse. This results in a **minor adverse** level of effect on community severance, which is **not significant** in terms of the EIA Regulations.

27.7.36 Table 27.62 summarises the level of effects on the highway links with a high magnitude of impact (greater than 60% increase in total traffic).

Table 27.62: Highway links with a high magnitude of impact (community severance) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
41	Brewster Lane	Low	**Moderate**	Weston Marsh north of the A52 Onshore ECC option
47	Scald Gate	Low		
49	Ivy Lane			
51	Howgarth Lane			
58	Ings Road			

27.7.37 As Table 27.62 shows, the level of effect in terms of community severance on these highway links would be **moderate adverse** and therefore **significant** in terms of EIA regulations. However, given these highway links are rural, with very few residential dwellings and no local facilities, the magnitude of impact can be reduced to negligible resulting in a **negligible adverse** level of effect, which is **not significant** in terms of EIA Regulations. The implementation of the Final CTMP would further reduce any likely effects of community severance.

27.7.38 In summary, there would be **no significant effects** of community severance associated with any of the Onshore ECC options.

Vulnerable Road Users and Road Safety

27.7.39 In Table 27.37 (Magnitude of impact definitions), less than a 10% increase in total traffic is considered a negligible magnitude of impact of the potential effects on vulnerable road users and road safety. The level of effects on these highway links is the same as for community severance as set out in Table 27.59.

27.7.40 In summary, there would be a **negligible** or **minor adverse** effect on vulnerable road users and road safety on all the highway links in Table 27.59, which is **not significant** in terms of the EIA Regulations.

27.7.41 For highway links with a greater than 10% increase in total traffic, Table 27.37 (Magnitude of impact definitions), states a qualitative assessment of existing accident records and predicted increases in traffic should be undertaken.

27.7.42 The assessment for this potential effect is presented in Table 27.63.

Table 27.63: Review of vulnerable road users and road safety – summary of effects

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
15	Cut End Road	Weston Marsh north of the A52 and Weston Marsh south of the A52	43.2	Medium	There have been no PIAs on this highway link in the assessment period. Taking the existing road safety levels, low traffic baseline (221 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (66 per day, or around six two-way movements per hour), the magnitude of impact can be considered to be low/medium adverse. Notwithstanding the above, to ensure safety is ensured on this section of the construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures (such as potential passing places if required) implemented as part of the final CTMP, the magnitude of impact can therefore be reduced to minor/negligible adverse**.** As this highway link has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
16	Streetway/Wyberton Roads		30.2	Low	Whilst there have been no PIAs on Streetway/Wyberton Roads, there have been several on the other highway links that make up the construction vehicle route from the A16:

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					▪ One PIA on Streetway, which was serious in severity and involved an HGV and a cyclist, which entered the carriageway from an adjacent property in front of the HGV; ▪ One PIA at the Streetway/Low Road/Saundergate Road East junction, which was slight in severity and due to driver error; and ▪ On PIA at the Millfield East/A16 junction, which was slight in severity and due to driver error. None of the PIAs were due to an increase in traffic. Taking the existing road safety levels, low traffic baseline (222 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (46 per day, or around 4 two-way movements per hour), the magnitude of impact can be considered to be low adverse. To ensure safety is ensured on these construction access routes, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures (such as potential passing places if required) implemented as part of the final CTMP, the magnitude of impact can be reduced to negligible adverse. As these highway links have low sensitivity, the resulting level of effect on vulnerable road

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					users and road safety would be **negligible adverse**, which is **not significant** in terms of the EIA Regulations.
17	Skeldyke Road		40.3	High	There have been two PIAs on Skeldyke Road, both of which were slight in severity. The PIA at the Skeldyke Road/Station Road junction was a rear end shunt (a type of collision where the front end of a vehicle collides with the rear of another vehicle at low speed) as a result of a vehicle braking to allow an oncoming vehicle to proceed due to on-street parking. Since this PIA occurred (2015), there is now a double yellow line on all sections of the carriageway at this location, restricting on-street parking, improving road safety. The second PIA on Skeldyke Road was associated with a drunk driver and no other vehicle involved. There has also been one PIA on Nidd's Lane, which is part of the construction vehicle route from the A16, which was slight in severity, involving a motorcyclist sliding in the rain with no other vehicles involved. Taking the existing road safety levels, low traffic baseline (334 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (96 per day, or around 8 two-way movements per hour), the magnitude of impact can be considered to be low adverse.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					With warning signage that would be installed to make all road users aware of the construction traffic associated with the Project, other (such as potential passing places if required) measures implemented as part of the Final CTMP, the magnitude of impact can be reduced to negligible adverse. As these highway links have high sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **significant** in terms of the EIA Regulations.
18	Wash Road		15.2	High	There has been one PIA on Wash Road in the assessment period, associated with a vehicle travelling at speed entered the ditch adjacent to the carriageway during darkness. Taking the existing road safety levels, low traffic baseline (222 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (23 per day, or around 2 two-way movements per hour), the magnitude of impact can be considered to be low adverse. With warning signage that would be installed to make all road users aware of the construction traffic associated with the Project, other measures (such as potential passing places if required) implemented as part of the Final CTMP, the magnitude of impact can be reduced to negligible adverse**.** As this highway link has high sensitivity, the resulting level of effect on vulnerable road users and road

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
8	Sea Lane (Staples Farm)	Weston Marsh south of the A52	20.5	Medium	There has been one PIA on the Staples Farm access road in the assessment period, associated with a collision between two vehicles during darkness. Taking the existing road safety level, the existing use by HGVs and large agricultural vehicles and the existing passing places, the magnitude of impact can be considered to be low adverse. With warning signage that would be installed to make all road users aware of the construction traffic associated with the Project and other measures implemented as part of the Final CTMP, the magnitude of impact can be reduced to negligible adverse**.** As this highway link has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
9	David's Lane		24.4	Medium	There have been no PIAs in the assessment period on this highway link or Outgate/Sea Lane which comprise the local access route between the A52 and the Onshore ECC. Taking the existing road safety level, the existing use by HGVs and large agricultural vehicles and the general width

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					of the carriageway for the majority of the route, the magnitude of impact can be considered to be low adverse. Notwithstanding the above, to ensure safety on this section of the construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures implemented (such as passing places, if required) as part of the final CTMP, the magnitude of impact can be reduced to negligible adverse. As this highway link has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
41	Brewster Lane	Weston Marsh north of the A52	79.7	Low	There has been one PIA on this highway link in the assessment period. This involved a head-on collision at the sharp bend at the level crossing. Taking the existing road safety levels, low traffic baseline (35 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (14 per day, or less than two movements per hour), the magnitude of impact can be considered to be medium adverse. To ensure safety is ensured at the level crossing, warning signage would be installed to make all road users aware of the construction traffic associated with the Project.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					Investigations will be undertaken regarding potential widening at the bend to facilitate HGVs. Taking the above into consideration and with other measures implemented as part of the final CTMP, the magnitude of impact can be reduced to low adverse. As this highway link has low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
45	Church Lane	Weston Marsh north of the A52	57.6	Low	There have been no PIAs on these highway links in the assessment period. Taking the existing road safety levels, low traffic baseline (between 25 and 127 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (43 to 62 per day, or around four to five two-way movements per hour), the magnitude of impact can be considered to be medium adverse. Notwithstanding the above, to ensure safety on this section of the construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project. Also, the need for passing places will be investigated.
47	Scald Gate		246.7		
49	Ivy Lane		113.5		
51	Howgarth Lane		64.7		

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					With other measures (such as one-way systems where feasible) implemented as part of the final CTMP. The magnitude of impact can therefore be reduced to Low adverse. As these highway links have a low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
52	Low Road	Weston Marsh north of the A52	10.2	Low	There have been two PIAs on Low Road in the assessment period. These occurred at different locations, with different causation factors and were slight in severity. One of the PIAs occurred close to the junction with the A52, where there have been two other PIAs within the assessment period (on the A52); however, these did not involve vehicles turning at the junction. Taking the existing road safety level, the existing use by HGVs and large agricultural vehicles and the general width of the carriageway, the magnitude of impact can be considered to be low adverse. To ensure safety on this construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					With other measures implemented as part of the final CTMP. The magnitude of impact can be reduced to negligible adverse**.** As these highway links have a low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **negligible adverse**, which is **not significant** in terms of the EIA Regulations.
53	Broadgate	Weston Marsh north of the A52	26.4	Medium	There has been one PIA on Broadgate in the assessment period. This occurred at the junction with the A52 and was slight in severity, associated with a vehicle turning into the A52 from Broadgate and colliding with a passing vehicle. The Broadgate/A52 junction has a standard bell mouth, with tactile paving for pedestrians crossing. 2.4m x 43m visibility splays, suitable for a 30mph speed limit on the A52 are achievable at the junction. Therefore it can be concluded that there are no deficiencies with the junction. Taking the above, the existing road safety level and the existing use by HGVs into consideration, the magnitude of impact can be considered to be low adverse. To ensure safety on this construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					With other measures implemented as part of the final CTMP. The magnitude of impact can be reduced to negligible adverse. As this highway links has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
54	Common Road	Weston Marsh north of the A52	35.4	Low	There have been no PIAs on this highway link in the assessment period. Taking the existing road safety levels, low traffic baseline (232 and 243 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (57 per day, or around four or five two-way movements per hour), the magnitude of impact can be considered to be low adverse. Notwithstanding the above, to ensure safety on this construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures implemented as part of the final CTMP, the magnitude of impact can be reduced to negligible adverse. As this highway link has low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **negligible adverse**, which is **not significant** in terms of the EIA Regulations.
55	Common Road (near the A52)	Weston Marsh north of the A52	33.8	Low	

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
58	Ings Road	Weston Marsh north of the A52	64.5	Low	There have been no PIAs on this highway link in the assessment period. Taking the existing road safety level, low traffic baseline (289 daily vehicle movements) and the increase in HGVs associated with the construction of the Project (129 per day, or around 10 or 11 two-way movements per hour), the magnitude of impact can be considered to be medium adverse. To ensure safety is ensured on this construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures (such as passing places, if required) implemented as part of the final CTMP, the magnitude of impact can be reduced to low adverse. As this highway link has low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
59	West End Road	Weston Marsh north of the A52	32.2	Low	There have been two PIAs on West End Road in the assessment period. These occurred at different locations, with different causation factors and were slight in severity. Taking the existing road safety level, the existing use by HGVs and large agricultural vehicles and the general width

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					of the carriageway, the magnitude of impact can be considered to be low adverse. To ensure safety on this construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project. Also, the need for passing places will be investigated. With other measures implemented as part of the final CTMP. The magnitude of impact can be reduced to negligible adverse. As this highway link has low sensitivity, the resulting level of effect on vulnerable road users and road safety would be **negligible adverse**, which is **not significant** in terms of the EIA Regulations.
23	B1449 Long Lane	Lincolnshire Node	11.4	Medium	There have been two PIAs on the B1449 Long Lane which were slight in severity. Given the existing road safety level is only marginally higher than the UK average (as identified in Paragraph 27.4.31) and the percentage increase in total traffic is only marginally higher than the 10% threshold for a negligible magnitude of impact, the magnitude of impact can be considered low adverse. With the implementation of measures within the Final CTMP, including driver awareness, particularly in periods

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of road safety
					of darkness and warning signage for other road users, the magnitude of impact can be reduced to negligible adverse. As the B1449 Thurlby Road has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

27.7.43 In summary, there would be **no significant effects** in terms of EIA Regulations associated with vulnerable road users and road safety associated with any of the Onshore ECC options.

Pedestrian Amenity

27.7.44 In Table 27.37, less than a 100% increase in total or HGV traffic is considered a negligible magnitude of impact on the potential effect on pedestrian amenity and for these highway links, the resulting level of effect on pedestrian amenity would be **negligible** or **minor adverse** for all categories of sensitivity, which is **not significant** in terms of the EIA Regulations, as presented in Table 27.64.

27.7.45 For highway links with a greater than 100% increase in total or HGV traffic, a review based upon the quantum of vehicles, vehicle speed and pedestrian footfall is required to identify the adverse magnitude of impact required, as set out in Table 27.65.

27.7.46 It should be noted, the forecast increase in HGVs is only marginally less than the 100% threshold on Lincoln Road (Skegness), for the Weston Marsh south of the A52 Onshore ECC option and has therefore been included in the assessment in Table 27.65 given the high sensitivity of this highway link.

Table 27.64: Highway links with less than 100% increase in the Project construction traffic (total Vehicles or HGVs) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
25	A1104 (Alford)	High	**Minor**	All of the Onshore ECC options
31	A158 (east of the Onshore ECC)	Low	**Negligible**	Weston Marsh south of the A52 Onshore ECC option
32	A158 (west of the Onshore ECC)	Low	**Negligible**	Weston Marsh Onshore ECC option (both alignments)
33	A52 (east of Croft)	High	**Minor**	
34	A52 (Wainfleet)	Low	**Negligible**	
35	A52 (Holland Lane)	Low	**Negligible**	
36	A52 (Wrangle)	Low	**Negligible**	
38	A52 Wainfleet Road (Haltoft End)	Low	**Negligible**	
39	A52 Wainfleet Road (Haltoft End)	Low	**Negligible**	
68	A16 (south of the A155)	Low	**Negligible**	
69	A16 (north of the A155)	High	**Minor**	Weston Marsh north of the A52 Onshore ECC option
70	A16 (between the A158 and the A1028)	Low	**Negligible**	Weston Marsh Onshore ECC option (both alignments)
71	A16 (north of the A1028)	Low	**Negligible**	
72	A1028	Low	**Negligible**	
73	A158 (between the A1028 and the A16)	Low	**Negligible**	
40	Church Lane	Medium	**Minor**	Weston Marsh north of the A52 Onshore ECC option
42	Mill Lane	High	**Minor**	
43	Mill Lane (at Brewery)	Medium	**Minor**	
77	Gunby Lane	Low	**Negligible**	
78	B1195 (Irby in the Marsh)	Low	**Negligible**	
79	B1195 (Thorpe St. Peter)	Low	**Negligible**	

Table 27.65: Review of pedestrian amenity – summary of effects

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
8	Sea Lane (Staples Farm)	Weston Marsh south of the A52 Onshore ECC option	193.2	Medium	The magnitude of impact is likely to be low adverse during times of low activity at Staples Farm, rising to high adverse during the summer and autumn months when there are likely to be an increase in pedestrian movements between the A52 and Staples Farm associated with the increased workforce during these periods. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse overall and with medium sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
9	David's Lane		162.4	Medium	David's Lane (and the unnamed rural road, Outgate and Sea Lane, which comprise the local access route between the A52 and the Onshore ECC) are used by HGVs, with 75 daily, or around five two-way movements per hour on David's Lane. Whilst pedestrian activity is not high, there are dwellings and businesses along the whole length of the access route and it is used by dog walkers, for example. The carriageway is generally wide, with verges for pedestrians for the majority of the route.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					Taking the above into account, the magnitude of impact can be considered medium adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse overall and with medium sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
80	Lincoln Road (Skegness)		94.9	High	Lincoln Road is a wide urban distributor road which is already used by HGVs. Footfall will be high along most of the length of Lincoln Road; however, the footways are largely segregated from the carriageway by verges and there are two controlled and one uncontrolled pedestrian crossings. The speed limit is 30mph and during the summer, vehicle speeds are likely to be lower with higher traffic flows associated with tourism and any associated congestion. Taking the above into account, the magnitude of impact can be considered low adverse. However, given HGVs associated with the construction of the Project using Lincoln Road would be for a temporary period until the haul road between the A158 and the A52 is

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					constructed and with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall. With high sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
14	Church Road/Church End Road	Weston Marsh Onshore ECC option (both alignments)	104.8	High	The effect of pedestrian amenity would be felt the most on Church Road, where there will be some pedestrian movements between the houses/the wider area. There is a footway on at least one side of the carriageway for the entire length of Church Road and the carriageway is wide and is already used by HGVs. Taking the above into account, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with high sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
15	Cut End Road		468.8	High	Pedestrian footfall is likely to be very low and whilst there are no footways and the carriageway is relatively narrow, there are verges intermittently along the road.

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					Taking the above into account, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with high sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
16	Streetway/Wyberton Roads		420.3	Medium	Pedestrian footfall is likely to be very low and whilst there are no footways and the carriageway is relatively narrow, there are verges intermittently along the local access route between the A16 and the Onshore ECC. Taking the above into account, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with medium sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
17	Station Road/Skeldyke Road		531.7	High	The effect of pedestrian amenity would be felt the most on Station Road, where there will be some pedestrian movements between the houses/the wider area and the

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					playground and the houses and the local facilities at Kirton, using the available footways and controlled crossing at the A16. Given the above and the increase in HGVs associated with the construction of the Project (93 per day, or around seven or eight two-way movements per hour), the magnitude of impact can be considered to be medium adverse. With warning signage and the implementation of measures within the final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse. With high sensitivity, the resulting level of effect on pedestrian amenity would be **moderate adverse**, which is **significant** in terms of the EIA Regulations.
18	Wash Road		268.8	High	Pedestrian footfall is likely to be very low and whilst there are no footways and the carriageway is narrow, there are verges intermittently along the local access route between the A17 and the Onshore ECC. Taking the above into account, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with high sensitivity, the resulting level

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
23	B1449 Thurlby Road	Lincolnshire Node Onshore ECC option	103.7	Medium	The main pedestrian footfall will be in the village of Bilsby, where there are footways on both side of the carriageway, although these are narrow. There is also a footway connecting Bilsby to Alford along the A111. The speed limit is 30mph through the village, the carriageway is relatively wide and is already used by HGVs (236 daily movements). Taking the above into account, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with medium sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
24	B1449 Long Lane		169.8	Medium	There is unlikely to be any pedestrian footfall on this highway link as it is a 'B' road with a baseline daily traffic flow of 2,632 (total vehicles), including 144 HGVs and no footways. Taking the above into account, the magnitude of impact can be considered negligible adverse**,** the medium sensitivity can be reduced to low, which would result in an effect that

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					is **negligible adverse**, which is **not significant** in terms of the EIA Regulations. With warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact would be further reduced.
74	A158 (west of the A16)	Weston Marsh north of the A52 Onshore ECC option	104.2	Medium	There is unlikely to be any pedestrian footfall on this highway link as it is a principal 'A' road with a baseline daily traffic flow of 8,033 (total vehicles), including 383 HGVs and no footways. Taking the above into account, the magnitude of impact can be considered negligible adverse, the medium sensitivity can be reduced to low, which would result in an effect that is **negligible adverse,** which is **not significant** in terms of the EIA Regulations. With warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact would be further reduced.
41	Brewster Lane		689.0	Low	Pedestrian footfall is likely to be very low on these highway links and whilst there are no footways and the carriageway is narrow, there are verges intermittently along these routes. The percentage impacts are high due to the very low baseline number of HGVs.
45	Church Lane		406.3	Low	
47	Scald Gate		2,900.0	Low	
49	Ivy Lane		2,041.4	Low	
51	Howgarth Lane		1,173.8	Low	
52	Low Road		127.7	Low	

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					Taking the above into account, the magnitude of impact can be considered **low adverse.** However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with low sensitivity, the resulting level of effect on pedestrian amenity would be **negligible adverse**, which is **not significant** in terms of the EIA Regulations.
44	Boston Road		103.8	Low	There is a footway on one side of the carriageway where there is likely to be pedestrian footfall. This highway link is a classified 'B' road, is wide and already used by HGVs. Pedestrian footfall is likely to be moderate as there are dwellings and businesses on Low Road, within a short walk from the facilities in Wainfleet St. Mary. Taking the above into account, and since the percentage impact is only marginally above the 100% threshold, the magnitude of impact can be considered low adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to negligible adverse overall and with low sensitivity, the resulting level of effect on pedestrian amenity would be **negligible**

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					adverse, which is **not significant** in terms of the EIA Regulations.
46	Low Road		145.5	Medium	There is a footway on one side of the carriageway for the majority of the length of Low Road, the carriageway is wide and is already used by HGVs. Pedestrian footfall is likely to be moderate as there are dwellings and businesses within a short walk from the facilities in Wainfleet St. Mary. There is a sheltered housing facility at the junction with Vicarage Lane. Taking the above into account, the magnitude of impact can be considered medium adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse overall and the medium sensitivity can be reduced to low, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
53	Broadgate		321.2	Low	The main pedestrian footfall will be at the section closest to the A52 where there are number of residential properties, where there is a footway on one side of the carriageway for the majority of this section. The speed limit is 40mph, and the route is already used by some HGVs (18 daily movements).

Location reference (Figure 27.11)	Highway link	Onshore ECC option	Percentage impact (%)	Sensitivity	Review of pedestrian amenity
					Taking the above into account, the magnitude of impact can be considered medium adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse overall and with low sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.
54	Common Road		481.8	Low	The main pedestrian footfall will be at the section closest to the A52 where there are number of residential properties, accessing the local facilities on the other side of the A52. The carriageway is relatively narrow and there are no footways. The speed limit is 60mph. Taking the above into account, the magnitude of impact can be considered medium adverse. However, with warning signage and the implementation of measures within the Final CTMP, such as speed awareness, the magnitude of impact can be reduced to low adverse overall and with low sensitivity, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

27.7.47 In summary, a **significant effect** on pedestrian amenity has been identified on Station Road, which is part of the local access route with Skeldyke Road and Nidd's Lane between the A16 and the Onshore ECC for the Weston Marsh Onshore ECC option (both alignments). There would be **no significant effects** on pedestrian amenity on all other highway links associated with the Weston Marsh Onshore ECC option (both alignments).

27.7.48 There would be **no significant effects** on pedestrian amenity with the Lincolnshire Node Onshore ECC option.

Dust and Dirt

27.7.49 In Table 27.37 (Magnitude of impact definitions), less than a 10% increase in total traffic is considered a negligible magnitude of impact of the potential effects of dust and dirt. The level of effects on these highway links is the same as for community severance and vulnerable road suers and road safety as set out in Table 27.59.

27.7.50 In summary, there would be a **negligible** or **minor adverse** effect on vulnerable road users and road safety on all the highway links in Table 27.59, which is **not significant** in terms of the EIA Regulations.

27.7.51 Table 27.66 summarises the level of effects on the highway links with a low magnitude of impact (11% to 30% increase in total traffic).

Table 27.66: Highway links with a low magnitude of impact (dust and dirt) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
18	Wash Road	High	**Moderate**	Weston Marsh Onshore ECC option (both alignments)
8	Sea Lane (Staples Farm)	Medium	**Minor**	Weston Marsh south of the A52 Onshore ECC option
9	David's Lane			
53	Broadgate	Medium	**Minor**	Weston Marsh north of the A52 Onshore ECC option

27.7.52 As Table 27.66 shows, the level of effect in terms of dust and dirt on Sea Lane (Staples Farm), David's Lane and Broadgate would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

27.7.53 The level of effect on Wash Road would be **moderate adverse** and therefore **significant** in terms of EIA regulations.

27.7.54 The main receptors on Wash Road that would be affected by dust and dirt are the residents of the dwellings located at the A17 end of the local construction access route, approximately 1km from the Onshore ECC. With wheel washing and other dust and dirt restricting measures implemented in the Final CTMP, the likelihood of dust and dirt from HGVs impacting the residents would be reduced and the magnitude of impact can be reduced to be low adverse. As Wash Road has high sensitivity, this would result in a **moderate adverse** effect, which is **significant** in terms of the EIA Regulations. However, given the forecast maximum number of daily HGVs using Wash Road is 23, or around two two-way movements per hour, it is considered that the magnitude of impact can be further reduced to negligible adverse, which would result in a **minor adverse** effect, which is **not significant** in terms of the EIA Regulations adverse.

27.7.55 Table 27.67 summarises the level of effects on the highway links with a medium magnitude of impact (31% to 60% increase in total traffic).

Table 27.67: Medium magnitude of impact (dust and dirt) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
14	Cut End Road	Medium	**Moderate**	Weston Marsh Onshore ECC option (both alignments)
15	Streetway/Wyberton Roads	Low	**Minor**	
16	Skeldyke Road	High	**Major**	
41	Brewster Lane	Low	**Minor**	Weston Marsh north of the A52 Onshore ECC option
45	Church Lane	Low	**Minor**	
54	Common Road	Low	**Minor**	
55	Common Road (near the A52)	Low	**Minor**	
59	West End Road	Low	**Minor**	

27.7.56 As Table 27.67 shows, for Streetway/Wyberton Roads (Weston Marsh Onshore ECC option (both alignments) and Brewster Lane, Church Lane, Common Road and West End Road (Weston Marsh north of the A52 Onshore ECC option, the level of effect in terms of community severance would be **minor adverse** and therefore **not significant** in terms of EIA regulations.

27.7.57 The level of effect in terms of dust and dirt on Cut End Road and Skeldyke Road would be **moderate adverse** and **major adverse** and therefore **significant** in terms of EIA regulations.

27.7.58 On Cut End Road, there is only one property that would be directly impacted by dust and dirt from HGVs and given this is a business (motor repairs), the sensitivity of the highway link to dust and dirt can be reduced to low. With wheel washing and other dust and dirt restricting measures implemented in the Final CTMP, the magnitude of impact can also be considered to be low adverse**.** This would result in a **minor adverse** effect, which is **not significant** in terms of the EIA Regulations.

27.7.59 The main receptors on Skeldyke Road (and Station Road, which is part of the local access route between the A16 and the onshore ECC) that would be affected by dust and dirt are the residents of the dwellings located approximately 1 to 2km from the Onshore ECC. With wheel washing and other dust and dirt restricting measures implemented in the Final CTMP, the likelihood of dust and dirt from HGVs impacting the residents would be reduced and the magnitude of impact can be reduced to be low adverse**.** These highway links are categorised as having high sensitivity due to the proximity of the playground; however, in terms of sensitivity to dust and dirt, this can be reduced to low, as the playground is well set back from the road, with some mature vegetation providing a buffer. Therefore, this would result in a **minor adverse** effect, which is **not significant** in terms of the EIA Regulations adverse.

27.7.60 Table 27.68 summarises the level of effects on the highway links with a medium magnitude of impact (greater than 60% increase in total traffic).

Table 27.68: High magnitude of impact (dust and dirt) – summary of effects

Location reference (Figure 27.11)	Highway link	Sensitivity	Level of effect	Onshore ECC option
47	Scald Gate	Low	**Moderate**	Weston Marsh north of the A52 Onshore ECC option
49	Ivy Lane			
51	Howgarth Lane			
58	Ings Road			

27.7.61 As Table 27.68 shows, the level of effect in terms of dust and dirt on these highway links would be **moderate adverse** and therefore **significant** in terms of EIA regulations. However, given these highway links are rural, with very few residential dwellings the magnitude of impact can be reduced to negligible resulting in a **negligible adverse** level of effect, which is **not significant** in terms of EIA Regulations. With wheel washing and other dust and dirt restricting measures implemented in the final CTMP, this would further reduce any likely effects of dust and dirt.

27.7.62 In summary, there would be **no significant effects** as a result of dust and dirt associated with any of the Onshore ECC options.

Users of Public Rights of Way

27.7.63 The assessment of the potential effects on users of PRoW is presented in:

- Table 27.69 to Table 27.78 for each Onshore ECC segment for the Weston Marsh Onshore ECC option (both alignments);
- Table 27.79 for the Onshore ECC segment for the Weston Marsh south of the A52 Onshore ECC route Option;
- Table 27.81 for each Onshore ECC segment for the Weston Marsh north of the A52 Onshore ECC option (the alternative segments only); and
- Table 27.82 and Table 27.83 for each Onshore ECC segment for the Lincolnshire Node Onshore ECC option.

27.7.64 The assessment is based on the medium to high sensitivity across the network in the study area, as described in 27.4.41 and using the criteria in Table 27.38 where a PRoW crosses a highway link.

Table 27.69: Assessment of users of PRoW in segment WM1 – Weston Marsh Onshore ECC option (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of effect
Ande/19/2	Could be crossed by cable trenches /haul road.	The route would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <250m additional journey length.	Low	Minor adverse (**not significant**) to Moderate adverse (**significant**)
Ande/19/3		The route would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Chap/19/5		The route would either: ▪ be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location; or ▪ temporary diversion along the edge of the Onshore ECC for the duration of the construction works.	Low	Minor adverse (**not significant**) to Moderate adverse (**significant**)

PRoW	Impact	Assessment	Magnitude of impact	Level of effect
		Could require two crossing locations due to the alignment which follows the Onshore ECC and a longer period for the diversion. The temporary diverted route (around the work area at this location or for the duration of the construction works) would be <250m additional journey length.		
Chap/21/2 Chap/21/3 Chap/19/4	Could be crossed by cable trenches /haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Chap/27/3	would be crossed by cable trenches /haul road.			
Chap/28/1 Chap/28/2 Hogs/28/1	Could be crossed by cable trenches /haul road.			
Hogs/34/4 Hogs/57/1 Hogs/58/2	Would be crossed by cable trenches /haul road.			

Table 27.70: Assessment of users of PRoW in segment WM2 – Weston Marsh Onshore ECC option (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Mumb/55/1	Could be crossed by cable trenches /haul road/access.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Hogs/48/1	Likely to be crossed by cable trenches /haul road.			

Table 27.71: Assessment of users of PRoW in segment WM3 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
BurM/265/1	Would be crossed by Onshore ECC /haul road.	The route would be kept open using a gated crossing (see proposed management measures in the appended Outline PAMP (Document reference: 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

Table 27.72: Assessment of users of PRoW in segment WM4 – Weston Marsh Onshore ECC option (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
BurM/263/2 BurM/261/3	Would be crossed by the cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

Table 27.73: Assessment of users of PRoW in segment WM5 – Weston Marsh Onshore ECC option (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Crof/274/1	Could be crossed by the cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

Table 27.74: Assessment of users of PRoW in segment WM10 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Fish/12/2 Fish/11/5	Above trenchless crossing. The potential impact would be from an increase in vehicles at the crossing at Cut End Road.	This routes would be kept open, with warning signage at the crossing point at Cut End Road (see proposed management measures in the Outline PAMP (Document reference 8.1.7)). The sensitivity is low, given the very low traffic flows on Cut End Road, with a high magnitude of impact as a greater than 90% increase in HGVs on Cut End Road, although the actual total (baseline plus HGVs associated with the Project) number would be a maximum of 100 two-way per day, likely to be much less as the HGV movements for segment WM10 would not all need to cross Hobhole Drain.	High, reduced to medium based on the assessment.	Minor adverse (**not significant**)

Table 27.75: Assessment of users of PRoW in segment WM11 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Wybe/2/4	Would be crossed by cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Kirt/1/1 Kirt/1/2 Kirt/877/1	Could be crossed by cable trenches/haul road.	The routes would either: ▪ be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location; or ▪ temporary diversion along the edge of the Onshore ECC for the duration of the construction works. Could require two crossing locations due to the alignment which follows the Onshore ECC and a longer period for the diversion. The temporary diverted route (around the work area at this location or for the duration of the construction works) would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Kirt/1/5	Would be crossed by cable trenches/haul road	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

Table 27.76: Assessment of users of PRoW in segment WM12 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Fosd/8/1	Could be crossed by cable trenches and would be crossed by the haul road to access the trenchless crossing works.	These routes would be kept open, with warning signage at the crossing point at Craven's Lane (see proposed management measures in the Outline PAMP (Document reference 8.1.7)). The sensitivity is low, given the very low traffic flows on Craven's Lane, An increase in HGV traffic greater than 90% on Craven's Lane, although actual total (baseline plus HGVs associated with the Project) number would be a maximum of 100 two-way per day.	High, reduced to medium based on the assessment of overall HGVs.	Minor adverse (**not significant**)

Table 27.77: Assessment of users of PRoW in segment WM13 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Fosd/2/2	Would be crossed by cable trenches/haul road (OnSS north)	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Fosd/2/1 Fosd/3/1	Shared with a construction access and is part of the Macmillan Way.	Vehicles already use this access and any construction traffic associated with the Project would be moving very slowly due to the tight bend at this location. Signage would be provided to warn users of the PRoW (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and the implementation of measures within the Outline CTMP (Document reference 8.1.5) such as driver awareness and timing of HGV movements.	Medium	Moderate adverse (**significant**) to Major adverse (**significant**)

Table 27.78: Assessment of users of PRoW in segment WM14 – Weston Marsh Onshore (both alignments) – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Moul/2/1 Wstn/7/1	Could be crossed by cable trenches/haul road (OnSS south).	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Wstn/4/1	Would be crossed by cable trenches/haul road (OnSS south).			

Table 27.79: Assessment of users of PRoW in segment WM8 – Weston Marsh south of the A52 Onshore ECC option – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Wran/4/1	Would be crossed by the cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Wran/16/1	Would be crossed by Onshore ECC /haul road (south of Roman Bank Cottage alignment option).			
Olea/6/1				

Table 27.80: Assessment of users of PRoW in segment A1 – Weston Marsh north of the A52 Onshore ECC option – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Crof/264/1	Could be crossed by cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Crof/264/3				
Crof/276/4				
Crof/276/2				
Croft/276/3				

Table 27.81: Assessment of users of PRoW in segment A2 – Weston Marsh north of the A52 Onshore ECC option – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
WStM/371/1	Would be crossed by cable trenches/haul road.	The route would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)

Table 27.82: Assessment of users of PRoW in segment LN1 – Lincolnshire Node Onshore ECC option – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Ande/19/2	Could be crossed by cable trenches/haul road.	The routes would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length.	Negligible	Minor adverse (**not significant**)
Ande/19/3				
Ande/25/1				
Mumb/25/1				
Mumb/25/2				
Mumb/26/1				
Mumb/61/3				

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Ande/19/1 Ande/24/3 Mumb/62/3 Mumb/63/2	Would be crossed by cable trenches/haul road.			

Table 27.83: Assessment of users of PRoW in segment LN2 – Lincolnshire Node Onshore ECC option – summary of effects

PRoW	Impact	Assessment	Magnitude of impact	Level of Effect
Bils/13/1	Would be crossed by cable trenches/haul road and could be crossed by permanent access road for the OnSS.	The route would be kept open using a gated crossing (see proposed management measures in the Outline PAMP (Document reference 8.1.7)) and temporarily diverted when the works are undertaken at this location. The temporary diverted route around the work area would be <50m additional journey length. Should it be crossed by a permanent access road for the OnSS, the vehicle movements using it would be very infrequent, with warning signage for users at the crossing.	Negligible	Minor adverse (**not significant**)

27.7.65 Based on the analysis in Table 27.69 to Table 27.82 the temporary adverse effects on users of PRoW would be negligible or minor in significance for the majority of the routes, which is **not significant** in terms of the EIA Regulations.

27.7.66 The following routes have **moderate adverse** effects that can be considered **significant**:

- Ande/19/2, Chap/19/5 and Hogs/56/2 (summer only), due to the length of temporary diversion; and
- Fosd/2/1 and Fosd/3/1 due to the route being shared by construction traffic associated with the Project.

27.7.67 With the implementation of measures within the Final PAMP, which could include avoiding the summer months for construction work at these locations, wherever practicable, or providing segregation for users, the magnitude of impact can be reduced, resulting in **minor adverse** impacts, which are **not significant** in terms of the EIA Regulations.

Decommissioning

27.7.68 Details surrounding the decommissioning phase are yet to be fully clarified. In addition, it is also recognised that policy, legislation and local sensitivities constantly evolve, which will limit the relevance of undertaking an assessment at this stage. Nevertheless, decommissioning activities are not anticipated to exceed the construction phase worst case criteria. In addition, there is potential for onshore cables to remain in situ, which would see a reduction in impacts and resulting level of significance in comparison to the assessment of construction effects.

27.7.69 Decommissioning activities are expected to occur for up to three years – however this will be driven primarily by offshore works. The decommissioning strategy will be reviewed over the design life of the Project and adapt to local sensitivities, policy, and legalisation.

27.7.70 The decommissioning methodology would be finalised nearer to the end of the lifetime of the Project, to be in line with current guidance, policy and legislation. Any such methodology would be agreed with the relevant authorities and statutory consultees.

27.8 Cumulative Impact Assessment

27.8.1 Three committed developments (residential developments) and one NSIP that has been submitted to the Inspectorate and is awaiting a decision following the examination have been identified to include in a cumulative impact assessment with the construction traffic associated with the Project.

27.8.2 These are:

- 46 dwellings, land adjacent and to the rear of Fishtoft Boy Scouts, Gaysfield Road, Fishtoft (Planning application reference: B/20/0488);
- 20 affordable dwellings, land adjacent and to the rear of Fishtoft Boy Scouts, Gaysfield Road, Fishtoft (Planning application reference: B/20/0489);
- 89 dwellings, West End, Hogsthorpe (Planning application reference: N/084/0809/19); and

- Boston Alternative Energy Facility (BAEF), south of Boston, on the Riverside Industrial Estate, next to The Haven.

Cumulative Driver Severance and Delay - Peak Hour Traffic Impact

27.8.3 A screening process has been undertaken for each construction vehicle route highway link which are forecast to be used by the committed residential developments, the proposed NSIP and the construction of the Project, as described in Paragraph 27.8.2 to identify routes that are likely to have sufficient changes in traffic flows in the peak hours on the highway network (which fall between 07:00 to 09:00 and 16:00 to 18:00 at different locations on the highway network) and therefore require a cumulative impact assessment for driver severance and delay.

Residential Developments

27.8.4 The following two-way morning evening peak hour residential vehicle trip rates per dwelling have been identified from the TRICS database:

- AM peak – 0.449; and
- PM peak – 0.452

27.8.5 The above trip rates have been used to estimate two-way peak hour vehicle movements associated with the residential developments (B/20/0488, B/20/0489 and N/084/0809/19) have been derived and distributed onto the local highway network, using broad assumptions.[6]

27.8.6 Of the 30 two-way vehicle movements in either peak hour associated with the 66 dwellings on Gaysfield Road (B/20/0488, B/20/0489), 50% have been distributed to Boston and 50% to Skegness. The 50% of vehicle movements to and from Boston (182) are assumed to use Fishtoft Road towards Boston, which connects to the A16 (highway link 76) via Skirbeck Road and the A1138. As a worst case, it is assumed the 15 vehicle movements would use the A16 in Boston.

27.8.7 The 50% of vehicle movements to and from Skegness (15) are assumed to use Clampgate Road, Church Road/Church End Road (highway link 14) and the A52 (highway links 33 to 38).

27.8.8 Of the 40 two-way vehicle movements in either peak hour associated with the 89 dwellings in Hogsthorpe (N/084/0809/19), 25% have been distributed to Skegness, 25% to Boston and 50% towards Louth/Cleethorpes/Grimsby. This would result in the following two-way vehicle movements:

- 20 on the A52 between Hogsthorpe and Skegness (highway links 26 and 27);
- 10 on the A52 between Skegness and Boston (highway links 33 to 39);
- 10 on the A16.A52 in Boston (highway link 76); and
- 20 on the B1449, A1104, A16 (highway links 23, 24, 25 and 71)

[6] A Transport Assessment was not prepared for B/20/0488 or B/20/0489 and is not available for N/084/0809/19.

27.8.9 In the Traffic and Transport Chapter of the ES prepared for the DCO application for the BAEF scheme, as a worst case, all construction employees arriving/departing the construction site are assigned to each junction during the highway network peak hours. However, it is noted in the chapter that:

"In reality, employees are likely to arrive before 8am and depart after 8pm in accordance with the defined working hours of 8am to 8pm (with option of 7am to 7pm). As such employee traffic is likely to not occur within the network peak hour flows and the impact on the junction is likely to be reduced."

27.8.10 For the peak hour cumulative assessment, the following two-way movements have been identified:

- 28 on the A16 south of Wallace Way (highway link 61);
- 28 on the A16 south of the A17 (highway link 66);
- 184 (including 24 HGVs) on the A16 south of Boston (highway link 60)
- 110 (including 24 HGVs) on the A16 in Boston (highway link 76); and
- 74 on the A1121 (highway link 67).

27.8.11 The cumulative peak hour traffic flows with the Project are presented in Table 27.86 and the peak hour cumulative impact assessment ,using the morning peak hour (which is typically the busiest peak hour), against the future baseline (2027) flow is presented in Table 27.85.

Table 27.84: Cumulative peak hour traffic flows

Location Ref (Figure 27.11)	Highway link	B/20/0488 and B/20/0489	N/084/0809/19	BAEF	Total	ODOW (the Project)	Cumulative traffic flow
14	Church Road/Church End Road	15			15	9	24
23	B1449 Thurlby Road		20		20	16	36
24	B1449 Long Lane		20		20	17	37
25	A1104 (Alford)		20		20	14	34
26	A52 (south of Hogsthorpe)		20		20	3	23
27	A52 (south of Marsh Lane)		20		20	3	23
33	A52 (east of Croft)	15	10		25	19	44
34	A52 (Wainfleet)	15	10		25	29	54
35	A52 (Holland Lane)	15	10		25	19	44
36	A52 (Wrangle)	15	10		25	15	40
37	A52 (Butterwick)	15	10		25	26	51
38/39	A52 Wainfleet Road (Haltoft End)		10		10	54	64
60	A16 (south of Boston)			184	184	22	206
61	A16 (south of Boston)			184	184	29	213
66	A16 (south of A17)			28	28	14	42
67	A1121			74	74	10	84
71	A16 (north of A1104)		20		20	37	57
76	A16 (Boston)	15	10	110	135	23	158

Table 27.85: Cumulative impact assessment (morning peak hour)

Location reference (Figure 27.11)	Highway link	Future baseline (2027 total flow)	Cumulative total traffic flow	Percentage impact (%)
14	Church Road/Church End Road	195	24	12.3
23	B1449 Thurlby Road	256	36	14.1
24	B1449 Long Lane	380	37	9.7
25	A1104 (Alford)	713	34	4.8
26	A52 (south of Hogsthorpe)	340	23	6.8
27	A52 (south of Marsh Lane)	325	23	7.1
33	A52 (east of Croft)	620	44	7.1
34	A52 (Wainfleet)	620	54	8.7
35	A52 (Holland Lane)	358	44	12.3
36	A52 (Wrangle)	494	40	8.1
37	A52 (Butterwick)	713[7]	51	7.2
38/39	A52 Wainfleet Road (Haltoft End)	933	64	6.9
60	A16 (south of Boston)	1,849	206	11.1
61	A16 (south of Boston)	1,849	213	11.5
66	A16 (south of A17)	1,304	42	3.2
67	A1121	624[8]	84	13.5
71	A16 (north of A1104)	468	57	12.2
76	A16 (Boston)	3,357[14]	158	4.7

[7] No peak hour data from the baseline DfT data, therefore the morning peak hour flow has been estimated using highway links 36 and 38.
[8] No peak hour data from the baseline DfT data, therefore a 10% factor has been applied to represent the morning peak hour

Further Assessment – Cumulative Peak Hour Traffic Impacts

27.8.12 Based on the peak hour cumulative impact percentages in Table 27.85Table 27.87, using the threshold of 30 two-way vehicle movements in an hour, all the highway links would require further assessment with the exception of:

- A52 (south of Hogsthorpe);
- A52 (south of Marsh Lane); and
- Church Road/Church End Road

27.8.13 However, the cumulative peak hour traffic flows on following other highway links in Table 27.85 are only marginally above the 30 two-way vehicle threshold:

- B1449 Thurlby Road;
- B1449 Long Lane;
- A1104 (Alford); and
- A52 (Wrangle)

27.8.14 For the other highway links, the range in cumulative two-way peak hour vehicle movements ranges between 40 and 213, with the percentage increase on the future baseline (2027) morning peak hour traffic flows between 3.3% and 13.5%.

27.8.15 Given the robust assessment of the forecast peak hour traffic flows associated with the construction of BAEF and since the maximum cumulative percentage increase is 13.5% (on the A1121), which is only marginally above the minimum 10% threshold (Rule 2 of the EIA Guidelines) for formal assessment under EIA Regulations, with the implementation of CTMPs associated with BAEF and the Project, peak hour traffic would be minimised and monitored and therefore it is not considered that any further peak hour cumulative impact assessment is required.

AADT Cumulative Impact Assessment

Residential Developments

27.8.16 Using a daily residential vehicle trip rate per dwelling of 5.5, estimated daily vehicle movements associated with the residential developments (B/20/0488, B/20/0489 and N/084/0809/19) have been derived and distributed onto the local highway network, using broad assumptions, as per the cumulative peak hour assessment.

27.8.17 Of the 364 daily two-way vehicle movements associated with the 66 dwellings on Gaysfield Road (B/20/0488, B/20/0489) 50% have been distributed to Boston and 50% to Skegness. The 50% of vehicle movements to and from Boston (182) are assumed to use Fishtoft Road towards Boston, which connects to the A16 (highway link 76) via Skirbeck Road and the A1138. As a worst case, it is assumed the 182 vehicle movements are using the A16 in Boston.

27.8.18 The 50% of vehicle movements to and from Skegness (182) are assumed to use Clampgate Road, Church Road/Church End Road (highway link 14) and the A52 (highway links 33 to 38).

27.8.19 Of the 490 daily two-way vehicle movements associated with the 89 dwellings in Hogsthorpe (N/084/0809/19), 25% have been distributed to Skegness, 25% to Boston and 50% towards Louth/Cleethorpes/Grimsby.

27.8.20 This would result in the following two-way vehicle movements:

- 245 on the A52 between Hogsthorpe and Skegness (highway links 26 and 27);
- 122 on the A52 between Skegness and Boston (highway links 33 to 39);
- 122 on the A16.A52 in Boston (highway link 76); and
- 245 on the B1449, A1104, A16 (highway links 23, 24, 25 and 71)

Boston Alternative Energy Facility – Daily Traffic

27.8.21 Using the Traffic and Transport Chapter of the ES prepared for the DCO application for the BAEF scheme, the following average daily two-way vehicle movements have been identified:

- 126 (including 70 HGVs) on the A16 south of Wallace Way (highway link 61);
- 126 (including 70 HGVs) on the A16 south of the A17 (highway link 66);
- 333 (including 70 HGVs) on the A16 south of Boston (highway link 60)
- 201 (including 70 HGVs) on the A16 in Boston (highway link 76); and
- 132 on the A1121 (highway link 67).

27.8.22 The cumulative traffic flows are presented in Table 27.86 and the assessment of the cumulative impacts against the future baseline (2027) AADT is presented in Table 27.87.

Table 27.86: Cumulative daily traffic flows

Location reference (Figure 27.11)	Highway link	B/20/0488 and B/20/0489	N/084/0809/19	BAEF		Total		the Project		Cumulative traffic flow	
				Total	HGVs	Total	HGVs	Total	HGVs	Total	HGVs
14	Church Road/Church End Road	182				182		140	97	322	97
23	B1449 Thurlby Road		245			245		312	244	556	244
24	B1449 Long Lane		245			245		299	244	556	244
25	A1104 (Alford)		245			245		297	244	556	244
26	A52 (south of Hogsthorpe)		245			245		28	0	273	0
27	A52 (south of Marsh Lane)		245			245		29	0	274	0
33	A52 (east of Croft)	182	122			304		211	122	515	122
34	A52 (Wainfleet)	182	122			304		321	172	625	172
35	A52 (Holland Lane)	182	122			304		204	57	508	57
36	A52 (Wrangle)	182	122			304		149	0	453	0
37	A52 (Butterwick)	182	122			304		286	113	590	113
38/39	A52 Wainfleet Road/Haltoft End	182	122			304		438	242	742	242
60	A16 (south of Boston)			333	70	333	70	226	46	559	116
61	A16 (south of Boston)			126	70	126	70	309	139	435	209
66	A16 (south of A17)			126	70	126	70	153	85	279	155
67	A1121			132		132		117	76	249	76
71	A16 (north of A1104)		245			245		441	399	686	399
76	A16 (Boston)	182	122	201	70	505	70	245	76	750	146

Table 27.87: Cumulative impact assessment (daily traffic)

Location reference (Figure 27.11)	Highway link	2027 AADT		Cumulative traffic flow		Percentage impact (%)	
		Total traffic	HGVs	Total traffic	HGVs	Total traffic	HGVs
14	Church Road/Church End Road	1,567	92	286	97	18.3	104.8
23	B1449 Thurlby Road	4,414	236	423	111	12.6	103.6
24	B1449 Long Lane	2,632	144	433	111	21.1	169.6
25	A1104 (Alford)	7,464	357	403	111	7.4	68.4
26	A52 (south of Hogsthorpe)	4,151	164	273	0	6.6	0.0
27	A52 (south of Marsh Lane)	3,983	162	274	0	6.9	0.0
33	A52 (east of Croft)	8,359	361	515	122	6.1	33.4
34	A52 (Wainfleet)	8,359	361	625	172	7.4	47.6
35	A52 (Holland Lane)	5,035	289	508	57	10.0	19.7
36	A52 (Wrangle)	6,618	412	453	0	6.8	0.0
37	A52 (Butterwick)	8,843	525	590	113	6.7	21.5
38/39	A52 Wainfleet Road/Haltoft End	12,096	550	742	242	6.1	44.0
60	A16 (south of Boston)	23,012	1,169	559	116	2.4	9.9
61	A16 (south of Boston)	23,012	1,169	435	209	1.9	17.9
66	A16 (south of the A17)	16,942	1,507	279	155	1.6	10.3
67	A1121	8,916	625	249	76	2.8	12.2
71	A16 (north of the A1104)	9,297	636	686	399	7.4	62.7
76	A16 (Boston)	38,588	2,161	750	146	1.9	6.8

Further Assessment – Cumulative Daily Traffic Impacts

27.8.23 Based on the cumulative impact percentages in Table 27.87, the following links would require further assessment based on the percentage change in total daily traffic breaching the 10% magnitude of impact threshold (Table 27.37), compared to that assessed for the Project alone:

- Church Road/Church End Road (Weston Marsh Onshore ECC option (both alignments); and
- B1449 Thurlby Road (All Onshore ECC options).

Church Road/Church End Road

Community Severance

27.8.24 For Church Road/Church End Road, the increase in total traffic resulting from the vehicle movements associated with the Project, and the committed residential developments (B/20/0488 and B/20/048) increases from 9.0% to 18.3%.

27.8.25 For community severance, the magnitude of impact would be low and with high sensitivity, the level of effect would be **moderate adverse**, which is **significant** in terms of EIA Regulations.

27.8.26 Given the relatively low baseline traffic flows on Church Road/Church End Road (1,567 AADT), with an average of 117 two-way vehicle movements per hour during the proposed Project construction hours (07:00 to 19:00), which would increase to an average of 132 two-way vehicle movements per hour with the addition of the vehicle movements associated with the construction of the Project and the committed residential developments (B/20/0488 and B/20/0489), this is unlikely to have any noticeable impact in terms of community severance. With this mind and the implementation of measures within the Final CTMP, the magnitude of impact can be reduced to negligible, resulting in a **minor adverse** effect, which is **not significant** in terms of EIA Regulations.

Vulnerable Road Users and Road Safety

27.8.27 There have been no PIAs in the assessment period on Church Road or Church End Road within the assessment period.

27.8.28 Taking the existing road safety level, the existing use by HGVs and large agricultural vehicles, the actual forecast increase in traffic and the general width of the carriageway for the majority of the route, the magnitude of impact can be considered to be low adverse. As this highway link has high sensitivity, the resulting level of effect on vulnerable road users and road safety would be **moderate adverse**, which is **significant** in terms of the EIA Regulations.

27.8.29 However, to ensure safety on this section of the construction access route, warning signage would be installed to make all road users aware of the construction traffic associated with the Project and with other measures implemented as part of the Final CTMP, the resulting level of effect on pedestrian amenity would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

Pedestrian Amenity

27.8.30 The magnitude of impact would be negligible adverse, given the increase in total traffic or HGVs is less than 100% and with high sensitivity, this would result in a **negligible adverse** level of effect, which is **not significant** in terms of EIA Regulations.

Dust and Dirt

27.8.31 As there would not be any cumulative increases in HGVs, no assessment has been undertaken for the potential effects of dust and dirt.

B1449 Thurlby Road

Community Severance

27.8.32 For the B1449 Thurlby Road, the increase in total traffic resulting from the vehicle movements associated with the Project, and the committed residential development (N/084/0809/19) increases from 7.1% to 12.6%.

27.8.33 For community severance, the magnitude of impact would be low and with medium sensitivity, the level of effect would be **minor adverse**, which is **not significant** in terms of the EIA Regulations.

Vulnerable Road Users and Road Safety

27.8.34 There have been six PIAs on the B1449 Thurlby Road which were slight in severity and one PIA that was serious in severity in the assessment period.

27.8.35 Of the seven accidents, none were due to the deficiency of the road geometry and included causation factors such as losing control of the vehicle, a deer running into the road and a collision in darkness. One of the PIAs involved a HGV, which was slow moving and occurred due to a car overtaking and losing control.

27.8.36 Given the existing road safety level is only marginally higher than the UK average (as identified in Paragraph 27.4.31) and the percentage increase in total traffic is only marginally higher than the 10% threshold for a negligible adverse magnitude of impact, the magnitude of impact can be considered low adverse.

27.8.37 With the implementation of measures within the Final CTMP, including driver awareness, particularly in periods of darkness and warning signage for other road users, the magnitude of impact can be reduced to negligible adverse. As the B1449 Thurlby Road has medium sensitivity, the resulting level of effect on vulnerable road users and road safety would be **minor adverse**, which is **not significant** in terms of the EIA Regulations

Pedestrian Amenity

27.8.38 The magnitude of impact would be negligible adverse, given the increase in total traffic or HGVs is less than 100% and with medium sensitivity, this would result in a **negligible adverse** level of effect, which is **not significant** in terms of EIA Regulations.

Dust and Dirt

27.8.39 As there would not be any cumulative increases in HGVs, no assessment has been undertaken for the potential effect of dust and dirt.

Cumulative Impacts Summary

27.8.40 Given the assessment set out in Paragraphs 27.8.1 to 27.8.39, it can be concluded that there would be **no significant** cumulative impacts in terms of Traffic and Transport.

27.9 Transboundary Effects

27.9.1 There will be no transboundary effects arising from the Project with regard to Traffic and Transport.

27.10 Conclusions

27.10.1 This assessment has considered the potential Traffic and Transport effects arising from onshore activities associated with the Project. Consideration has been given to potential worst-case effects arising from onshore construction and decommissioning activities based upon available information. Worst-case parameters have been adopted to provide a robust assessment.

27.10.2 The approach undertaken was based upon The Inspectorate Scoping Opinion (PINS, September 2022), which was subsequently presented to and agreed through the ETG process.

27.10.3 A quantitative and qualitative assessment of the potential Traffic and Transport effects associated with worst-case construction activities has been undertaken following the methods set out in GEART, DMRB and the use of professional judgement.

27.10.4 Peak hour vehicle movements associated with the construction of the Project have been considered for the impacts of driver severance and delay for all highway links within the study area. The outcome of the assessment does not include any significant effects for any of the Onshore ECC options

27.10.5 The implications of temporary lane or road closures associated with the use of open trenching has been assessed in terms of driver severance and delay. The outcome of the assessment **does not include any significant effects** outside of the summer months**.** For Marsh Road, which provides access to Fosdyke Wash, where there would be no access to the car park used by leisure users for a short period, to ensure no significant effects, this would require the temporary closure to be outside of the summer months and require advance communication to the public of the temporary closure.

27.10.6 Based on a screening assessment using Rules 1 and 2 in GEART, the following number of highway links required full assessment under EIA regulations, for the impacts of an increase in construction vehicle movements associated with the Project, dependant on the Onshore ECC option being considered:

- All Onshore ECC options – 4;
- Weston Marsh Onshore ECC option (both alignments) – 18;
- Weston Marsh south of the A52 Onshore ECC option – 2; and
- Weston Marsh north of the A52 Onshore ECC option – 17.

27.10.7 The outcome of the assessment identifies no significant effect as a result of:

- Community severance;
- Vulnerable road users and Road Safety; and
- Dust and dirt

27.10.8 A **significant adverse** effect as a result of pedestrian amenity has been identified on Station Road (Weston Marsh Onshore ECC option (both alignments).

27.10.9 The consideration of WCH users of all PRoW within the study area that were identified as being directly or indirectly impacted by the construction of the Project have been assessed, using the guidance in DMRB LA 112. The assessment has identified the following **significant effects:**

- Ande/19/2, Chap/19/5 and Hogs/56/2 (summer only), due to the length of the temporary diversion; and
- Fosd/2/1 and Fosd/3/1 due to the route being shared by construction traffic associated with the Project.

27.10.10 The implementation of the Final PAMP, which could include avoiding the summer months for construction work at these locations, wherever practicable, or providing segregation for users would further reduce the level of effect and would **not be significant.**

27.10.11 The cumulative assessment has shown there would be **no significant** cumulative impacts in terms of Traffic and Transport.

27.10.12 A summary of the assessment outcomes is provided in Table 27.88.

Table 27.88: Summary of the assessment

Description of effect	Effect	Additional mitigation measures	Residual impact
Construction			
Driver delay and severance – increase in vehicle movements	Negligible **(not significant**)	Measures within Outline CTMP (Document reference 8.1.7) and the Outline TP (Document reference 8.1.6)	Negligible adverse (**not significant**)
Driver delay and severance – use of open trenching	Minor (**not significant**) to Moderate (**significant**)	Measures within Outline CTMP (Document reference 8.1.5) and road closures avoiding the summer months wherever practicable.	Minor adverse (**not significant**)
Community severance	Negligible (**not significant**) to minor (**significant**)	Measures within Outline CTMP (Document reference 8.1.5) and the Outline TP (Document reference 8.1.6)	Negligible to minor adverse (**not significant**)

Description of effect	Effect	Additional mitigation measures	Residual impact
Vulnerable road users and road safety	Negligible to minor adverse (**not significant**)	Measures within Outline CTMP (Document reference 8.1.5)	Negligible adverse (**not significant**)
Pedestrian amenity	Negligible adverse (**not significant**) to moderate adverse (**significant**)		Negligible to minor adverse (**not significant**)
Dust and dirt	Minor adverse **(not significant)** to major adverse **(significant)**		Minor adverse (**not significant**)
Users of PRoW	Negligible adverse **(not significant)** to Moderate adverse **(significant)**	Measures within Outline PAMP (Document reference 8.1.7), programming of work s to avoid the summer at sensitive locations, where practicable.	Negligible to minor adverse **(not significant)**

27.11 References

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