VikingCCS

Viking CCS Pipeline

Environmental Statement Volume II – Chapter 12: Traffic and Transport - Revision A (Tracked)

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Prepared by		Checked by	Verified by		Approved by
DC		MR	~~SM~~MR~~R~~JD		NP
Transportation Senior Consultant		Transportation Associate Director	Transportation ~~Associate Director~~Regional Director		EIA Technical Director

Prepared by:

AECOM Limited
Exchange Station
Tithebarn Street
Liverpool
Merseyside
L2 2QP

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12.1 Introduction

12.1.1 This chapter of the Environment Statement (ES) presents the assessment of the likely significant effects of the Viking CCS Pipeline (the Proposed Development) on traffic and transport during the construction phase. It is based on an updated construction programme and associated traffic information and supersedes the version of the chapter submitted with the initial DCO application.

12.1.2 Based on the above, this chapter is subject to several changes, with a summary of the key changes provided below:

- Amended construction programme, now September 2025 – March 2027
- Construction worker numbers and vehicle volumes
- Updated c~~C~~onstruction HGV and LGV volumes
- Monthly and daily profiles of worker vehicles / HGVs and LGVs
- Variations of the volumes of vehicles using each road link
- Variations of traffic percentage increases on affected road links
- Variations of magnitudes of effects, based on changes to construction traffic volumes
- Variations to significance of effects
- Variations to the locations predicted to experience residual effects following implementation of mitigation.
- Details of cumulative effects removed and included within separate technical note.

~~12.1.1~~12.1.3 Once operational, any traffic generated will be minimal and through the scoping opinion has been scoped out of the assessment.

12.1.4 It is not possible to accurately predict the decommissioning traffic numbers or predict the future baseline conditions during the decommissioning phase, as this will occur a number of years in the future. The decommissioning phase will generate substantially less traffic than the construction phase as the pipe will be left in the ground and will therefore not generate any traffic during decommissioning. ~~,~~T~~t~~herefore any impacts during this period are expected to be substantially lower than during construction. Subsequently, it is not proposed to assess the decommissioning phase within this chapter, though the construction phase assessment findings can be taken as a worst case proxy for decommissioning.

~~12.1.2 As such it is not proposed to assess the decommissioning phase within this chapter, although any impact is likely to be lower than the construction phase.~~

~~12.1.3~~12.1.5 The assessment of construction traffic includes consideration of the following:

a. The present day and future baseline conditions during construction; and
b. The effects of construction traffic on the local road network, including the strategic road network (SRN) as a result of the Proposed Development in terms of the increase in overall vehicle numbers, including Heavy Goods Vehicles (HGV).

~~12.1.4~~12.1.6 Traffic and transport are interrelated with other environmental effects and so this chapter should be read in conjunction with ES Volume II (*Application Document 6.2*):

- *Chapter 13: Noise and Vibration; and*

- *Chapter 14: Air Quality.*

~~12.1.5~~12.1.7 This chapter is supported by **Figure 12-1**~~**Figure 12-1**~~ and **Figure 12-2**~~**Figure 12-2**~~ and additional information contained in the following Appendices (*ES Volume IV: Application Document 6.4*):

- *Appendix 12.1: Transport Baseline Survey data;*
- ~~*Appendix 12.2: Construction Traffic Flows;*~~
- ~~*Appendix 12.3: Construction Traffic Profiles;*~~
- *Appendix 12~~.~~.42: Transport Assessment; and*
- *Appendix 12~~.~~.53: Construction Traffic Management Plan.*

12.1.8 The appendix numbering has been amended to reflect the removal of previous appendices (Appendix 12-2 Construction Traffic Flows and Appendix 12-3 Construction Traffic Profiles) which were used to inform the previous assessment but are not relevant to the updated assessment.

12.2 Legislation, Policy and Guidance

National Planning Policy

12.2.1 This chapter takes into consideration the relevant National Policy Statements (NPS), including the drafts published in March 2023, which are matters that will be important to the decision-making process. The relevant NPSs are:

- National Policy Statement Overarching Energy (EN1) (2011) and (2023) (Ref 12-1~~Ref 12-1~~ and Ref 12-2~~Ref 12-2~~); and
- National Policy Statement for Oil and Gas Supply and Storage (EN4) (Ref 12-3~~Ref 12-3~~ and Ref 12-4~~Ref 12-4~~).

12.2.2 The NPSs include specific criteria and issues that should be included in an applicants' assessment of the effects, and how the decision maker should consider these in their decision making. With regards to traffic and transportation issues, only EN-1 directly applies, with no reference to traffic impact beyond noise and vibration considerations being included within NPS EN-4.

12.2.3 **Table 12-1**~~**Table 12-1**~~ outlines the relevant paragraphs from the traffic and transport section of NPS EN-1. An overview of how relevant national planning policy statements has been complied with is provided within the *Planning Statement (Application Document 7.1)*.

Table 12-1: National Policy Statement Policies Relevant to Traffic and Transport

Policy Reference	Policy Context
Overarching National Policy Statement for Energy (EN-1) (2011)	
Paragraph 5.13.3	*"If a project is likely to have significant transport implications, the applicant's ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG139 methodology stipulated in Department for Transport guidance140, or any successor to such methodology. Applicants should consult the Highways Agency and Highways Authorities as appropriate on the assessment and mitigation"*
Paragraph 5.13.4	"*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*

Policy Reference	Policy Context
	public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts"
Paragraph 5.13.7	*"Provided that the applicant is willing to enter into planning obligations or requirements can be imposed to mitigate transport impacts identified in the NATA/WebTAG transport assessment, with attribution of costs calculated in accordance with the Department for Transport's guidance, then development consent should not be withheld, and appropriately limited weight should be applied to residual effects on the surrounding transport infrastructure"*
~~Draft~~ Overarching National Policy Statement for Energy (EN-1) (2023)	
Paragraph 5.14.1	*"The transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects".*
Paragraph 5.14.8	*"The assessment should also consider any possible disruption to services and infrastructure (such as road, rail and airports)"*
Paragraph 5.14.11	*"Where mitigation is needed, possible demand management measures must be considered and if feasible and operationally reasonable, required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts."*
Paragraph 5.14.14	*"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, either on the site or at dedicated facilities elsewhere, to avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and* *ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force."*
Paragraph 5.14.21	*"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"*

National Planning Policy Framework

12.2.4 The National Planning Policy Framework (NPPF) (Ref 12-5~~Ref 12-5~~) sets out the Government's economic, environmental and social planning policies for England. The policies set out in this framework apply to the preparation of local and neighbourhood plans and to decisions on planning applications. The latest version of NPPF was released in early September 2023.

12.2.5 The NPPF has two key themes:

- Providing a greater level of integration and simplification of the planning policies governing new development nationally; and
- Contribute to the achievement of sustainable development from an economic, social and environmental perspective.

12.2.6 The NPPF has a presumption in favour of sustainable development, which should be reflected in local development plans and frameworks to ensure that sustainable development and the needs of an area are identified and subsequently approved without delay. The NPPF is based on a range of core planning principles, which are aimed at supporting the focus on sustainable plan-led development.

12.2.7 Transport specific policies play a key role in supporting and achieving the core planning principles and are intrinsically linked to the objective of sustainable development. The NPPF specifically states that development should only be prevented or refused on transport grounds if there would be an unacceptable impact on highway safety or where the residual cumulative impacts of development are severe.

12.2.8 The core planning principles above provide a framework to provide inclusive, accessible, well connected and sustainable development.

12.2.9 Extracts from the National Planning Policy Framework 2023 relevant to Traffic and Transport is detailed in **Table 12-2~~Table 12-2~~**. An overview of how relevant national planning policy statements has been complied with is provided within the *Planning Statement (Application Document 7.1)*.

Table 12-2: National Planning Policy Framework Policies Relevant to Traffic and Transport

Policy Reference	Policy Context
Paragraph 106	States that planning policies should *"be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned."*
Paragraph 108	"*Maximum parking standards for residential and non-residential developments should only be set if there is a clear and compelling justification that they are necessary for managing the local road network*".
Paragraph 110	*"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that*: *appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;* *safe and suitable access to the site can be achieved for all users;* *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* *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."*
Paragraph 111	"*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*"

Policy Reference	Policy Context
Paragraph 113	"*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*."

Local Policy

12.2.10 The applicable local planning and transport guidelines and policies have been reviewed as part of the assessment. These plans are:

- Central Lincolnshire Local Plan Adopted 2023 (Ref 12-6~~Ref 12-6~~);
- North East Lincolnshire Local Plan 2013 to 2032 (Ref 12-7~~Ref 12-7~~);
- Lincolnshire Local Transport Plan (2013/14 – 2022/23) (Ref 12-9~~Ref 12-9~~); and
- North Lincolnshire Transport Plan (2011-2026) (Ref 12-9~~Ref 12-9~~).

Central Lincolnshire Local Plan

12.2.11 As it relates to traffic and transport the relevant policies can be given as follows.

- Policy S47 – Accessibility and Transport, which requires all development to consider how travel can be minimised, which supports any measures adopted by the Contractor through the OCTMP to limit as far as possible the construction impact.

North East Lincolnshire Local Plan

12.2.12 The most recent examination of the Local Plan was adopted in 2018 and in terms of traffic and transport the key policies can be set out as follows.

- Policy 5 – Development boundaries, which as it relates to traffic and transport requires a consideration of access and traffic generation;
- Policy 31 – Renewable and low carbon infrastructure, which as it relates to traffic and transport should consider the effects of highway safety and network capacity; and
- Policy 36 – Promoting sustainable transport, which aims to reduce congestion and improve environmental quality. This would then support any measures adopted by the Contractor through the OCTMP to limit as far as possible the construction impact.

Lincolnshire Local Transport Plan

12.2.13 This plan is designed to cover the short, medium, and longer-term time horizons for transport and highways for the whole of Lincolnshire. As part of this plan six key themes have been identified to improve the highway network to increase connectivity and accessibility within the region:

- Supporting Economic Growth;
- Future Ready Green Transport (Climate Change);
- Promoting Thriving Environments;
- Supporting Safety, Security and a Healthy Lifestyle;
- Promoting High Aspirations; and
- Improving the Quality of Life.

North Lincolnshire Local Transport Plan

12.2.14 The North Lincolnshire Local Transport Plan sets out the Vision for 2026 and Local Transport Goals that will shape the future direction of transport in North Lincolnshire over the 15-year LTP3 period between 2016 and 2032. As part of this transport plan several goals have been outlined:

- Facilitate economic growth by targeting transport improvements in key development areas and along key strategic network corridors;
- Reduce transport related carbon dioxide emissions and protect and enhance the natural and built environment through sustainable transport solutions;
- Improve transport safety and security relating to death or injury from transport, in order to contribute towards safer and stronger communities;
- Provide equal opportunities through improvements in accessibility to key local hubs and services by sustainable modes of transport; and
- Enhance people's health and wellbeing through the promotion of healthy modes of travel and provision of a high-quality integrated transport system that contributes towards long term sustainable regeneration.

North East Lincolnshire Transport Plan

12.2.15 North East Lincolnshire Council's Local Transport Plan has been developed to support the ongoing growth and economic development aspirations of the Council. A modern, well managed and efficient transport system is a key component that supports the vision for North East Lincolnshire. As part of this plan several key objectives have been identified which can be out as follows:

- Enable sustainable growth through effective transport provision;
- Improve journey times and reliability by reducing congestion;
- Support regeneration and employment by connecting people to education, training and jobs;
- Enable disadvantaged groups or people living in disadvantaged areas to connect with employment, healthcare, social and leisure opportunities;
- Improve the health of individuals by encouraging and enabling more physically active travel;
- Provide safe access and reduce the risk of loss, death or injury due to transport collisions or crime;
- Improve the journey experience on the local transport network; and
- Ensuring that transport contributes to environmental excellence, including managing air quality and reducing transport-related greenhouse gas emissions.

Guidance

12.2.16 In addition to the policies and plans described above, the following guidance documents have been considered in the production of this chapter. These have provided guidance for the both the assessment methodology and the design basis for temporary and permanent accesses:

- Institute of Environmental Management and Assessment's (IEMA) (formally the Institute of Environmental Assessment (IEA)) 'Guidelines for the Environmental Assessment of Road Traffic' – January 1993 (Ref 12-10~~Ref 12-10~~);

- DfT Circular 01/2022 Strategic Road network and the delivery of sustainable development (Ref 12-11~~Ref 12-11~~);
- Transport Analysis Guidance (Ref 12-12~~Ref 12-12~~); and
- Design Manual for Road and Bridges (DMRB) (Ref 12-13~~Ref 12-13~~).

12.2.17 It is noted that the guidance for environmental assessment of traffic and movement was recently updated in July 2023; however, the assessment within this ES Chapter has been based upon the 1993 guidance as the assessment was commenced prior to July 2023.

12.3 Scope of Assessment and Consultation

12.3.1 A scoping exercise was undertaken in early 2022 to establish the content of the traffic and transport assessment and the approach and methods to be followed.

12.3.2 The Scoping Report reported the findings of the scoping exercise and detailed the technical guidance, standards, best practice and criteria to be applied in the assessment to identify and evaluate the likely significant effects of the Proposed Development on traffic and transport.

12.3.3 **Table 12-3**~~**Table 12-3**~~ below summarises the Traffic and Transport related aspects of the EIA Scoping Opinion received from the Planning Inspectorate as well as providing commentary on feedback provided by local highway authorities (LHAs).

Table 12-3: Summary of the EIA Scoping Opinion in relation to Traffic and Transport

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
Planning Inspectorate Paragraph 14.7.3, Table 14-4	Impacts from operational traffic (including traffic and transport effects, severance, pedestrian delay, pedestrian amenity, fear and intimidation, and accidents and safety)	The Inspectorate has considered the information provided and accepts that significant effects are unlikely given the likely scale of operational traffic. The Inspectorate advises that the ES should include the information used to establish that likely significant effects can be excluded and demonstrate where this has been informed by the outcomes of consultation with stakeholders.	As set out in paragraph 12.2.8, no assessment of the operational traffic has been included because the predicted operational workforce is limited to inspection and periodic maintenance work. The operational activities are described in *ES Volume II Chapter 3 Description of the Proposed Development (Application Document 6.2.3).*
Planning Inspectorate Paragraph	Base traffic flows growth	The Scoping Report states that base traffic flows will be	Other development proposed during the construction period have been assessed as part of the cumulative

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
14.4.14		'growthed' to the identified peak year of construction using adjusted model growth factors. It is not explained how traffic changes in the study area due to other development during the construction period will be accounted for. This should be explained in the ES.	effects assessment and reported in section 12.13 of this chapter.
Planning Inspectorate Paragraph 14.2.7, Paragraph 14.4.12	Traffic generation at compounds and construction staff sites	The Scoping Report describes the use of a gravity model to determine construction worker trip generation and the distribution of construction traffic onto the local highway network to calculate resultant effects. Limited information is provided on the methods applied or likely assumptions to be made as part of these calculations. This information should be provided in the ES, and evidence provided demonstrating how the outcomes of consultation with the relevant stakeholders has been taken into account.	Details of the traffic generation have been included within the ES. ~~following supporting documents to this chapter contained within ES Volume IV:~~ ~~Appendix 12.2: Construction Traffic Flows;~~ ~~Appendix 12.3: Construction Traffic Profiles; and~~ ~~Appendix 12.4: Transport Assessment.~~
Planning Inspectorate Paragraph 14.4.11	Duration of effects	The Inspectorate advises that the duration of effects are defined in the ES in addition to their	The duration of effects is discussed within the Transport Assessment included within *Appendix 12-4~~-~~2 of ES Volume IV (Application Document 6.4.12.4),* with a

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
		description as permanent or temporary effects, given the likely extensive timescales of 'temporary' construction effects. If terms such as 'short-term' or 'long-term' are used the duration of these should be defined.	consideration of duration being included within paragraph 12.4.48 within this Chapter. The chapter has assessed effects lasting the entire construction period, although in reality effects will endure in any particular location for a much shorter period of time.
Planning Inspectorate Paragraph 14.4.15	Transport assessment	It will be essential that the key information from the Transport Assessment on which the assessments in the ES rely is clearly described in the ES, and that the assumptions made with regard to the worst-case scenario applied in each case are set out.	Further information regarding the Transport Assessment is provided in section 12.4.14 of this chapter. The assessment scenarios are set out in section 12.4. The assessment is considered to be a worst case as no allowance for car sharing amongst construction workers has been allowed for~~;~~ ~~.as well as uplifting the construction traffic data supplied by 20%.~~
East Lindsey District Council	Scope	The ES should assess impacts on travel and congestion on the highway network and impacts on the highway surfaces from increased usage.	The supporting Transport Assessment within *ES Volume IV Appendix 12-~~4~~ 2* includes an assessment of the impacts on travel and sets out the impact upon the highway network in terms of the increased number of construction vehicle trips. The assessment does not cover impacts on highways surfaces, as this is not an environmental impact per se and is not included with the IEA guidance.
Lincolnshire County Council	Scope	From a highway's perspective, the range of the topics in the scoping document appears reasonable, and we will be able to	This response has been noted.

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
		comment in further detail as the Proposed Development progresses.	
North East Lincolnshire Council	Scope of TA	I would ask that the applicants scope the Transport Assessment out with ourselves to ensure all committed developments and relevant junctions are included within the report.	The proposed locations of the Automatic Traffic Counts (ATCs) were reported in the Scoping Report and no suggested revisions to these were made. The Applicant has engaged with NELC during the full assessment.
	Data collection	In terms of the data collection, we ask that this is done during the months of April, May, June, September and October on either a Tuesday, Wednesday or Thursday and during term time.	ATC surveys were undertaken during July 2022 to provide two-way traffic flows, classified by vehicle type, including HGVs. In line with TAG Unit M1.2 (Ref 12-12~~Ref 12-12~~) neutral periods are defined as Monday to Thursday from March through to November (excluding August) and avoiding the weeks before / after Easter. The locations and timings of the surveys were agreed with the relevant highway authority – see consultee response section below. Surveys of some additional construction routes were undertaken in June 2023.
North Lincolnshire Council	Assessment Approach	The Council's Highways Officer has confirmed that this proposed approach is acceptable.	This response has been noted.
United Kingdom Health Security Agency	Guidelines	The Traffic Assessment should identify impacts on pedestrians and cyclists including delay, amenity, or safety using the local road network, as	Impacts have been identified as outlined within Rules 1 and 2 of the IEA Guidelines (Ref 12-10~~Ref 12-10~~). This method is explained in section 12.4.1.

Section Reference to Scoping Opinion	Applicant's proposed matter	Planning Inspectorate / prescribed consultee comments	Response
		outlined within Rules 1 and 2 of the IEA GEART Guidelines. This should include an assessment of usage.	

12.3.4 A summary of stakeholder engagement specific to traffic and transport is provided in **Table 12-4~~Table 12-4~~**.

Table 12-4: Traffic and Transport Stakeholder Engagement

Stakeholder	Date of meeting / communication	Summary of discussions
National Highways	22 March 2023	Meeting to introduce the Proposed Development and provide an overview of the methodology and potential crossing points on the SRN.
NELC, North Lincolnshire Council, Lincolnshire County Council	31 March 2023	Introduction to the Proposed Development and a very high-level description of the route only.
North ~~E~~East Lincolnshire Council, North Lincolnshire Council, Lincolnshire County Council	26 June 2023	Meeting to discuss the detailed access route plans 60668955/VCCS_230616_P60 and 60668955/VCCS_230616_P54 (35 plans). No detailed comments were received, and the Highway Authorities need time to review, follow up meeting arranged.
National Highways	28 June 2023	Meeting to discuss the detailed access route plans 60668955/VCCS_230616_P60 and 60668955/VCCS_230616_P54 (35 plans). No detailed comments were received as the impact in relation to the SRN is focused on the north end around Immingham only.
North Lincolnshire Council, Lincolnshire County Council,	11 July 2023	Agreed the traffic routes and access points in principle but will not be able to confirm acceptability until traffic generation figures are available.
North Lincolnshire Council, Lincolnshire County Council	26 July 2023	Email to issue peak daily traffic movements on each proposed route.
~~NELC~~ North East Lincolnshire Council	1 August 2023	Meeting to review proposed construction traffic routes and accesses.

Scope of Assessment

12.3.5 This section briefly sets out the scope of the assessment of Traffic and Transport.

Aspects scoped into the assessment

12.3.6 The assessment scenarios considered in this chapter relate to the construction phase and assumes a worst case, in which the main construction activities commence in early 2026, ~~and it has been assumed that all construction activities would be onsite concurrently with a 20% uplift in the data provided to allow for variations in traffic flow.~~with the worst case peak week assessed for each construction route (at the ATC point).

12.3.7 This includes all construction activity to and from the Proposed Development as well as a scenario assessing the impact of the construction traffic required to deliver the sections of pipe from the port of Immingham to the three construction compounds.

Aspects scoped out of the assessment

12.3.8 It has been agreed through scoping that the operational phase will generate only a negligible amount of traffic. The pipeline and associated facilities are designed for minimal maintenance. Maintenance would be restricted to periodic equipment checks and equipment design would facilitate expedient repair or replacement in the majority of situations in order to reduce downtime to a minimum. Pipeline inspections would be carried out at regular intervals using aerial surveillance and annual walkover of the route. The Block Valve Stations would have no on-site personnel; they would require a weekly inspection by one operative, with routine maintenance carried out on a pre-planned basis using a small crew of discipline engineers.

12.3.9 Although initially scoped in, the impacts of traffic that could potentially be generated during the decommissioning phases is excluded from the assessment. The pipeline would be purged, capped off and left in situ, which would generate a negligible amount of traffic. Traffic associated with the demolition and removal of the Immingham and Theddlethorpe facilities and Block Valve Stations would be lower than that required for construction. It is not possible to predict a baseline for traffic flows given the likely operational life of the Proposed Development. However, given traffic generated by decommissioning would be considerably lower than the construction traffic levels, construction traffic impacts can be taken a worst-case proxy for the assessment of decommissioning effects.

12.4 Assessment Methodology

12.4.1 The Proposed Development has been split into five separate sections, and these sections have been used for the reporting of both the Baseline and Assessment scenarios. For ease of reporting the location of the ATCs have been attributed to sections based on their relative location within the route corridor and not based on the route section that those construction routes will serve. This is because some routes will be used by construction traffic related to multiple route sections, but they need only be reported once. For example, there are ATCs included within the route Section 3 reporting (ATCs 50, 51 and 52) that will not be used for construction of section 3, but rather will be used for access route sections 4 and 5. The route sections are as follows:

- Section 1 – Runs from Immingham to the A180;
- Section 2 – Runs from the A180 to the south of Immingham to the A46, just to the west of the A18 at Laceby;
- Section 3 – Runs from west of Laceby to Pear Tree Lane, to the east of the A18 close to Ludborough;
- Section 4 – Runs from Pear Tree Lane to the B1200 to the east of Manby, and

- Section 5 – Runs from the B1200 to Theddlethorpe.

12.4.2 The methodology for assessing the impact of development-generated traffic is based on that outlined in Institute of Environmental Assessment's (IEA, now known as the Institute of Environmental Management and Assessment (IEA)) 'Guidelines for the Environmental Assessment of Road Traffic' (January 1993) (Ref 12-10~~Ref 12-10~~). The IEA guidelines state that a link on the highway network should be included within the study if one of the following 'rules of thumb' is met:

- Rule 1 - Traffic flows increase by more than 30% (or HGV flows increase by more than 30%); or
- Rule 2 - Traffic flows in sensitive areas increase by more than 10%.

12.4.3 The IEA guidelines recommend that several effects may be considered important when considering traffic from an individual development:

- Severance;
- Pedestrian delay;
- Pedestrian amenity;
- Fear and Intimidation;
- Accidents and safety, and

- Public Rights of Way (PRoW)

12.4.4 Other potential traffic related effects are considered under other topics. Temporary noise and vibration effects resulting from construction traffic are considered in *ES Volume II Chapter 13: Noise and Vibration* and effects relating to air quality are considered in *ES Volume II Chapter 14: Air Quality*. The potential effects of construction traffic on sites of ecological and nature conservation value are covered in *ES Volume II Chapter 6: Ecology and Biodiversity*. Any traffic effects on tourists, visitor attractions and other businesses, are considered in *ES Volume II Chapter: 16: Socio-economics.*

12.4.5 The type of traffic which is anticipated to be generated by the Proposed Development has been categorised as follows; primarily general traffic, LGVs, HGVs and Abnormal Indivisible Loads (AILs).

12.4.6 The locations and volumes of the proposed traffic have been quantified to identify those receptors that may be impacted upon, due to the increase in vehicle movements. This has been undertaken by estimating the percentage increase in vehicular activity along the proposed construction routes, following the collection of baseline traffic data. The baseline has been established using Automated Traffic Counts (ATCs). Data from these ATC surveys have been used to derive baseline annual average daily traffic (AADT) for individual links, subdivided into 24 hour and 18 hour counts for total traffic and HGVs.

12.4.7 Typically, when assessing the impacts of traffic effects, there are a range of particular groups and locations that may be sensitive to changes in traffic conditions at the levels identified in the 'rules of thumb' previously outlined.

12.4.8 These are outlined in the IEA Guidance as 'Affected Parties', and are as follows:

- People at home;
- People in workplaces;
- Sensitive groups including children, elderly and disabled;
- Sensitive locations, e.g. hospitals, churches, schools, historic buildings;
- People walking;

- People cycling;
- Open spaces, recreational sites, shopping areas;
- Sites of ecological/nature conservation value; and
- Sites of tourist/visitor attraction.

12.4.9 The IEA guidance states that this list of affected parties is not exhaustive. One affected party that is not on the list but will nevertheless be considered in this assessment is 'other road users'. All of the affected parties have one thing in common, which is that their potential exposure to changes in traffic volumes comes about through their proximity to a construction traffic route.

12.4.10 It is important to note that the IEA methodology does not consider the duration of effects, for example whether it is temporary (construction only) or permanent (operational traffic). As such effects that, using this methodology, may appear to be significant, may be considered not significant if the effect is temporary or infrequent (occurring only occasionally during construction).

12.4.11 To calculate the trip distribution of workers travelling to and from the proposed construction compounds each day, a simple gravity model has been developed based on likely origin/destinations. Construction traffic associated with the Proposed Development has been distributed onto the local highway network to calculate the resultant percentage increase on each link.

12.4.12 Assessments have been undertaken at the peak of construction for each of the identified scenarios which are set out in Section 12-1. The construction programme assumes a one-year construction period with the delivery of the pipes scheduled to be completed in the year before.

12.4.13 Growth factors for baseline traffic have been derived from TEMPro v7.2 based on the census Middle Super Output Area (MSOA) adjusted for relevant areas impacted by the Proposed Development. The peak construction traffic flows have been derived by analysing construction traffic data and construction programmes.

Transport Assessment

12.4.14 The ability of the highway network to accommodate the construction traffic has been assessed and reported in a Transport Assessment (TA) which is included as in *ES Volume IV: Appendix 12.4 (Application Document 6.4.12.4)***.** The TA includes:

- A review of relevant national, regional and local policies;
- A description of the existing baseline conditions.
- A review of the road safety data for the most recent five-year period within the identified search cordon;
- A Description of the Proposed Development, setting out timescales for construction, identification of route sections, typical working width layout, compound locations, access routes to compounds, construction methods for individual railway and road crossings;
- Traffic generation for construction staff with a profile of arrivals and departures for the day and HGV traffic with a profile of arrivals and departures for the day;
- Distribution and assignment of trips to the network with construction traffic distributed based on a gravity model of worker catchment area and HGV's assigned from the A road network;
- Mitigation measures; and
- Summary and Conclusions.

Sensitivity, Value or Importance

12.4.15 The general criteria for defining the importance or sensitivity of receptors are set out in **Table 12-5~~Table 12-5~~.**

12.4.16 Key factors influencing this include:

- The value of the receptor or resource based upon empirical and/or intrinsic factors, for example considering any legal or policy protection afforded which is indicative of the receptor or resources' value internationally, nationally or locally; and
- The sensitivity of the receptor or resource to change, for example is the receptor likely to acclimatise to the change. This will consider legal and policy thresholds which are indicative of the ability of the resource to absorb change.

Table 12-5: Categorising the Overall Sensitivity of a Highway Link

Sensitivity	Description
High	Schools, colleges, playgrounds, hospitals, retirement homes. Heavily congested junctions, residential properties very close to carriageway.
Medium	Congested junctions, shops/businesses, areas of heavy pedestrian / cycling use, areas of ecological/nature conservation, residential properties close to carriageway.
Low	Tourist/visitor sites, places of worship, residential areas set back from the highway with screening.
Very Low	Those people and places located away from the affected highway link.

12.4.17 The link sensitivity has been based upon an average sensitivity of the whole link, and some links have then been broken down into sensible sections where appropriate, e.g., between two main junctions or villages.

Magnitude

12.4.18 This assessment considers a range of potential effects that could be experienced during the construction stage of the Proposed Development and this section identifies how magnitude will be considered for each.

12.4.19 Severance is considered here in the context of driver severance, when there is difficulty accessing onto a heavily trafficked road. The assessment will consider both total traffic and the proportion of HGVs. The guidance for thresholds of magnitude is taken from DMRB Volume 11, Section 3, Part 8.

12.4.20 Pedestrian Delay occurs when there is difficulty crossing a heavily trafficked road. Effects are only likely to be realised when the total two-way traffic on the carriageway exceeds 1,400 vehicles per hour (IEA Guidelines).

12.4.21 Pedestrian Amenity is similar to Pedestrian Delay in that there needs to be a fairly significant proportional increase in traffic for baseline effects to be considerably worsened. The IEA guidelines suggest that traffic needs to double for effects to become significant. This assessment acknowledges that lower proportional increases may have minor or moderate impacts.

12.4.22 Fear and Intimidation occurs through a combination of traffic flow, speed, proportion of HGVs and the proximity of the above to people or receptors on highway links. These indicators are often heightened by a perceived lack of protection or buffers from the highway or through narrow or non-existent footways. The assessment considers each road on a case-by-case basis, however there are indicative thresholds provided which are presented in **Table 12-6~~Table 12-6~~**.

12.4.23 Driver Delay is an effect that, as set out in the IEA Guidance, is derived based upon junction capacity assessments. However, as it is not proposed to undertake any junction assessment due to the temporary nature of the construction impact, an alternative assessment based upon increases in traffic has been set out within **Table 12-6~~Table 12-6~~.**

12.4.24 Highway safety considers Personal Injury Accident (PIA) data obtained from the LHA for the last five years at junctions and links along the proposed construction traffic routes. These have been used to assess whether the additional traffic during construction of the Proposed Development would be likely to have a detrimental effect of road safety.

12.4.25 **Table 12-6**~~**Table 12-6**~~ summarises the criteria used to determine whether magnitude is considered Very Low, Low, Medium or High. Within **Table 12-6**~~**Table 12-6**~~, neither the sensitivity of receptors, nor the duration of effects, is taken into consideration. **Table 12-6**~~**Table 12-6**~~ is formed using a combination of the IEA Guidelines, DMRB, and professional judgement.

Table 12-6: ES Magnitude Criteria

Impact	Very Low	Low	Medium	High
Severance	Increase in total traffic flows of 30~~29~~% or under (or increase in HGV flows under 10%).	Increase in total traffic flows of 31~~0~~-59% (or increase in HGV flows of between 1~~2~~0%-39%.	Increase in total traffic flows of 60%-89% (or increase in HGV flows between 40%-89%.	Increase in total traffic flows or HGV flows of 90% and above.
Pedestrian Delay	Total traffic flows under 1,400 per hour.		Where traffic flows exceed 1,400 vehicles per hour the severity of the impact will be determined on a case-by-case basis based on receptor sensitivity.	
Pedestrian Amenity	Increase in total traffic flows of 50~~49%~~ or under.	Increase in total traffic flows of 50-69%.	Increase in total traffic flows of 70%-99%.	Increase in total traffic flows of 100% or above.
Fear and Intimidation	Increase in total traffic flows or HGV flows of 29% or under (or increase in HGV flows under 10%).	Increase in total traffic flows of 30-59% (or increase in HGV flows of between 10%-39%.	Increase in total traffic flows of 60%-89% (or increase in HGV flows between 40%-89%)	Increase in total traffic flows or HGV flows of 90% and above.
Driver Delay	Increase in total traffic flow of less than 29%.	Increase in total traffic flow of between 30% and 59%.	Increase in total traffic flow of between 60% and 89%.	Increase in traffic flow of 90% and above.
Highway Safety	Increase in total traffic flows of 30% or under (or increase in HGV flows under 10%).		All links estimated to experience increases in total traffic flows above 30% or increases in HGV flows above 10% are analysed further on a case by case basis.	
PRoW Diversions and/or Closures	A temporary PRoW diversion (no closure) with either no increase in pedestrian journey length or an increase in pedestrian journey length for one to five days.	A temporary PRoW diversion (no closure) with an increase in pedestrian journey length for one to four weeks.	A short-term PRoW closure (for less than four weeks in any 12-month period) without a diversion route; or A temporary PRoW diversion (no closure) with	A short-term PRoW closure (for more than four weeks in any 12-month period) without a diversion route.

Impact	Very Low	Low	Medium	High
			an increase in pedestrian journey length for more than four weeks.	

Duration

12.4.26 **Table 12-6**~~**Table 12-6**~~ sets out the proposed magnitude thresholds for the respective environmental effects to be considered. ~~a~~All effects have a magnitude that does not, initially, consider the duration over which an effect is likely to be experienced.

12.4.27 Duration is considered when assessing the overall significance of residual effects, noting that the DMRB Volume 11 Section 2 Part 5 states in Paragraph 1.47:

> *'Recognition should be made that permanent impacts will be more significant than those of a temporary nature. For example, the impact may only occur during a single phase of the Proposed Development construction and may be temporary. Alternatively, the impact may be long-term or irreversible and hence permanent. It is, therefore, important that the assessment distinguishes between permanent and temporary impacts'.*

12.4.28 The traffic and transport effects associated with the Proposed Development would be temporary effects during construction or decommissioning. Some temporary effects would be likely to last longer than others and these have been reported within the assessment of effects section below. Following the quantified assessment, residual effects are reported, taking account of the potential duration over which effects are likely to be experienced.

12.4.29 In terms of the duration of temporary effects, these have been assessed as enduring for ~~12~~ 15 months. In reality the duration of effects on any particular traffic route will be much less because of the nature of pipeline construction, which involves peaks of activity at certain stages, which much less activity between~~;~~, for example there will be a peak whilst the sections of pipe are delivered to the site and then a peak of activity when the main construction train passes through (soil stripping, trench excavation, welding, lower and lay and reinstatement).

Significance

12.4.30 Effects will be considered significant or not significant in EIA terms by judging the relationship between the magnitude of effect of each assessment criteria to be assessed, with the sensitivity of each receptor. A Major or Moderate effect is typically considered to be significant. A Minor or Negligible effect is not considered significant. **Table 12-7**~~**Table 12-7**~~ presents a matrix that will be used to help determine the significance of effects.

Table 12-7: Significance of Effects Matrix

Sensitivity of receptor	Magnitude			
	High	Medium	Low	Very Low
High	Major– Significant	Major– Significant	Moderate– Significant	Minor– Not Significant
Medium	Major– Significant	Moderate– Significant	Minor– Not Significant	Negligible – Not Significant
Low	Moderate– Significant	Minor– Not Significant	Negligible – Not Significant	Negligible – Not Significant
Very Low	Minor– Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

12.4.31 As well as considering the duration that effects are likely to be experienced over, other factors have been taken into consideration when determining the significance of effects, such as the level of baseline traffic on a link.

Assumptions and Limitations

12.4.32 Overall, the following points should be considered in relation to the impact of the increase in HGV traffic across the different route sections:

- ~~The modelling work and assessment that forms the basis for the conclusions in this chapter was undertaken at a point in time where the project programme was not fully developed. In order to adopt a precautionary approach to assessment, the Applicant used the maximum traffic numbers that would be generated by all activities in the construction phase as though they were taking place concurrently. This is considered highly likely to have overestimated the average and peak construction traffic at certain links, as phasing of construction activities within certain locations means that not all activities will be taking place at the same time;~~

- A construction programme has been developed that sets out the phased construction period based upon the five route sections. A construction vehicle schedule has then been created to reflect the phasing of the works over these sections. Based on this information the peak week traffic for each construction route/ATC point was then used as the basis of the assessment. This means that the worst case construction traffic numbers have been assessed at each ATC point included as part of the assessment.

- ~~The Applicant is progressing Front-End Engineering Design (FEED) for the Proposed Development and now has greater clarity on the programming of works and what this means for construction traffic movements. The Applicant is currently reviewing what the implications of the updated programme are for the traffic and transport assessment and intends to submit an updated assessment prior to the start of the examination. As the Applicant took a highly precautionary approach to the initial assessment, no new or materially different significant effects are anticipated in the updated assessment, but it is possible that some levels of effect may be less significant than currently reported;~~

- ~~An additional uplift of 20% has been applied to the construction traffic to account for any uncertainty in the flows thereby ensuring a more robust assessment;~~

- Conventional construction traffic (i.e., excluding AIL's) will be restricted to the identified routes as set out in this assessment to be controlled via the Construction Traffic Management Plan (CTMP);

- Due to the magnitude of impact being measured based upon a percentage increase in traffic above a defined baseline, a limitation in the IEA methodology arises where links that have very few baseline traffic movements. On these links any relatively small increase in traffic can then trigger a large percentage increase, despite the actual number of additional vehicles remaining low. Where this is the case the significance of the effect has been adjusted accordingly using professional judgement; and
- Although there are residential areas along the route, the route sections are predominantly rural in nature with little direct frontage development, and only intermittent field and private dwelling access points. Therefore, the number of residents that will be impacted by construction traffic will be low.

Assessment Scenarios

12.4.33 As part of the assessment the following scenarios have been included:

- Assessment of the impact of the pipe delivery between November 2025 and March 2026, with 2026 being assumed as the construction year; and
- Assessment of the impact of the construction workers and the construction vehicles with the peak work taking place in 2026 between March and October.

12.4.34 The assessment of the pipe delivery will include the trips associated with the compound set up and the delivery of the pipes to each compound (Northern, Central and Southern).

12.4.35 In terms of the construction worker and vehicle assessment it has been assumed that all construction activities will run concurrently in 2026. This provides a more robust level of assessment compared to assuming that construction could potentially run into a second year, which would then result in a less condensed programme and as such lower levels of construction traffic on the network.

12.5 Baseline Data and Study Area

Study Area

12.5.1 The traffic and transport study area is shown in **Figure 12-1~~Figure 12-1~~** and is also set out within the Access and Rights of Way Plans *(Application Document 4.20*) which show the proposed routes for all construction traffic by type (LGV only and LGV/HGV) as well as proposed access points.

12.5.2 The route runs from Immingham in the north to Theddlethorpe in the south and largely follows the A18 and A16 south from Immingham to just north of Louth where it then heads east towards Theddlethorpe being served by the B1200 and A1031.

12.5.3 The LGV and HGV routes largely follow the main road network with some more minor roads then being used to provide the access onto the pipeline working areas.

Traffic Surveys Undertaken

12.5.4 The full details of the baseline traffic surveys are included with *ES Volume IV Appendix 12-1,* with only a summary included for ease of reference within this section.

12.5.5 ATC surveys were undertaken to support the PEIR during the week commencing 13 July 2022 with further surveys commissioned in November 2022 and June 2023 to include highway links that were added between the PEIR and ES stage, as the design evolved.

12.5.6 Data was also obtained from the National Highways WEBTRIS portal for those links on the Strategic Road Network (SRN).

12.5.7 The ATC locations are shown in Figure 12-2.

12.5.8 The baseline traffic survey data is set out in detail within the following Sections 12.6 to 12.10.

Summary of Other Data Sources

12.5.9 This section describes the main data sources from which information has been obtained to inform the traffic and transportation baseline and subsequent assessment of environmental effects. The main data considered fundamental to the assessment of traffic and transport is and Personal Injury Accident (PIA) data.

12.5.10 The PIA data have been obtained from the relevant highway authority~~y~~ (North ~~E~~eastEast ~~L~~IncolnshireLincolnshire Council, North~~C~~ ~~Lincs~~ Lincolnshire Council and Lincolnshire County Council) for the most recent five-year period. This provides information on each collision, including severity as well as the factors which contributed to the collision. However, it should be noted that the data provided for Section 1, 2, and 3 (North East Lincolnshire Council~~INELC)~~ are different to Section 4 and 5 (Lincolnshire CC), as only Lincolnshire CC provided a causation factor.

12.5.11 The next section provides detail on the baseline conditions related to each of the construction route sections, characterised by the surrounding highway network, Public Rights of Way (ProW) / National Cycle Network (NCN), baseline traffic data as well as accident overviews.~~.~~

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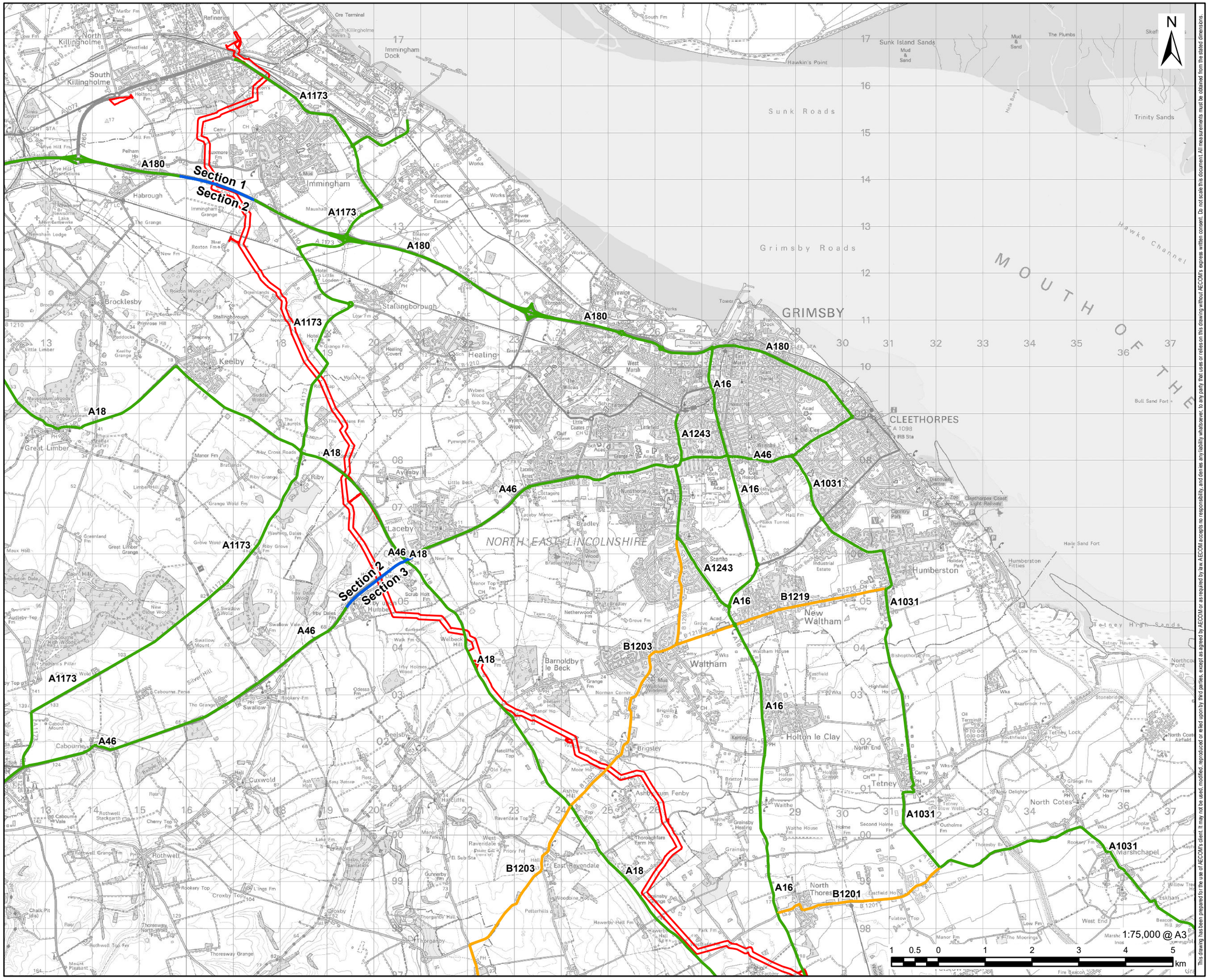

VikingCCS

AECOM

PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- A Road
- B Road

NOTES:

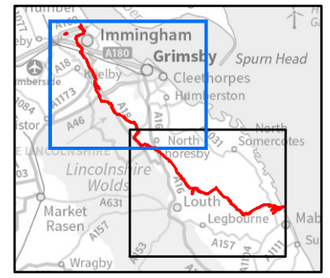

FIGURE TITLE

Figure 12-1 (1 of 2)
Key Highway Links

ISSUE PURPOSE

ENVIRONMENTAL STATEMENT

PROJECT NUMBER / REFERENCE

60668955 / VCCS_240516_ES_12-1

Revision: 1 Drawn: LC Checked: SM Approved: MW Date: 2024-05-16

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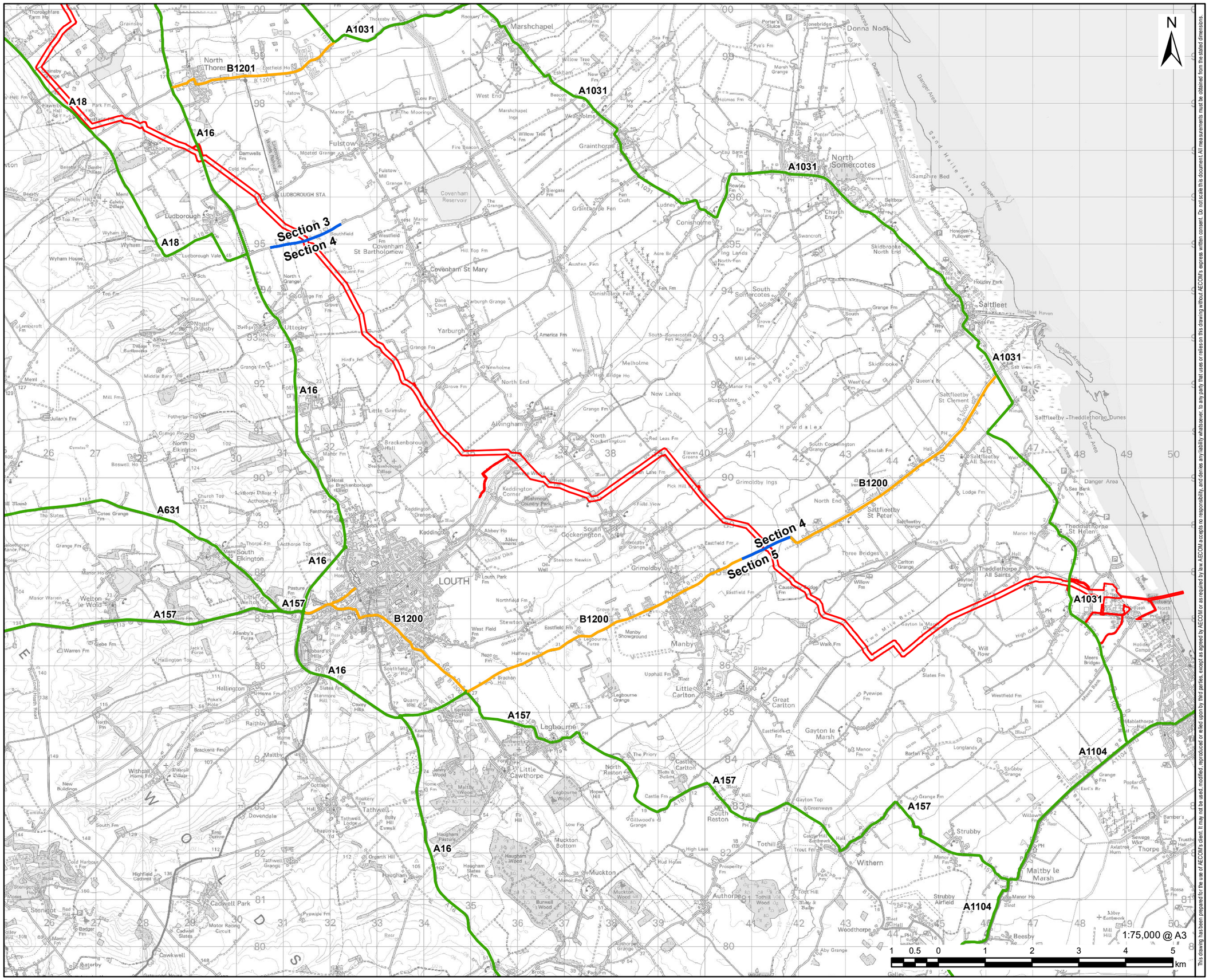

VikingCCS

AECOM

PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- A Road
- B Road

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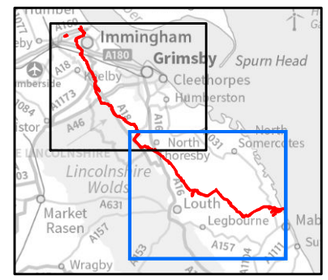

FIGURE TITLE

Figure 12-1 (2 of 2)
Key Highway Links

ISSUE PURPOSE

ENVIRONMENTAL STATEMENT

PROJECT NUMBER / REFERENCE

60668965 / VCCS_240516_ES_12-1

Revision: 1 Drawn: LC Checked: SM Approved: MW Date: 2024-05-16

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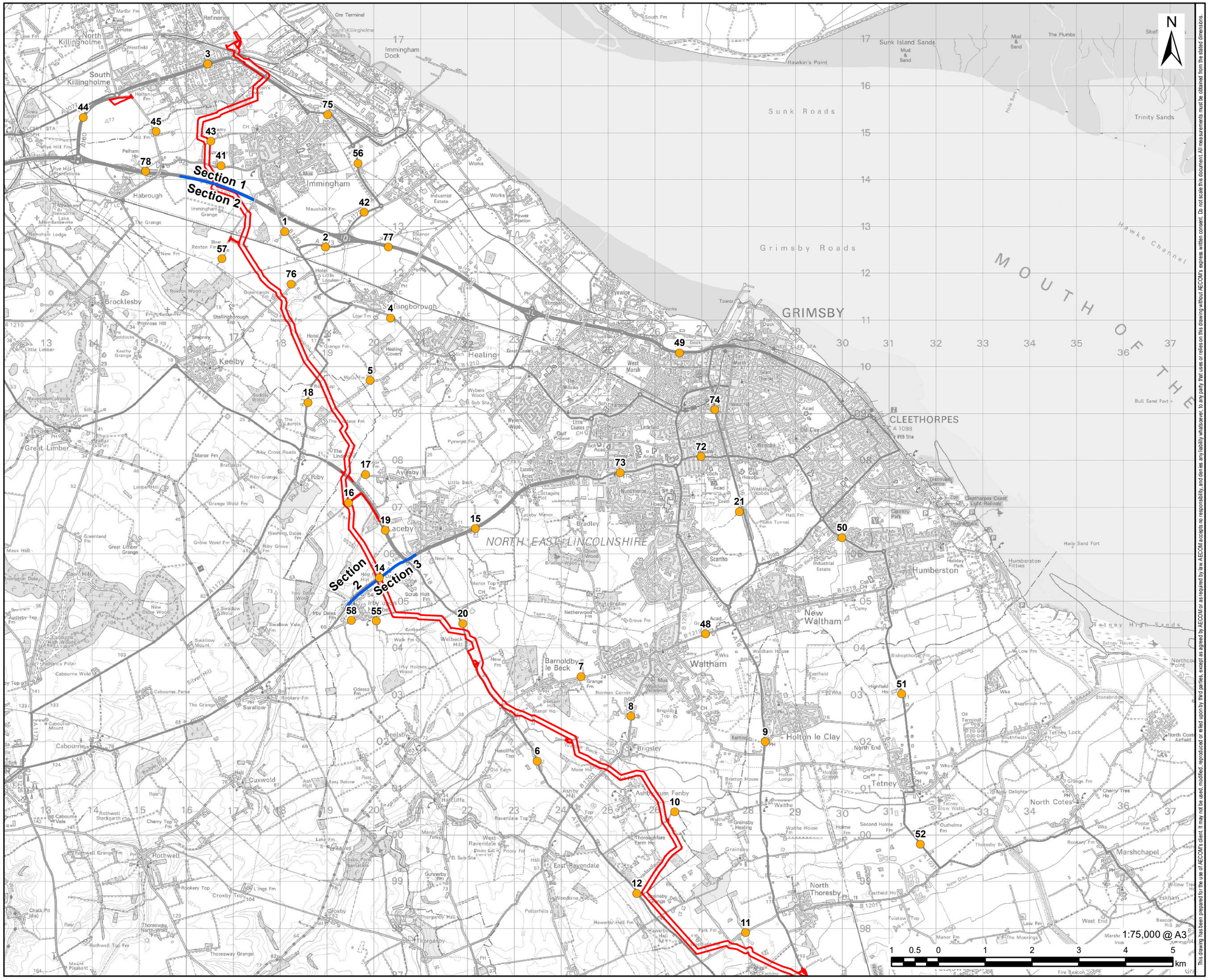

VikingCCS

AECOM

PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- ATC Location

NOTES:

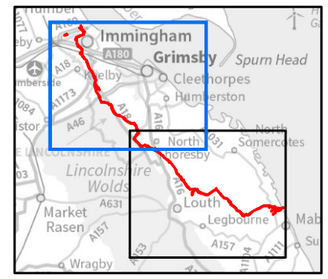

FIGURE TITLE

Figure 12-2 (1 of 2)
ATC Locations

ISSUE PURPOSE

ENVIRONMENTAL STATEMENT

PROJECT NUMBER / REFERENCE

60668955 / VCCS_240516_ES_12-2

Revision: 1 Drawn: LC Checked: SM Approved: MW Date: 2024-05-16

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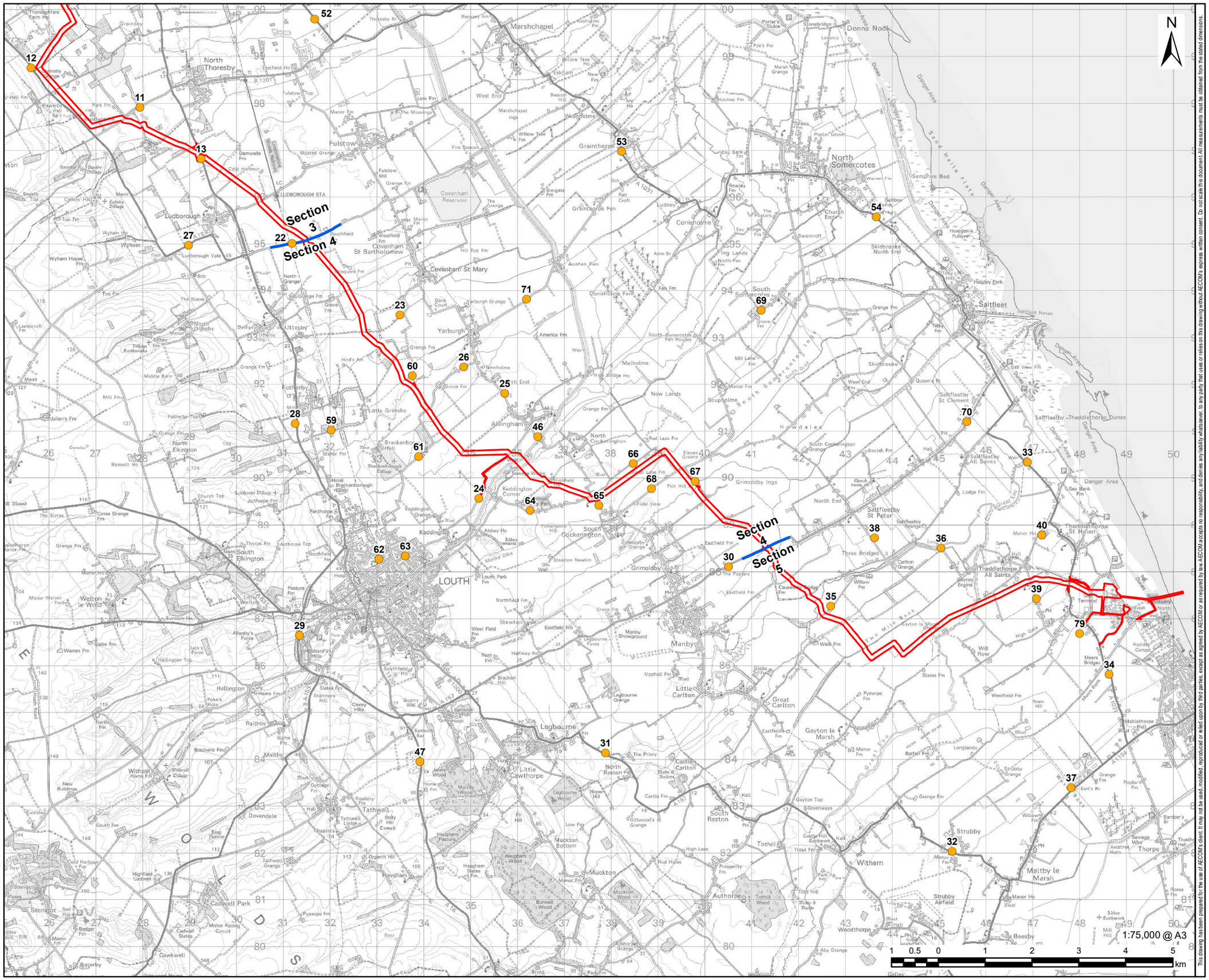

VikingCCS

AECOM

PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- ATC Location

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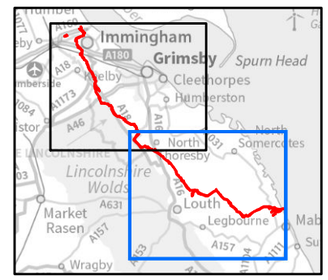

FIGURE TITLE

Figure 12-2 (2 of 2)
ATC Locations

ISSUE PURPOSE

ENVIRONMENTAL STATEMENT

PROJECT NUMBER / REFERENCE

60668965 / VCCS_240516_ES_12-2

Section 1 Baseline

12.5.12 Section 1 of the scheme goes from Immingham Facility to A180.

Surrounding Highway Network

12.5.13 Key roads identified across Section 1 are;

- A160; and
- A1173.

12.5.14 The A160 ~~at~~ this point~~,~~ between Brocklesby Interchange and its roundabout with Manby Road, is a two-lane each direction dual carriageway with central reservation and is subject to the national speed limit.

12.5.15 The A1173 Manby Road is a continuation of the A160 and goes around the outskirts of Immingham. Continuing on from the A160, the A1173 is two-lane in each direction operating at national speed limit. As the road gets closer to built-up areas, some of which are residential, the A1173 becomes single lane in each direction with no central reservation, lower speed limits and pavement in some parts. Following the roundabout with Kings Road, the remainder of the A1173 is not in a built-up area, so although it remains single lane in each direction, the speed limit is 50 or 60mph (depending on road section).

12.5.16 Also, Killingholme Road, the B1210, and Mill Lane are construction routes within this S~~s~~ection. Both Killingholme Road and the B1210 are one lane in each direction with no central reservation.

PRoW / NCN Network

12.5.17 There are several PRoWs in the vicinity of Section 1; however, only three PRoWs directly intersect the route corridor. These are Route 185, Route 11 and Route 13. Route 13 runs east west across the route corridor. Whereas Route 11 runs north south connecting from other PRoWs in South Killingholme, north of the route corridor, to Mill Lane and. Route 185 which runs north south from the coast to Rosper Road.

12.5.18 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.

Baseline Traffic

12.5.19 The ATC data have been used to derive the 24-hour AADT for individual links for total traffic and HGVs within Section 1. A summary of this is provided below in **Table 12-8**~~**Table 12-8**~~.

Table 12-8: Section 1: 24-hour AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
A160	3	10,637	4,287	40
Habrough Road	41	4,054	308	8
A1173	42	7,027	1,846	26
~~Mill Lane~~	~~43~~	~~102~~	~~3~~	~~3~~
A160 – North of A180	44	~~12,990~~14,636	5,~~235~~898	40
Killingholme Road	45	4,109	372	9
A1173	56	6,468	1,271	20
A1173 Manby Road	75	4,689	1,244	27
A180 – East of A1173	77	~~23,041~~27,236	~~3,686~~4,357	16

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
Rosper Road	80	3,800	1,583	41

12.5.20 **Table 12-8**~~**Table 12-8**~~ demonstrates that the A160, in both locations, has the highest percentage volume of HGVs, followed by the A1173. This is as to be expected given the industrial nature of the local area.

Road Safety Analysis

12.5.21 To ensure that there are no underlying highway safety issues across Section 1, personal injury collisions (PIC) data have been analysed.

12.5.22 Section 1 is contained within the authoritative boundary of ~~North Lincolnshire Council (~~NLC~~)~~ and ~~North East Lincolnshire Council (~~NELC~~)~~ and therefore PIC data have been requested from both locations to cover the latest available full five-year period (e.g. between 2017 and 2021).

12.5.23 PIC data have been analysed and is presented in Table 12-9.

Table 12-9: Section 1 Accident Overview by Year

Year	Slight	Serious	Fatal	Total
2017	13	4	0	17
2018	17	11	0	28
2019	15	9	0	24
2020	12	8	0	20
2021	22	3	0	25
Total	**79**	**35**	**0**	**114**

12.5.24 **Table 12-9**~~**Table 12-9**~~ shows that 2018 was the year with the highest number of accidents occurring in section 1. In 2018, approximately 60% of the accidents occurring were classified as slight in severity and the other 40% classified as serious. The year with the lowest number of accidents occurring is 2017, during this year only 24% of accidents were classified as serious. No fatal accidents occurred in section 1 during the five-year period analysed.

12.5.25 This information has been further analysed based on the accidents on each link. Further data is therefore provided in **Table 12-10**~~**Table 12-10**~~. For analysis purposes, links in which three or more accidents occurred have been presented.

Table 12-10: Section 1 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
A180	35	9	0	44
Pelham Road	9	6	0	15
B1210	6	4	0	10
A1173	4	3	0	7
Manby Road	2	3	0	5
Moody Lane	3	0	0	3
Gilbey Road	3	0	0	3
Estate Road 1	2	1	0	3

12.5.26 **Table 12-10**~~**Table 12-10**~~ presents that the A180 was the location of the majority of accidents in section 1 during the five-year period. Approximately 46% of accidents occurred on the

A180. Other roads with a high number of accidents are Pelham Road, the B1210, as well as the A1173. The link with the highest percentage of serious accidents occurring, in comparison to total accidents for the link, is Manby Road where 3 serious accidents occurred over the five-year period.

12.5.27 The data establishes, with the exception of Pelham Road, that accidents occur more frequently on the more established roads (A and B roads) in the section. Pelham Road is a central road east-west through Immingham. No fatal accidents were recorded.

Section 2 Baseline

12.5.28 Section 2 of the scheme goes from the A180 towards Laceby.

Surrounding Highway Network

12.5.29 Key roads identified across Section 2 are;

- A180;
- A1173;
- B1210;
- Wells Road; and
- A46.

12.5.30 The A1173 is a Primary Road. The portion of road relevant to Section 2 runs from Stallingborough Interchange, where the A180 can be accessed via a large unsignalised junction, to its T-Junction with the A18. The road passes through rural areas and is single lane in each direction with no footway or central reservation. The A1173 in this section is a national speed limit road.

12.5.31 The B1210 runs east to west through Habrough and crosses over the A180. The road remains a single lane in each direction throughout, however, in more built-up areas, such as near the town of Habrough, the speed limit is lower, and a footway is provided – in rural areas national speed limit applies. Once the B1210 crosses over the A180 it runs parallel to the major A road prior to entering Immingham. The B1210 meets the end of the southern section of the A1173 in Stallingborough before continuing to Great Coates where it joins the A1136 and continues into Grimsby.

12.5.32 Wells Road runs a northeast – southeast alignment between the A1173 and Stallingborough Road near Healing. The road is rural in nature and is single carriageway with national speed limit applied. There is a 7.5t weight restriction in place along Wells Road.

12.5.33 A full route review outlining HGV restrictions has been performed, and routes have been tailored to each specific vehicle movement. The relevant LHAs have been consulted to provide an overview of the restrictions within each route section and to seek agreement regarding the routes proposed.

12.5.34 The A18 is a primary route, the route runs east – west linking Doncaster and Ludborough via Scunthorpe. The route runs south of and parallel to the A180, at Keelby the route continues south until southwest of Ludborough where it heads east and joins with the A16 (although not in Ssection 2). The route has various ~~is likely~~ characteristics ~~ed differently~~ along its full extent, however, in the section relevant to the construction routes of the scheme the route runs through a rural area~~is rural~~, is single lane in each direction, with little / no footway provision, and at national speed limit.

12.5.35 The A46 links Lincoln to Grimsby. The use of this road as a construction route begins near Irby Upon Humber before the A46 has a junction with the A18 at Laceby prior to continuing to Grimsby. The section of the A46 between Laceby and Little Coates Road is two-lanes in

each direction with a central reservation and a speed limit varying between 30 mph and 50mph depending on the nature of the location.

PRoW / NCN Network

12.5.36 There are several PRoWs which intersect the route corridor. These are Route 4, Route 26, Route 116, Route 119 and Route 130. Route 4 routes~~uns~~ alongside the railway line between Habrough and Stallingborough~~Stalinborough~~, Route 26 runs east - west across~~)~~ the route corridor, just north of Riby Road~~;, and close to the route corridor,~~ Route 26 joins with Route 24 to run towards Keelby Road and Immingham Road. Route 116 connects Barton Street with Nooking Lane and other PRoWs. ~~And then~~ Routes 119 and 130 run from the A18 towards Irby Upon Humber. Furthermore, ~~As well,~~ there is a PRoW alongside the railway line which intersects with the route corridor.

12.5.37 In terms of the NCN, there are no routes intersecting the route corridor, therefore no impact is anticipated from the scheme. However, there are cycle routes on Limber Road to the east of the route corridor in Section 2. This route is an on-road alignment~~route~~ which is of standard quality and along a minor road.

Baseline Traffic

12.5.38 The ATC data has~~ve~~ been used to derive the 24-hour AADT for individual links for total traffic and HGVs within Section 2. A summary of this is provided below in **Table 12-11**.

Table 12-11: Section 2:24 hour AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
B1210	1	9,198	602	7
A1173	2	5,755	631	11
Healing Road	4	5,546	443	8
Wells Road	5	812	92	11
A46	14	7,229	817	11
Washingdales lane	16	111	5	5
~~Nooking Lane~~	~~17~~	~~1,347~~	~~127~~	~~9~~
A1173	18	3,292	531	16
A18 – Barton Street North	19	12,318	1,744	14
A180 – Westgate	49	28,737	1,437	5
Roxton Road	57	158	5	3
Keelby Road	76	2,146	122	6
A180 – between A1173 and A160	78	~~32,013~~22,109	~~3,067~~2,118	10

12.5.39 **Table 12-11**~~**Table 12-11**~~ demonstrates that the A1173 and A18 have the highest percentage volume of HGVs. This is as to be expected given the nature of the roads and the locations which they serve.

Road Safety Analysis

12.5.40 To ensure that there are no underlying highway safety issues across Section 2, personal injury collisions (PIC) data have been analysed.

12.5.41 Section 2 is contained within the authoritative boundary of North East Lincolnshire Council (NELC) and therefore PIC data have been requested from this location to cover the latest five-year period.

12.5.42 As mentioned above, no causation factor data is presented for this section.

12.5.43 PIC data have been analysed and is presented in **Table 12-12~~Table 12-12~~.**

Table 12-12: Section 2 Accident Overview by Year

Year	Slight	Serious	Fatal	Total
2017	26	3	2	31
2018	51	11	0	62
2019	52	13	1	66
2020	44	13	1	58
2021	37	12	1	50
Total	**210**	**52**	**5**	**267**

12.5.44 **Table 12-12~~Table 12-12~~** shows that the highest number of accidents occurred in 2019 and in total there were 267 accidents that occurred within S~~s~~ection 2 over the five-year period. Overall, 79% of accidents were classified as slight in severity, 19% classified as serious, and 2% resulted in a fatality. The year with the highest percentage of serious accidents, compared to total accidents, was 2021 where 24% of accidents were classified as serious. In total, there were five~~5~~ fatal accidents across the five-year period, with two~~2~~ of these accidents occurring in 2017, and then 1 in each year of 2019, 2020, and 2021.

12.5.45 This information has been further analysed based on the incidents~~accidents~~ on each link. Further data is therefore provided in **Table 12-13~~Table 12-13~~**. Links which had five or more accidents ~~-~~have been presented.

Table 12-13: Section 2 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
A1136	39	6	1	46
A180	37	4	0	41
Pyewipe Road	18	5	0	23
B1210	15	4	1	20
Cromwell Road	12	4	0	16
A1173	9	3	1	13
A18	4	5	1	10
Birchin Way	7	2	0	9
Boulevard Avenue	3	4	0	7
Station Road	6	0	0	6
Aylesby Road	4	2	0	6
A46	5	1	0	6
Wingate Road	3	2	0	5
Gilbey Road	2	3	0	5
Moody Lane	5	0	0	5
Broadway	3	2	0	5

12.5.46 **Table 12-13**~~**Table 12-13**~~ presents that the A1136 was the road which recorded the highest number of accidents during the five-year period, with 21% of all the accidents occurring here. Fatal accidents occurred during the five-year period, and these were on the A1136, B1210, A1173, and A18, as well as on one other ~~highway~~road not presented in the T~~t~~able. This shows that the majority of fatal accidents have occurred on the more major classified roads (A and B roads).

Section 3 Baseline

12.5.47 Section 3 of the scheme goes from the A46 to Pear Tree Lane, just east of the junction of the A18 and A16.

Surrounding Highway Network

12.5.48 Key roads identified across Section 3 are;

- A18; and
- A16; and
- B1203; and
- White Road;
- Thoroughfare; and
- Pear Tree Lane.

12.5.49 The A18 routes~~uns~~ in a north-south alignment in Section 3, before turning east to join the A16 just south of Ludborough. Durin`g this section of the A18 the road is single lane in both directions with no pavement provision. -The national speed limit applies.

12.5.50 The A16 runs to the ~~right~~ east of the scheme route for much of S~~s~~ection 3. Just south of North Thoresby, the scheme route intersects with the A16 before continuing to the west~~west~~ of the A16 prior to S~~s~~ection 3 ending at Pear Tree Lane. The A16 is a principal route within

Lincolnshire and is a single lane in each direction with speed limits dependent on the specific point of the A16 and the characteristics of the surrounding area.

12.5.51 The B1203 links the suburbs of Grimsby across the Lincolnshire Wolds to Market Rasen via Binbrook. The road starts in Scartho, on the southern edge of Grimsby. It heads south, meeting the B1219 in Waltham, before continuing southwest. The road crosses the A18 at the roundabout between Brigsley and East Ravendale before travelling through Binbrook. The road is single lane in each direction, however, in more urban areas the speed limit is lower, and pavements are provided.

12.5.52 Thoroughfare runs on an east-west alignment between the A16 and A18, north of Grainsby. The road is only 1.1 kilometres in length. The road is rural in nature and is single carriageway with national speed limit applied. The route is considered unsuitable for HGVs~~heavy goods vehicles~~ and restrictions are in place.

12.5.53 Pear Tree Lane provides a link between the A18 and A1031, passing by Covenham Reservoir. The link is rural in nature, is single carriageway, and has national speed limit applied. Pear Tree Lane is where section 3 of the scheme route ends and Section 4 begins.

PRoW / NCN Network

12.5.54 There are several PRoWs intersecting the alignment~~route~~ of Section 3.

- Such routes include Route 161a which runs east-west from Irby Upon Humber towards the A18;~~,~~ Route 124 running from near Walk Farm to the A18;~~,~~
- Route 94 which connects Barnoldby Le Beck to the A18 near Wickster House, Route 81 running east west just off Ashby Lane,
- Route 82 running south from Brigsley to link up with route 81;~~,~~
- Route 85 running north south from Brigsley to south of Thoroughfare,
- Route 86 running east from Ashby cum Fenby, to link up with route 85 and;
- Route 87 which runs south from Ashby-cum-Fenby. Overall, these routes will be given consideration in the overall assessment for both traffic and other disciplines.

12.5.55 In terms of the NCN, there is on road cycle infrastructure along the road out of Beelsby, along a short stretch of the A18, and then along Beelsby Road near of Barnoldby le Beck. This route therefore intersects the scheme alignment~~route~~ and potential impacts should be considered.

Baseline Traffic

~~12.5.54~~12.5.56 The ATC data has~~ve~~ been used to derive the 24-hour AADT for individual links for total traffic and HGVs within Section 3. A summary of this is provided below in **Table 12-14**~~**Table 12-14.**~~

Table 12-14: Section 3: 24-hour AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
A18	6	5,973	926	16%
Waltham Road 1	7	4,776	380	8%
~~Waltham Road 2~~	~~8~~	~~2,572~~	~~203~~	~~8~~
A16	9	10,797	1,287	12%
Thoroughfare	10	229	18	8%
White Road	11	1,687	263	16%
A18	12	5,259	895	17%
A16	13	11,384	1,421	12%
A46 - Grimsby Road	15	14,885	1,449	10%
A18 - Barton Street South	20	9,892	1,304	13%
A16 Peaks Parkway	21	15,485	1,396	9%
Pear Tree Lane	22	2,098	248	12%
A18	27	3,666	640	17%
~~B1219 - Station Road~~	~~48~~	~~12,351~~	~~725~~	~~6~~
A1031 Grimsby Road	50	12,764	178	1%
A1031 Humberston Road	51	4,312	56	1%
A1031 Thoresby Road	52	2,795	35	1%
Walk Lane	55	27	2	7%
Old Man Road	58	149	13	9%
Weelsby Road	72	20,382	1,105	5%
A46 Laceby Road	73	17,283	1,087	6%
A16	74	14,927	1,242	8%

~~12.5.55~~12.5.57 **Table 12-14~~Table 12-14~~** demonstrates that the A18 as well as White Road between the A18 and A16 has the highest percentage of HGVs. This is likely due to the nature of White Road as it serves a recycling centre.

Road Safety Analysis

~~12.5.56~~12.5.58 To ensure that there are no underlying highway safety issues across Section 3, personal injury collisions (PIC) data have been analysed.

~~12.5.57~~12.5.59 Section 3 is contained within the authoritative boundary of North East Lincolnshire Council (NELC) and therefore PIC data have been requested from this location to cover the latest available five-year period.

~~12.5.58~~12.5.60 As previously mentioned above, causation factor is not presented for this section. PIC data have been analysed and is presented in **Table 12-15~~Table 12-15~~.**

Table 12-15: Section 3 Accident Overview by Year

Year	Slight	Serious	Fatal	Total
2017	145	47	4	196
2018	266	69	2	337
2019	297	63	2	362
2020	189	56	2	247
2021	205	54	0	259
Total	**1,102**	**289**	**10**	**1,401**

~~12.5.59~~12.5.61 **Table 12-15** shows that 2019 experienced the highest number of accidents (26% of the total for the five year period). ~~the year, out of the five-year analysed period, with the highest number of accidents was 2019, with 26% of all accidents occurring in this year.~~ The data demonstrates that 79% of incidents are classified as slight in severity, 21% as serious, and under 1% as fatal. 2017 has the highest percentage of serious accidents, compared to the total of accidents for that year, with 24% of accidents been classified as serious, this is also the year with the highest number of fatal accidents. Data shows that 2020 and 2021 have a lower number of accidents, of all types, than 2018 and 2019, potentially suggesting accidents are following over time. However, it should be recognised ~~must be noted~~ that there were ongoing COVID-19 restrictions during the data window ~~at the time~~ which could have impacted on traffic volumes.

~~12.5.60~~12.5.62 This information has been further analysed based on the accidents on each link. Further data is therefore provided in **Table 12-16**~~**Table 12-16**~~.

~~12.5.61~~12.5.63 Due to higher volume of accidents in this section, links in which 15~~fifteen~~ or more accidents occurred have been presented in the **Table 12-16**~~**Table 12-16**~~.

Table 12-16: Section 3 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
A46	114	28	0	142
A16	83	22	0	105
A1243	73	20	1	94
A180	80	12	0	92
A1031	39	20	2	61
A1136	49	8	2	59
B1213	49	5	0	54
A1098	37	16	0	53
B1219	34	5	0	39
A18	26	8	2	36
B1203	23	3	0	26
Wellington Street	21	4	0	25
Ladysmith Road	20	4	0	24
Brereton Avenue	17	3	0	20
Park Street	16	3	0	19

Link	Slight	Serious	Fatal	Total
B1444	11	5	0	16
B1212	14	1	0	15
Carr Lane	13	2	0	15

~~12.5.62~~12.5.64 **Table 12-16**~~**Table 12-16**~~ presents that over 100 accidents occurred on both the A46 and A16 during the five-year period. This is likely to be expected due to the large traffic volumes each road carries, however, no fatal accidents occurred. During this five-year period all accidents occurring in Section 3 occurred on an A-road, with the A1243, A1031, A1136, and A18 all experiencing fatal collisions. A high number of serious collisions occurred on the A1031, with 21% of collisions on this road in the five-year period considered serious and 64% considered slight. ~~This is likely due to conditions on the road.~~

Section 4 Baseline

~~12.5.63~~12.5.65 Section 4 of the Proposed Development goes from Pear Tree Lane to the B1200 near to Grimoldby.

Surrounding Highway Network

~~12.5.64~~12.5.66 Key roads identified across Section 4 are;

- A16; and
- B1200.

~~12.5.65~~12.5.67 The A16 routes~~uns~~ north – south through S~~s~~ection 4. It provides connection from Grimsby to the southern section of the study area. The A16 runs via Louth, located in the south of S~~s~~ection 4, via the western bypass which allows for larger vehicles to be routed away from Louth centre along an alternative route. The A16 provides access to other links within the area and allows for onward trips external to the study area. The A16, as previously mentioned, is single lane in each direction with speed limits varying along its extent.

~~12.5.66~~12.5.68 The B1200 runs east to west along the southern extent of S~~s~~ection 4. The B1200 is accessed via the A16 leading onto the A157 and forming a roundabout with the B1200. The B1200 passes through the villages of Manby and Saltfleetby St Peter. With the exception of these localised built-up areas the route is predominantly rural with differing speed limits, ranging from 30mph to national speed limit.

PRoW / NCN Network

~~12.5.67~~12.5.69 There are seven PRoWs intersecting the S~~s~~ection 4 route. One route is the Utte/83/1, Utte/83/2 and Utte/78/1 which~~this~~ runs from Grove Farm to the ~~right~~ east of Utterby and connects with other PRoWs to give access to Covenham St Mary. The LGri/77/1 route connects Little Grimsby in the west to Brackenborough Road in the east. The Alvi/343/4 route runs along the waterbody and the NCoc/67/1 and NCoc/68 route runs east-west from Keddington Corner Farm to Lock Road.

~~12.5.68~~12.5.70 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.

Baseline Traffic

~~12.5.69~~12.5.71 The ATC data have been used to derive the 24-hour AADT for individual links for total traffic and HGVs within Section 4. A summary of this is provided ~~below~~ in **Table 12-17**~~**Table 12-17**~~.

Table 12-17: Section 4: 24-hour AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
Ings Lane	23	274	30	11%
Alvingham Road	24	791	63	8%
Yarburgh Road	25	577	67	12%
Westfield Road	26	536	44	8%
A16	28	15,211	1,810	12%
Louth Bypass	29	13,812	801	6%
Lock Road	46	656	81	12%
A1031 Main Road	53	2,604	58	2%
A1031 Warren Road	54	3,033	59	2%
Little Grimsby Lane	59	351	37	11%
Brackenborough Road	60	565	36	6%
Brackenborough Road	61	1,086	68	6%
North Holme Road	62	13,839	952	7%
Keddington Road	63	2,880	201	7%
Louth Road	64	2,087	143	7%
Mill Hill Way	65	2,284	191	8%
Red Leas Lane	66	82	8	10%
Pick Hill Lane	67	179	17	9%
Marsh Lane	68	1,595	195	12%
Louth Road	69	1,258	96	8%
Main Road	70	967	83	9%
Kings Street	71	678	48	7%

Table 12-17

~~12.5.70~~12.5.72 **~~Table 12-17~~** demonstrates that the A16, Yarburgh Road, Lock Road, and Marsh Lane have the highest percentage of HGV traffic (12% HGVs on each link).~~, with each having 12% of HGV's out of all vehicle movements.~~ However, the absolute number of HGV movements is significantly higher on the A16, and this is due to the road's strategic nature.

Road Safety Analysis

~~12.5.71~~12.5.73 To ensure that there are no underlying highway safety issues across Section 4, personal injury collisions (PIC) data have been analysed.

~~12.5.72~~12.5.74 Section 4 is contained within the authoritative boundary of Lincolnshire and PIC data have been requested from the location to cover the most recent five-year period. The primary causation factor has not been included, and therefore analysis of that for this section has not been provided.

~~12.5.73~~12.5.75 PIC data have been analysed and is presented in Table 12-18.

Table 12-18: Section 4 Accident Overview by Year

Section 4 Accident Overview by Year	Slight	Serious	Fatal	Total
2017	38	19	0	57
2018	46	11	1	58
2019	52	12	2	66
2020	34	14	0	48
2021	38	16	3	57
Total	**208**	**72**	**6**	**286**

~~12.5.74~~12.5.76 **Table 12-18**~~**Table 12-18**~~ shows a total of 286 collisions were recorded across the highway network within Section 4 across the five-year period. 208 of these collisions were considered slight in severity, 72 were serious, and 6 were fatal. The year with the highest number of collisions was 2019 (66 incidents) ~~-~~and the most fatal collisions occurred in 2021 (three fatalities). Data highlights a drop in accidents during 2020, and this is likely due to ongoing pandemic restrictions which in many areas reduced traffic flows.

~~12.5.75~~12.5.77 This information has been further analysed to provide the number of accidents on each particular link, this is presented in **Table 12-19**~~**Table 12-19**~~.

~~12.5.76~~12.5.78 Note that accidents did happen on more links in S~~s~~ection 4 over the five-year period than presented in the Table, however, for reporting purposes just the links in which there were over 10 accidents are listed.

Table 12-19: Section 4 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
A16	39	7	3	49
A157	21	7	0	28
B1200	15	13	0	28
A1031	10	6	1	17
A631	9	5	0	14
Brackenborough Road	8	4	0	12

~~12.5.77~~12.5.79 **Table 12-19**~~**Table 12-19**~~ shows that the link with the most accidents ~~occurring~~ was the A16, with 33% of accidents occurring on this highway. This is as to be expected as it is a principal road in Lincolnshire, carrying high volumes of traffic, and passing through the entire section. The road with the highest percentage of serious accidents, compared to the total accidents for the link, is the B1200 where just under 50% of accidents are considered serious.

~~12.5.78~~12.5.80 There were six fatal collisions recorded within this Section, four of which happened on one of the roads listed in the Table.

~~12.5.79~~12.5.81 Causation data is also available for this section. Note that accidents may have a number of causes. Note that due to the broad range of accident causes, only causes which occurred in five or more accidents are listed.

Table 12-20: Section 4 Accident Cause

Causation Factor	Slight	Serious	Fatal	Total
Careless, reckless or in a hurry	40	18	2	60
Failed to look properly	40	13	0	53
Loss of control	17	11	1	29
Slippery road (due to weather)	15	3	1	19
Impaired by alcohol	12	7	0	19
Failed to judge other persons path or speed	13	5	0	18
Exceeding speed limit	6	7	1	14
Aggressive driving	9	5	0	14
Other - To be specified	8	2	1	11
Poor turn or manoeuvre	5	4	0	9
Learner or inexperienced driver/rider	2	5	1	8
Dazzling sun	7	1	0	8
Deposit on road (e.g., oil, mud chippings)	3	4	0	7
Animal or object in carriageway	5	1	1	7
Distraction in vehicle	5	1	1	7
Following too close	4	1	0	5
Travelling too fast for conditions	4	1	0	5
Distraction outside vehicle	5	0	0	5

~~12.5.80~~12.5.82 **Table 12-20**~~**Table 12-20**~~ shows that the most common accident cause in section 4 was due to careless, reckless, or rushed driving. This was the cause of 18 serious accidents as well as two fatal accidents. This accident cause is preventable, and drivers/riders involved in the delivery and operation of the scheme should be cautious and considerate when driving.

Section 5 Baseline

~~12.5.81~~12.5.83 Section 5 of the Proposed Development goes from B1200 to the Theddlethorpe Facility in the east.

Surrounding Highway Network

~~12.5.82~~12.5.84 Key roads identified across Section 5 are;

- A1031;
- Thacker Bank; and
- Three Bridge Lane.

~~12.5.83~~12.5.85 The A1031 routes~~uns~~ north to south along the coast from Grimsby to Mablethorpe. Along its route is passes through villages including Tetney, North Somercotes, and Saltfleet. The A1031 has a series of varying speed limits, from 30mph in residential areas to national speed limit in more rural sections.

~~12.5.84~~12.5.86 Three Bridge Lane runs north to south off the B1200, near Saltfleetby St Peter. This connects to Thacker Bank to provide an east west link across the study area. The link is rural in nature and predominantly used for agricultural purposes.

~~12.5.85~~12.5.87 Thacker Bank runs east-west at the South of Three Bridge Lane prior to travelling eastwards towards Theddlethorpe All Saints. The road is rural and single carriageway.

PRoW / NCN Network

~~12.5.86~~12.5.88 There are three PRoWs which intersects the route in Section 5. These are GayM/193/1, which runs east west across the corridor from Theddlethorpe All Saints towards Clayton Le Marsh. Route GayM/193/1, which routes east - west across the corridor from Theddlethorpe St Helen to Highgate, Route ThSH/250/2 which runs southwest from Theddlethorpe St Helen to Highgate, Route ThSH/249/1 aligns from the A1031 to High Gate and Route ThSH/253/1 which runs from the north of Mablethorpe to link with the A1031. As such consideration will be given to this route as part of the overall assessment.

~~12.5.87~~12.5.89 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.

Baseline Traffic

~~12.5.88~~12.5.90 The ATC data have been used to derive the 24-hour AADT for individual links for total traffic and HGVs within Section 5. A summary of this is provided below in **Table 12-21**~~**Table 12-21**~~.

Table 12-21: Section 5: 24-hour AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs
B1200 Manby Middlegate	30	3,856	411	11%
~~A157~~	~~31~~	~~3,799~~	~~384~~	~~10~~
~~A157~~	~~32~~	~~2,451~~	~~239~~	~~10~~
Saltfleet Road	33	3,159	327	10%
~~A1031~~	~~34~~	~~4,172~~	~~385~~	~~9~~
Thacker Bank	35	181	23	13%
Thacker Bank	36	2,044	164	8%
~~Alford Road~~	~~37~~	~~6,280~~	~~570~~	~~9~~
Three Bridge Lane	38	1,892	983	52%
Mill Road	39	2,131	198	9%
~~Station Road~~	~~40~~	~~169~~	~~48~~	~~28~~
~~A16~~	~~47~~	~~9,355~~	~~1,292~~	~~14~~
Mablethorpe Road	79	3,033	59	2%

~~12.5.89~~12.5.91 **Table 12-21**~~**Table 12-21**~~ demonstrates that Three Bridge Lane has a high percentage of HGV usage compared to all vehicle flow.

Road Safety Analysis

~~12.5.90~~12.5.92 To ensure that there are no underlying highway safety issues across Section 5, PIC~~personal injury collisions (PIC)~~ data have been analysed.

~~12.5.91~~12.5.93 Section 5 is contained within the authoritative boundary of Lincolnshire and PIC data has~~ve~~ been requested from the location to cover the most recent five-year period. The

primary causation factor has not been included, and therefore analysis of that for this section has not been provided.

~~12.5.92~~12.5.94 PIC data have been analysed and is presented in Table 12-22.

Table 12-22: Section 5 Accident Overview by Year

Year	Slight	Serious	Fatal	Total
2017	13	6	0	19
2018	12	4	1	17
2019	14	5	0	19
2020	9	6	1	16
2021	9	5	0	14
Total	**57**	**26**	**2**	**85**

~~12.5.93~~12.5.95 **Table 12-22**~~**Table 12-22**~~ shows that 85 collisions were recorded across the highway network in Section 5 in the five-year period between 2017 and 2021. The most collisions happened in 2017 and 2019, with 19 collisions across the Section in both these years. There were two fatal collisions during the time period, with these happening in 2018 and 2020. Generally, the number of incidents has reduced over time, with 2020 and 2021 having the lowest number of accidents. However, the different travel and traffic patterns in these years, due to pandemic restrictions, must be acknowledged.

~~12.5.94~~12.5.96 This information has been further analysed to provide the number of accidents on each particular link, this is presented in **Table 12-23**~~**Table 12-23**~~**.**

Table 12-23: Section 5 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
A157	16	6	1	23
A1104	5	9	0	14
A1031	8	2	0	10
Thacker Bank	7	2	0	9
B1200	7	1	1	9
A16	4	2	0	6

~~12.5.95~~12.5.97 **Table 12-23**~~**Table 12-23**~~ shows the accident overview between 2017-2021 broken down by link. In reality, more accidents did occur in the five-year period on over links, however, just links which had over five accidents occurring have been presented. The data demonstrates that the A157 had the highest number of accidents overall, as well as the highest number of minor accidents. Whereas, the A1104 had the highest number of serious accidents, with nearly 65% of accidents on this link being serious in nature.

~~12.5.96~~12.5.98 There were two~~2~~ fatal collisions recorded within this section. Both of these occurred on the links outlined in the above table, with one fatal collision on the A157 and another on the B1200.

~~12.5.97~~12.5.99 Causation data is also available for this section. Note that accidents may have a number of causes. Due to the broad range of accident causes, only causes which occurred in five or more accidents are listed.

Table 12-24: Section 5 Accident Cause

Causation Factor	Slight	Serious	Fatal	Total
Carelessness, recklessness, or rushing	11	8	1	20
Loss of control	9	2	0	11
Failed to look properly	6	4	0	10
Exceeding speed limit	3	3	0	6
Impaired by alcohol	2	4	0	6
Dazzling sun	4	2	0	6
Failed to judge other driver behaviour (path or speed)	4	1	0	5
Slippery road (due to weather)	2	3	0	5
Junction overshoot	4	1	0	5

~~12.5.98~~12.5.100 **Table 12-24~~Table 12-24~~** presents the cause of accidents in Section 5 over the five-year period. Similar, to Section 4, driver carelessness, recklessness, or rushing is the cause of the majority of accidents in Section 5 and was the cause of the one fatal accident in this section during this time period. This is closely followed by losing control of vehicle or failing to properly look at surrounding traffic. Many of these causes, particularly the most frequent accident causes, are preventable and this should be considered in the Viking CCS Pipeline delivery and operation.

Future Baseline

~~12.5.99~~12.5.101 Subject to consent being granted for the Proposed Development, construction is planned to take place in 2026, and this has then been used as the design year for the Proposed Development.

~~12.5.100~~12.5.102 The Future B~~b~~aseline is included within *ES Volume IV Appendix 12-1* but is summarised below for ease of reference in **Table 12-25~~Table 12-25~~**, with the traffic data broken down by route section to match the above sections.

Table 12-25: Future AADT Baseline Traffic

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs	Route Section
A160	3	11,260	4,538	40%	1
Habrough Road	41	4,291	326	8%	1
A1173	42	7,439	1,954	26%	1
~~Mill Lane~~	~~43~~	~~108~~	~~3~~	~~3%~~	~~1~~
A160 – North of A180~~A160~~	44	~~13,751~~15,037	~~5,542~~6,244	40%	1
Killingholme Road	45	4,350	394	9%	1
A1173	56	6,847	1,345	20%	1
A1173 Manby Road	75	4,964	1,317	27%	1
A180 - East of A1173	77	~~24,390~~27,9821~~1~~	4,476~~3,902~~	16%	1
Rosper Road	80	4,023	1,676	41%	1

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs	Route Section
B1210	1	9,737	637	7%	2
A1173	2	6,092	668	11%	2
~~Healing Road~~	~~4~~	~~5,871~~	~~469~~	~~8%~~	~~2~~
~~Wells Road~~	~~5~~	~~860~~	~~97~~	~~11%~~	~~2~~
A46	14	7,652	865	11%	2
Washingdales Lane	16	118	5	5%	2
~~Nooking Lane~~	~~17~~	~~1426~~	~~134~~	~~9%~~	~~2~~
A1173	18	3,485	562	16%	2
A18 - Barton Street North	19	13,039	1,846	14%	2
A180 - Westgate	49	30,420	1,521	5%	2
Roxton Road	57	167	5	3%	2
Keelby Road	76	2,272	129	6%	2
A180 - Between A1173 and A160	78	~~33,888~~22,715	~~3,247~~2,176	1~~0~~%	2
A18	6	6,323	980	16%	3
Waltham Road 1	7	5,056	402	8%	3
Waltham Road 2	8	2,723	215	8%	3
A16	9	11,429	1,362	12%	3
Thoroughfare	10	242	19	8%	3
Unnamed between A18 and A16	11	1,786	278	16%	3
A18	12	5,567	947	17%	3
A16	13	12,051	1,504	12%	3
A46 - Grimsby Road	15	15,757	1,534	10%	3
A18 - Barton Street South	20	10,471	1,380	13%	3
A16 Peaks Parkway	21	16,392	1,478	9%	3
Pear Tree Lane	22	2,221	263	12%	3
A18	27	3,881	677	17%	3
~~B1219 - Station Road~~	~~48~~	~~13,074~~	~~767~~	~~6%~~	~~3~~
A1031 Grimsby Road	50	13,512	188	1%	3
A1031 Humberston Road	51	4,565	59	1%	3
A1031 Thoresby Road	52	2,959	37	1%	3
Walk Lane	55	29	2	7%	3
Old Man Road	58	158	14	9%	3
Weelsby Road	72	21,576	1,170	5%	3
A46 Laceby Road	73	18,295	1,151	6%	3

Road Name	ATC	All Vehicles (Two-Way)	HGVs (Two-Way)	% HGVs	Route Section
A16	74	15,801	1,315	8%	3
Ings Lane	23	290	32	11%	4
Alvingham Road	24	837	67	8%	4
Yarburgh Road	25	611	71	12%	4
Westfield Road	26	567	47	8%	4
A16	28	16,102	1,916	12%	4
Louth Bypass	29	14,621	848	6%	4
~~Lock Road~~	~~46~~	~~694~~	~~86~~	~~12%~~	~~4~~
A1031 Main Road	53	2,757	61	2%	4
A1031 Warren Road	54	3,211	62	2%	4
Little Grimsby Lane	59	372	39	11%	4
Brackenborough Road	60	598	38	6%	4
Brackenborough Road 2	61	1,150	72	6%	4
North Holme Road	62	14,650	1,008	7%	4
Keddington Road	63	3,049	213	7%	4
Louth Road 1	64	2,209	151	7%	4
Mill Hill Way	65	2,418	202	8%	4
Red Leas Lane	66	87	8	10%	4
Pick Hill Lane	67	189	18	9%	4
Marsh Lane	68	1,688	206	12%	4
Louth Road 2	69	1,332	102	8%	4
Main Road	70	1,024	88	9%	4
Kings Street	71	718	51	7%	4
B1200 Manby Middlegate	30	4,082	435	11%	5
~~A157~~	~~31~~	~~4,021~~	~~406~~	~~10%~~	~~5~~
~~A157~~	~~32~~	~~2,595~~	~~253~~	~~10%~~	~~5~~
Saltfleet Road	33	3,344	346	10%	5
~~A1031~~	~~34~~	~~4416~~	~~408~~	~~9%~~	~~5~~
Thacker Bank 1	35	192	24	13%	5
Thacker Bank 2	36	2,164	174	8%	5
~~Alford Road~~	~~37~~	~~6,648~~	~~603~~	~~9%~~	~~5~~
Three Bridge Lane	38	2,003	1,041	52%	5
Mill Road	39	2,256	210	9%	5
~~Station Road~~	~~40~~	~~179~~	~~51~~	~~28%~~	~~5~~
~~A16~~	~~47~~	~~9,903~~	~~1,368~~	~~14%~~	~~5~~
Mablethorpe Road	79	3,211	62	2%	5

~~12.5.101~~12.5.103 The ~~above~~ traffic data have then been used within Section 12.10 to assess the impact of the construction phase of the Proposed Development.

12.6 Construction Vehicle Generation

12.6.1 Due to the nature of the Proposed Development the construction traffic will be comprised of the following elements, each of which will need to be assessed separately:

- Construction vehicles and workers travelling to each of the access points onto the pipeline; and
- Pipeline deliveries from the port of Immingham to the 3 Compounds at Northern, Central and Southern.

12.6.2 The construction trip generation in line with the above is set out within the following Appendices within *ES Volume IV*:

- Appendix 12-1 –- Transport Baseline Surveys;
- ~~Appendix 12-2 - Construction Traffic Flows;~~
- ~~Appendix 12-3 - Construction Traffic Profiles;~~
- Appendix 12-~~4~~2 - Transport Assessment; and
- Appendix 12-~~5~~3 - Construction Traffic Management Plan.

Construction Traffic Flows

12.6.3 ~~*ES Volume IV* Appendix 12-3 (*Application Document 6.4.12.3)* sets out construction traffic flows, broken down into total and daily flows, based on the start and end date of each construction activity. This document shows how the daily flow at each access point has been derived for purposes of assessing the impact of the development in 12.10 of this chapter.~~ The traffic data have been supplied by the Applicant's technical advisers, who have significant experience of major pipeline development.

~~12.6.4 This document then sets out the~~ daily traffic at each access point as part of construction ~~within each of the five pipeline route sections~~ .

~~12.6.5 Whilst the full data is included within the Appendix the construction traffic flow data for the access points within each route section is summarised below for ease of reference.~~

~~12.6.6~~

~~Table 12-26~~12-26: Access Points Daily Trip Generation ~~– Previous ES Iteration~~

~~Access off~~	~~Section~~	~~All Vehicles One Way~~	~~Two Way~~	~~LGV Two Way*~~	~~HGV Two Way*~~	~~HGV%~~
~~RDX001P - Rosper Road~~	~~1~~	~~27~~	~~54~~	~~27~~	~~27~~	~~46%~~
~~RDX002P -Humber Road~~	~~1~~	~~23~~	~~46~~	~~21~~	~~25~~	~~54%~~
~~RDX003P -Manby Road~~	~~1~~	~~11~~	~~22~~	~~7~~	~~15~~	~~70%~~
~~RDX005P – A1173~~	~~1~~	~~24~~	~~48~~	~~20~~	~~28~~	~~59%~~
~~RDX008P -B1210 - Habrough Road~~	~~1~~	~~26~~	~~52~~	~~20~~	~~32~~	~~62%~~

Access off	Section	All Vehicles One Way	Two Way	LGV Two Way*	HGV Two Way*	HGV%
RDX010P -Roxton Road	2	25	50	20	30	60%
RDX011P – Keelby Road	2	26	52	20	32	61%
RDX012P -A1173 Riby Road	2	34	68	25	43	63%
RDX013P -Wells Road	2	1	2	2	0	19%
RDX015P - Washingdales Lane	2	28	56	23	33	58%
RDX016P - A46 Road	2	20	40	17	23	59%
RDX017P -Old Main Road	3	23	46	18	28	62%
RDX018P -Scrub Holt	3	1	2	2	0	15%
RDX020P -Waltham Road	3	34	68	23	45	66%
RDX021P -Main Road	3	1	2	2	0	15%
RDX022P - Thoroughfare	3	6	12	7	5	39%
RDX023P – Grainsby Lane	3	5	10	2	8	78%
RDX025P – Bond Croft Lane	3	27	54	18	36	66%
RDX028P – A16	3	5	10	2	8	78%
RDX030P – Station Road	3	1	2	2	0	15%
RDX031P -Pear Tree Lane	3	33	66	23	43	65%
RDX032P -Ings Lane	4	1	2	2	0	15%
RDX033P -Westfield Road	4	5	10	2	8	78%
RDX034P - Brackenborough Road	4	1	2	2	0	15%
RDX035P -Louth Road	4	32	64	26	38	60%
RDX037P -Louth Road	4	28	56	20	36	63%

Access off	Section	All Vehicles One Way	Two Way	LGV Two Way*	HGV Two Way*	HGV%
RDX038P -Mill Hill Way	4	1	2	2	0	15%
RDX039P -Red Leans Lane	4	1	2	2	0	15%
RDX040P -Marsh Lane	4	5	10	2	8	78%
RDX041P -Pick Hill Lane	4	1	2	2	0	15%
RDX042P -B1200 - Manby Middlegate (road)	4	31	62	22	40	64%
RVX002P – Willow Row Bank	5	1	2	2	0	1%
RDX043P -Thacker Bank (road)	5	29	58	21	37	63%
RVX006P – Thacker Bank	5	1	2	2	0	1%
RVX007P – Grove Road	5	1	2	2	0	1%
RDX044P -Grove Road	5	1	2	2	0	1%
RDX045P -Mill Road	5	9	18	6	12	66%
RDX046P -A1031- Maplethorpe Road	5	33	66	31	35	54%
Former TGT access	5	11	22	8	14	2%
	Total	573	1146	456	690	59%

Note that odd numbers for two-way traffic are due to rounding

12.6.7 The 20% uplift has been applied to the vehicles and it also assumed that all work will run concurrently. As such it has been assumed that all vehicles will be on the network at the same time as opposed to a phased approach.

12.6.4 **Table 12-26Table 12-26** shows the worst-case scenario by ATC point based on the provided construction programme and associated construction vehicles.

12.6.5 As part of the assessment the busiest week and subsequent daily average at each ATC has been extracted based on the 15-month construction programme, which allows for the most robust assessment of the impact. This includes both worker vehicles and construction vehicles.

~~For the assessment~~ ~~where and not the average daily~~Table 12-26. ~~Revised~~ Worst Case ~~Average~~ Construction Traffic by ATC Point

ATC	Road Name	All Vehicles	Access HGVs	HGV %
1	B1210	237	38	16%
2	A1173	1098	295	27%
3	A160	252	114	45%
6	A18	523	101	19%
7	Waltham Road 1	172	91	53%
9	A16	743	55	7%
10	Thoroughfare	97	17	18%
11	White Road	264	67	26%
12	A18	503	101	20%
13	A16	527	38	7%
14	A46	201	27	14%
15	A46 - Grimsby Road	320	62	19%
16	Washingdales lane	170	27	16%
18	A1173	813	252	31%
19	A18 - Barton Street North	749	210	28%
20	A18 - Barton Street South	647	138	21%
21	A16 Peaks Parkway	743	55	7%
22	Pear Tree Lane	91	38	42%
23	Ings Lane	20	0	0%
24	Alvingham Road	212	50	23%
25	Yarburgh Road	50	50	100%
26	Westfield Road	20	0	0%
27	A18	426	38	9%
28	A16	796	38	5%
29	Louth Bypass	418	56	13%
30	B1200 Manby Middlegate	418	56	13%
33	Saltfleet Road	237	52	22%
35	Thacker Bank	182	46	25%
36	Thacker Bank	98	0	0%
38	Three Bridge Lane	267	46	17%

ATC	Road Name	All Vehicles	Access HGVs	HGV %
39	Mill Road	20	0	0%
41	Habrough Road	175	47	27%
42	A1173	71	0	0%
44	A160	264	114	43%
45	Killingholme Road	113	47	42%
49	A180 - Westgate	501	71	14%
50	A1031 Grimsby Road	240	84	35%
51	A1031 Humberston Road	240	84	35%
52	A1031 Thoresby Road	240	84	35%
53	A1031 Main Road	240	84	35%
54	A1031 Warren Road	224	75	33%
56	A1173	71	0	0%
57	Roxton Road	77	38	49%
59	Little Grimsby Lane	87	0	0%
60	Brackenborough Road	39	0	0%
61	Brackenborough Road 2	39	0	0%
62	North Holme Road	297	0	0%
63	Keddington Road	346	0	0%
64	Louth Road 1	229	0	0%
65	Mill Hill Way	137	9	6%
66	Red Leas Lane	20	0	0%
67	Pick Hill Lane	20	0	0%
68	Marsh Lane	137	9	6%
69	Louth Road 2	43	43	100%
70	Main Road	23	0	0%
71	Kings Street	50	50	100%
72	Weelsby Road	293	72	25%
73	A46 Laceby Road	293	72	25%
74	A16	1073	71	7%
75	A1173 Manby Road	184	55	30%

ATC	Road Name	All Vehicles	Access HGVs	HGV %
76	Keelby Road	157	23	15%
77	A180 - East of A1173	464	71	15%
78	A180 - Between A1173 and A160	904	312	34%
79	Mablethorpe Road	205	52	25%
80	Rosper Road	252	114	45%

12.6.6 The above construction traffic will then be used within to assess the percentage impact of traffic on the highway network under assessment.

Construction Traffic Profiles

12.6.7 ~~ES Volume IV Appendix 12.3 (Application Document 6.4.12.3) sets out T~~the worker, construction and pipe delivery traffic profiles~~. This has been~~ have been broken down into monthly and daily profiles as well as hourly profiles across the working day based upon the busiest month, and the key data can be summarised for ease of reference as follows:~~.~~

Construction Workers

~~Based upon the data included within *ES Volume IV Appendix 12-1,* **Table 12-28Table 1227** below shows the previous proposed number of workers per month.~~

~~Table 12-2812-27: Previous Total Worker Personnel by Month~~

~~Month~~	~~Personnel per Day Per Month – One Way~~	~~Personnel per Day Per Month – Two Way~~
~~Oct-25~~	~~38~~	~~76~~
~~Nov-25~~	~~59~~	~~118~~
~~Dec-25~~	~~21~~	~~42~~
~~Jan-26~~	~~39~~	~~78~~
~~Feb-26~~	~~115~~	~~230~~
~~Mar-26~~	~~115~~	~~230~~
~~Apr-26~~	~~360~~	~~720~~
~~May-26~~	~~600~~	~~1,200~~
~~Jun-26~~	~~683~~	~~1,366~~
~~Jul-26~~	~~695~~	~~1,390~~
~~Aug-26~~	~~743~~	~~1,486~~
~~Sep-26~~	~~743~~	~~1,486~~
~~Oct-26~~	~~564~~	~~1,128~~
~~Nov-26~~	~~230~~	~~460~~
~~Dec-26~~	~~31~~	~~62~~

12.6.8 Table 12-27~~Table 12-27~~ ~~then~~ reports the ~~provides the adjusted~~ total construction personnel trips to site ~~worker personnel~~ by month based on the ~~revised trip~~ phased construction programme. ~~generation which~~ This indicates that June 2026 will be the peak month, with a

total of 858 personnel, generating 1,716 two-way tripspersonnel number of 858 totalling 1,716 two-way trips.

Table 12-27. Revised Total WorkerWorkforce Personnel by Month

Month	Personnel per Day Per MonthWorkers Ggenerating Ddaily Ttrips – One Way	Personnel per Day PerWorkers Ggenerating Ddaily Ttrips Month – Two Way
Sep-25	54	108
Oct-25	150	300
Nov-25	170	340
Dec-25	175	350
Jan-26	303	606
Feb-26	352	704
Mar-26	230	460
Apr-26	575	1,150
May-26	713	1,426
Jun-26	858	1,716
Jul-26	622	1,244
Aug-26	658	1,316
Sep-26	500	1,000
Oct-26	222	444
Nov-26	139	278
Dec-26	123	246
Jan-27	0	0
Feb-27	0	0
Mar-27	0	0

12.6.812.6.9 Table 12-28 shobelow then shows the arrival and departure times for workers within the busiest month (June 2026)–, based upon the assumed standard daily construction timescales for pipeline schemes of 07:00 to 19:00.

Table 12-28: Daily Arrival and Departure Profile Workers – August June 20262026might any staff

Hour Beginning	Arrivals	Departures	Two-Way
06:00	743 858	0	743858
07:00	0	0	0
08:00	0	0	0
09:00	0	0	0
10:00	0	0	0
11:00	0	0	0
12:00	0	0	0

Hour Beginning	Arrivals	Departures	Two-Way
13:00	0	0	0
14:00	0	0	0
15:00	0	0	0
16:00	0	0	0
17:00	0	0	0
18:00	0	0	0
19:00	0	~~743~~858	~~743~~858

12.6.10 As shown workers arriving to site will travel between the hours of 06:00-07:00hrs and will then depart at the end of the shift at 19:00-20:00hrs. ~~As such B~~by travelling outside the traditional AM and PM peak hours any impact upon the operation of the local highway network will be limited.

Construction HGVs and LGVs Traffic Profiles

~~12.6.9 Based upon the construction data included within *ES Volume IV Appendix 12-3*, **Table 12-29** shows the LGV, Minibus, HGV and Major Vehicle traffic breakdown by month and day, assuming an average 24 working days per month.~~

12.6.11 Table 12-29 shows the LGV and HGV breakdown by month, based on the updated construction programme and associated construction vehicles.

Table 12-29: HGV and LGV Monthly ~~and Daily~~ Traffic Profile – Total Traffic (Two Way)

Monthly Two Way	LGVS	HGV	Total
Sep-25~~Oct-25~~	888~~,240~~	248~~,644~~	**1,135~~,962~~**
Oct-25~~Nov-25~~	1,419~~,364~~	609~~,1674~~	**2,028~~,2162~~**
Nov-25~~Dec-25~~	1,488~~,124~~	1,120~~,1030~~	**2,608~~,1200~~**
Dec-25~~Jan-26~~	1,600~~,124~~	1,547~~,1078~~	**3,147~~,1249~~**
Jan-26~~Feb-26~~	2,722~~,1089~~	2,413~~,2202~~	**5,135~~,2881~~**
Feb-26~~Mar-26~~	2,804~~,1089~~	2,153~~,2202~~	**4,956~~,2881~~**
Mar-26~~Apr-26~~	1,254~~,2010~~	944~~,5432~~	**2,199~~,7407~~**
Apr-26~~May-26~~	4,242~~,3379~~	3,608~~,7190~~	**7,849~~,10930~~**
May-26~~Jun-26~~	5,688~~,3837~~	4,396~~,7612~~	**10,084~~,11873~~**
Jun-26~~Jul-26~~	9,731~~,3957~~	6,321~~,7660~~	**16,052~~,12066~~**
Jul-26~~Aug-26~~	7,850~~,4240~~	5,562~~,8212~~	**13,412~~,12950~~**
Aug-26~~Sep-26~~	6,289~~,4156~~	4,395~~,8212~~	**10,684~~,12866~~**
Sep-26~~Oct-26~~	3,039~~,3414~~	2,150~~,6346~~	**5,189~~,9890~~**
Oct-26~~Nov-26~~	1,3861809	1,498~~,4086~~	**2,884~~,5540~~**
Nov-26~~Dec-26~~	860~~,120~~	295~~,108~~	**1,155~~,230~~**
Dec-26	48~~,~~	33~~,~~	**81~~,~~**
Jan-27	126~~,~~	84~~,~~	**210~~,~~**
Feb-27	162~~,~~	108~~,~~	**270~~,~~**
Mar-27	96~~,~~	64~~,~~	**160~~,~~**

12.6.12 The daily profile for LGVs and HGVs can then be set out based upon the ~~average of 24~~number of working days per month, as ~~follows~~ shown in **Table 12-30~~Table 12-30~~**.

~~Table 12-29.~~

Table 12-30: Total Average ~~Combined~~ HGV and LGV Daily Traffic Profile by Month (Two Way)

~~Monthly Two~~Daily Two Way	LGVs	HGVs	Total
Sep-25	42	12	**54**
Oct-25	62	26	**88**
Nov-25	71	53	**124~~,~~**
Dec-25	80	77	**157~~,~~**
Jan-26	124~~,~~	110	**233~~,~~**
Feb-26	134~~,~~	103	**236~~,~~**
Mar-26	63~~,~~	47	**110~~,~~**
Apr-26	202~~,~~	172	**374~~,~~**
May-26	271~~,~~	209	**480~~,~~**
Jun-26	487~~,~~	316	**803~~,~~**
Jul-26	341~~,~~	242	**583~~,~~**
Aug-26	299~~,~~	209	**509~~,~~**
Sep-26	145~~,~~~~,~~	102	**247~~,~~**
Oct-26	60~~,~~	65	**125**
Nov-26	41~~,~~	14	**55~~,~~**
Dec-26	2~~,~~	2	**4~~,~~**
Jan-27	6~~,~~	4	**10~~,~~**
Feb-27	8	5	**13~~,~~**
Mar-27	42	12	**54**
~~Daily per Month Two Way~~	~~LGVS~~	~~HGV~~	~~Total~~
~~Oct-25~~	~~10~~	~~27~~	~~41~~
~~Nov-25~~	~~15~~	~~70~~	~~90~~
~~Dec-25~~	~~5~~	~~43~~	~~50~~
~~Jan-26~~	~~5~~	~~45~~	~~52~~
~~Feb-26~~	~~45~~	~~92~~	~~141~~
~~Mar-26~~	~~45~~	~~92~~	~~141~~
~~Apr-26~~	~~84~~	~~226~~	~~330~~
~~May-26~~	~~141~~	~~300~~	~~477~~
~~Jun-26~~	~~160~~	~~317~~	~~515~~
~~Jul-26~~	~~165~~	~~319~~	~~524~~
~~Aug-26~~	~~177~~	~~342~~	~~561~~
~~Sep-26~~	~~173~~	~~342~~	~~557~~
~~Oct-26~~	~~142~~	~~264~~	~~432~~
~~Nov-26~~	~~75~~	~~170~~	~~251~~
~~Dec-26~~	~~5~~	~~5~~	~~10~~

12.6.13 Table 12-31~~Table 12-31~~ then shows the combined average daily traffic by month for LGVs, Staff and HGVs which shows that the largest number of trips will be generated in June 2026

Table 12-31. Combined Daily Traffic Profile by Month (Two Way)

Monthly Two Way	LGVS	Staff	HGV	Total
Sep-25	42	108	12	**162**
Oct-25	62	300	26	**388**
Nov-25	71	340	53	**464**
Dec-25	80	350	77	**507**
Jan-26	124	606	110	**840**
Feb-26	134	704	103	**941**
Mar-26	63	460	47	**570**
Apr-26	202	1,150	172	**1,524**
May-26	271	1,426	209	**1,906**
Jun-26	487	1,716	316	**2,519**
Jul-26	341	1,244	242	**1,827**
Aug-26	299	1,316	209	**1,824**
Sep-26	145	1,000	102	**1,247**
Oct-26	60	444	65	**569**
Nov-26	41	278	14	**333**
Dec-26	2	246	2	**250**
Jan-27	6	0	4	**10**
Feb-27	8	0	5	**13**
Mar-27	42	0	12	**54**

12.6.14 The daily arrival and departure profiles for HGVs and LGVs~~, LGVs and Minibuses~~, based upon an even profile across the working day between the working hours of 0700 and 1900hrs, is then shown ~~below~~ in Table 12-32~~Table 12-32~~ and Table 12-33~~Table 12-33~~. This represents the month~~/s~~ where HGV traffic will be the highest i.e. June 2026.

~~**Table 12-30. Combined Daily Traffic Profile by Month (Two Way)**~~

12.6.15

Table 12-32~~12-31~~: HGV Daily Arrival and Departure Profile

Hour Beginning	% of daily inbound	% of daily outbound	Arrivals	Departures	Two Way
06:00	0%~~0%~~	0%~~0%~~	0~~0~~	0~~0~~	0~~0~~
07:00	10%~~9%~~	9%~~8%~~	16~~25~~	14~~23~~	30~~48~~
08:00	9%~~9%~~	9%~~8%~~	14~~25~~	14~~23~~	28~~48~~
09:00	9%~~9%~~	9%~~8%~~	14~~25~~	14~~23~~	28~~48~~
10:00	9%~~9%~~	9%~~8%~~	14~~25~~	14~~23~~	28~~48~~
11:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
12:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
13:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
14:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~

Hour Beginning	% of daily inbound	% of daily outbound	Arrivals	Departures	Two Way
15:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
16:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
17:00	9%~~9%~~	8%~~8%~~	14~~25~~	13~~23~~	27~~48~~
18:00	0%~~0%~~	8%~~8%~~	0~~0~~	13~~23~~	13~~23~~
19:00	0%~~0%~~	0%~~0%~~	0~~0~~	0~~0~~	0~~0~~
20:00	0%~~0%~~	0%~~0%~~	0~~0~~	0~~0~~	0~~0~~
21:00	0%~~0%~~	0%~~0%~~	0~~0~~	0~~0~~	0~~0~~
	100%~~100%~~	**100%~~100%~~**	**158~~278~~**	**158~~278~~**	**316~~556~~**

~~12.6.10~~12.6.16 **Table 12-33~~Table 12-33~~** shows the daily profile for LGVs based upon an even profile across the working day between the working hours of 0700 and 1900hrs. This table excludes workers getting to the construction and is purely related to construction vehicles .

Table 12-33. LGV Daily Arrival and Departure Profile

Hour Beginning	% of daily inbound	% of daily outbound	Arrivals	Departures	Two Way*
06:00	0%	0%	0	0	0
07:00	10%	9%	24	22	46
08:00	9%	9%	22	22	44
09:00	9%	9%	22	22	44
10:00	9%	9%	22	22	44
11:00	9%	8%	22	19	41
12:00	9%	8%	22	19	41
13:00	9%	8%	22	19	41
14:00	9%	8%	22	19	41
15:00	9%	8%	22	19	41
16:00	9%	8%	22	19	41
17:00	9%	8%	22	19	41
18:00	0%	8%	0	19	19
19:00	0%	0%	0	0	0
20:00	0%	0%	0	0	0
21:00	0%	0%	0	0	0
	100%	**100%**	243	243	487

* Note that odd numbers for two-way traffic are due to rounding

Combined Worker and ~~HGV~~ Construction Traffic

~~12.6.11~~12.6.17 Based upon the worker profile ~~from~~ provided in Table 12-28 and the construction traffic profile ~~from~~ provided in Table 12-30, Table 12-34~~Table 12-34~~ ~~then~~ shows the combined construction vehicle daily arrival and departure profile ~~alongside that of~~combined with the workers, as stated above workers are due to travel between 06:00-07:00 hrs and 19:00-20:00hrs as such they are likely to have a limited impact on the network.

Table 12-34~~12-32~~: Combined Worker and Construction Vehicle Arrival and Departure Profile

Hour Beginning	Arrivals	Departures	Two Way
06:00	858~~743~~	~~0~~00	~~743~~ 858
07:00	40~~25~~	36~~23~~	76~~48~~
08:00	36~~25~~	36~~23~~	72~~48~~
09:00	36~~25~~	36~~23~~	72~~48~~
10:00	36~~25~~	36~~23~~	72~~48~~
11:00	36~~25~~	32~~23~~	68~~48~~
12:00	36~~25~~	32~~23~~	68~~48~~
13:00	36~~25~~	32~~23~~	68~~48~~
14:00	36~~25~~	32~~23~~	68~~48~~
15:00	36~~25~~	32~~23~~	68~~48~~
16:00	36~~25~~	32~~23~~	68~~48~~
17:00	36~~25~~	32~~23~~	68~~48~~
18:00	0~~0~~	32~~23~~	32~~23~~
19:00	40~~0~~	36~~743~~	~~743~~858
20:00	0~~0~~	0~~0~~	0~~0~~
21:00	0~~0~~	0~~0~~	0~~0~~
	1,259~~1018~~	**1,259~~1018~~**	**2,519~~,2036~~**

Pipeline Delivery Traffic

12.6.18 This section provides detail in relation to the traffic profile associated with the pipeline delivery prior to the commencement of any construction activities.

12.6.19 The delivery of the sections of pipe to the Compounds could potentially occur the year prior to the start of the works on the pipeline. As such this has been assessed independently to the construction works.

12.6.20 In total there are predicted to be approximately 4,700 pipes required to be stored at the three Compound locations namely the Northern Compound, the Central Compound and the Southern Compound. In terms of the numbers of pipes required at each location this is broken down as follows:

- Northern Compound – 1,952 – 42%;
- Central Compound – 1,908 – 41%;
- Southern Compound – 807 – 17%; and
- **Total – 4,666**.

12.6.21 ~~As a worst case l~~It has been assumed that ~~only two~~ five pipes can be transported at any one time which results in ~~2,333~~933 one-way trips to pick up the pipes at Immingham and then a further ~~2,333~~933 one~~-~~-way trips to deliver the pipes to their respective Compounds, which equates to a total of ~~4,666~~1,866 two-way trips which is anticipated to take ~~103~~ 39 days based on six~~6~~ trucks operating four~~4~~ trips each per day.

12.6.22 ~~Based upon the above and the data within ES Volume IV Appendix 12-3 (Application Document 6.4.12.3).~~ Table 12-35~~Table 12-35 below~~ shows the daily arrival and departure profile across the working day. As can be seen a maximum of four~~4~~ trips will be generated

in any single hour. It is also assumed that each pipe dump will be worked on individually before moving onto the next one once capacity has been reached.

Table 12-35~~12-33~~: Pipeline Delivery Daily Arrival and Departures

Hour Beginning	% of daily inbound	% of daily outbound	Arrivals	Departures	Two Way
06:00	0%	0%	0	0	0
07:00	9%	8%	2	2	4
08:00	9%	8%	2	2	4
09:00	9%	8%	2	2	4
10:00	9%	8%	2	2	4
11:00	9%	8%	2	2	4
12:00	9%	8%	2	2	4
13:00	9%	8%	2	2	4
14:00	9%	8%	2	2	4
15:00	9%	8%	2	2	4
16:00	9%	8%	2	2	4
17:00	9%	8%	2	2	4
18:00	0%	8%	0	2	2
19:00	0%	0%	0	0	0
20:00	0%	0%	0	0	0
21:00	0%	0%	0	0	0
	100%	**100%**	**24**	**24**	**48**

12.7 Construction Traffic Distribution

12.7.1 This section provides an overview of the trip distribution methodology associated with each aspect of the Proposed Development; this includes:

- Construction Workers;
- Construction Vehicles, and
- Compound setup and delivery.

12.7.2 The flows will then be assigned to the network based on this distribution.

Construction Worker Distribution

12.7.1 This section sets out the distribution methodology associated with construction worker trips.

12.7.2 In order to distribute the workers (both transient and those who live in the local area) to each respective access point on the construction route a gravity model has been developed based on distance and population from nearby population centres, this includes Grimsby and Cleethorpes, Louth, Hull, Lincoln and Scunthorpe, as these are the main areas of population.

12.7.3 Table 12-36 ~~Table 12-34~~ sets out the gravity model and subsequent distributions of workers from each population centre.

~~Table 12-3612-34: Weighted Worker Distribution~~

~~Town~~	~~Distribution~~	~~Daily Worker Trips One Way~~	~~Daily Worker Trips Two-Way~~	~~Daily Worker Trips Two-Way 20% Uplift~~
~~Grimsby + Cleethorpes~~	~~64%~~	~~478~~	~~955~~	~~1,146~~
~~Louth~~	~~22%~~	~~163~~	~~327~~	~~392~~
~~Hull~~	~~7%~~	~~49~~	~~97~~	~~177~~
~~Lincoln~~	~~4%~~	~~32~~	~~64~~	~~77~~
~~Scunthorpe~~	~~3%~~	~~21~~	~~43~~	~~51~~
~~Total~~	~~100%~~	~~743~~	~~1,486~~	~~1,783~~

Table 12-36. Weighted Worker Distribution

Town	Distribution	Daily Worker Trips One Way	Daily Worker Trips Two-Way
Grimsby + Cleethorpes	64%	551	1,102
Louth	22%	189	377
Hull	7%	56	112
Lincoln	4%	37	74
Scunthorpe	3%	25	50
Total	100%	858	1,716

12.7.4 As such the proposed worker numbers have been distributed from the locations above to each respective access point as part of the construction phase.

Construction HGV Distribution

12.7.5 This section outlines the construction vehicle trip distribution across the network. As previously stated the mix of vehicles travelling to the access points will include both vehicles that will stay on the spread and progress along the working width as well as vehicles that will access intermittently as required.

12.7.6 For a robust assessment the number of vehicles associated with each access point has been individually distributed from the A180 to the north to each point. The impact of these trips alongside the workers travelling to each of the sites is presented within the impact assessment in Section 12.10.

Compound Set Up and Delivery Distribution

12.7.7 The traffic distribution in relation to the setup of each Compound is outlined in **Table 12-37**~~**Table 12-37** below~~.

Table 12-37~~12-35~~: Compound Set Up and Delivery Distribution from Immingham

Northern Compound	Central Compound	Southern Compound
A180; and ~~A160~~Killingholme Road	A180; A1173; and A18.	A180; A1173; A18;

Northern Compound	Central Compound	Southern Compound
		A46 Grimsby Road; A46 Laceby Road; A1243 Weelsby Road; and A1031

12.7.8 Once the Compounds have been established, flatbed lorries will transfer the pipes from Immingham Docks where it is anticipated that the material will be shipped to, and then transferred to each respective Compound with 6 trucks operating 4 trips each per day.

~~12.7.8~~

~~Total Construction Traffic~~

~~12.7.9 Therefore, considering the above construction traffic generation by access point and the distribution the total traffic flows at the peak year of construction 2026 can be given as follows on each of the links under consideration as shown in **Table 12-36** for the construction traffic and workers associated with the Proposed Development.~~

~~Table 12-36: Total Construction Peak Daily Trip Generation by Link – Construction~~

~~ATC~~	~~Road Name~~	~~All Vehicles~~	~~Access HGVsS~~	~~HGV %~~
~~1~~	~~B1210~~	~~167~~	~~30~~	~~18%~~
~~2~~	~~A1173~~	~~1155~~	~~471~~	~~41%~~
~~3~~	~~A160~~	~~237~~	~~127~~	~~54%~~
~~4~~	~~Healing Road~~	~~0~~	~~0~~	~~0%~~
~~5~~	~~Wells Road~~	~~0~~	~~0~~	~~0%~~
~~6~~	~~A18~~	~~593~~	~~140~~	~~24%~~
~~7~~	~~Waltham Road 1~~	~~0~~	~~0~~	~~0%~~
~~8~~	~~Waltham Road 2~~	~~0~~	~~0~~	~~0%~~
~~9~~	~~A16~~	~~815~~	~~56~~	~~7%~~
~~10~~	~~Thoroughfare~~	~~102~~	~~12~~	~~12%~~
~~11~~	~~White Road~~	~~162~~	~~36~~	~~22%~~
~~12~~	~~A18~~	~~536~~	~~140~~	~~26%~~
~~13~~	~~A16~~	~~631~~	~~43~~	~~7%~~
~~14~~	~~A46~~	~~191~~	~~52~~	~~27%~~
~~15~~	~~A46 - Grimsby Road~~	~~304~~	~~97~~	~~32%~~
~~16~~	~~Washingdales lane~~	~~84~~	~~33~~	~~39%~~
~~17~~	~~Nooking Lane~~	~~0~~	~~0~~	~~0%~~
~~18~~	~~A1173~~	~~880~~	~~367~~	~~42%~~
~~19~~	~~A18 - Barton Street North~~	~~773~~	~~319~~	~~41%~~
~~20~~	~~A18 - Barton Street South~~	~~736~~	~~185~~	~~25%~~
~~21~~	~~A16 Peaks Parkway~~	~~815~~	~~56~~	~~7%~~

ATC	Road Name	All Vehicles	Access HGVsS	HGV %
22	Pear Tree Lane	122	43	35%
23	Ings Lane	0	0	0%
24	Alvingham Road	120	38	32%
25	Yarburgh Road	38	38	100%
26	Westfield Road	0	0	0%
27	A18	487	97	20%
28	A16	863	96	11%
29	Louth Bypass	383	88	23%
30	B1200 Manby Middlegate	383	88	23%
31	A157	0	0	0%
32	A157	0	0	0%
33	Saltfleet Road	144	50	34%
34	A1031	0	0	0%
35	Thacker Bank	116	37	32%
36	Thacker Bank	102	0	0%
37	Alford Road	0	0	0%
38	Three Bridge Lane	252	49	19%
39	Mill Road	12	0	0%
40	Station Road	0	0	0%
41	Habrough Road	100	32	32%
42	A1173	97	0	0%
43	Mill Lane	10	0	0%
44	A160	245	127	52%
45	Killingholme Road	60	32	54%
46	Lock Road	0	0	0%
47	A16	0	0	0%
48	B1219 - Station Road	0	0	0%
49	A180 - Westgate	471	91	19%
50	A1031 Grimsby Road	212	132	62%
51	A1031 Humberston Road	212	132	62%
52	A1031 Thoresby Road	212	132	62%
53	A1031 Main Road	212	132	62%
54	A1031 Warren Road	174	94	54%
55	Walk Lane	0	0	0%
56	A1173	97	0	0%
57	Roxton Road	0	0	0%

ATC	Road Name	All Vehicles	Access HGVsS	HGV %
58	Old Man Road	58	0	1%
59	Little Grimsby Lane	95	8	8%
60	Brackenborough Road	56	0	0%
61	Brackenborough Road 2	27	0	0%
62	North Holme Road	273	0	0%
63	Keddington Road	291	0	0%
64	Louth Road 1	195	0	0%
65	Mill Hill Way	122	36	29%
66	Red Leas Lane	30	0	0%
67	Pick Hill Lane	58	0	1%
68	Marsh Lane	123	36	29%
69	Louth Road 2	44	44	100%
70	Main Road	14	0	0%
71	Kings Street	38	38	100%
72	Weelsby Road	280	82	29%
73	A46 Laceby Road	282	82	29%
74	A16	1117	91	8%
75	A1173 Manby Road	97	0	0%
76	Keelby Road	108	32	30%
77	A180 - East of A1173	471	91	19%
78	A180 - Between A1173 and A160	1073	549	51%
79	Mablethorpe Road	144	50	34%

Table 12-40. ,,The above construction traffic will then be used within to assess the percentage impact of traffic con the highway network under assessment.

12.8 Receptor Sensitivity

12.8.1 This section provides an overview of the assigned receptor sensitivity for each of the links based upon the criteria outlined in **Table 12-5**~~**Table 12-5**~~.

12.8.2 For ease this information is also presented below:

- High - Schools, colleges, playgrounds, hospitals, retirement homes. Heavily congested junctions, residential properties very close to carriageway;
- Medium - Congested junctions, shops/businesses, areas of heavy pedestrian / cycling use, areas of ecological/nature conservation, residential properties close to carriageway;
- Low - Tourist / visitor sites, places of worship, residential areas set back from the highway with screening; and
- Very Low - Those people and places located away from the affected highway link.

12.8.3 **Table 12-38**~~**Table 12-38**~~ below outlines the sensitivity of each of the links and has been used to assess the significance of the impact against the proposed construction flows. It is

noted on ATC 45 this has a different sensitivity between the pipe delivery and the main construction due to only some of the link being utilised as part of the pipe delivery whilst the whole link will be used ~~as part of~~during the main construction period.

Table 12-38~~12-37~~: Sensitivity Overview

ATC Name	ATC Number	Sensitivity
B1210	1	Medium
A1173	2	Very Low
A160	3	Very Low
~~Healing Road~~	~~4~~	~~Medium~~
~~Wells Road~~	~~5~~	~~Very Low~~
A18	6	Very Low
Waltham Road	7	Medium
~~Waltham Road~~	~~8~~	~~Medium~~
A16	9	Medium
Thoroughfare	10	Very Low
White Road	11	Very Low
A18	12	Very Low
A16	13	Very Low
A46	14	Very Low
A46 - Grimsby Road	15	Very Low
Washingdales Lane	16	Very Low
~~Nooking Lane~~	~~17~~	~~Low~~
A1173	18	Very Low
A18 - Barton Street North	19	Very Low
A18 - Barton Street South	20	Very Low
A16 Peaks Parkway	21	Medium
Pear Tree Lane	22	Low
Ings Lane	23	Low
Alvingham Road	24	Low
Yarburgh Road	25	Low
Westfield Road	26	Medium
A18	27	Low
A16	28	Very Low
Louth Bypass	29	Very Low
B1200 Manby Middlegate	30	Low
~~A157~~	~~31~~	~~Medium~~
~~A157~~	~~32~~	~~Low~~
Saltfleet Road	33	Very Low
~~A1031~~	~~34~~	~~Low~~
Thacker Bank	35	Very Low
Thacker Bank	36	Medium

ATC Name	ATC Number	Sensitivity
~~Alford Road~~	~~37~~	~~Low~~
Three Bridge Lane	38	Very Low
Mill Road	39	Medium
~~Station Road~~	~~40~~	~~Medium~~
Habrough Road	41	Medium
A1173	42	Very Low
~~Mill Lane~~	~~43~~	~~Medium~~
A160 – North of A180~~A160~~	44	Low
Killingholme Road	45	Low (Very Low for Pipe Delivery)
~~Lock Road~~	~~46~~	~~Medium~~
~~A16~~	~~47~~	~~Very Low~~
~~B1219 - Station Road~~	~~48~~	~~High~~
A180 - Westgate	49	Medium
A1031 Grimsby Road	50	Medium
A1031 Humberston Road	51	Medium
A1031 Thoresby Road	52	Medium
A1031 Main Road	53	Medium
A1031 Warren Road	54	Medium
~~Walk Lane~~	~~55~~	~~Very Low~~
A1173	56	Very Low
Roxton Road	57	Very Low
~~Old Man Road~~	~~58~~	~~Very Low~~
Little Grimsby Lane	59	Very Low
Brackenborough Road	60	Very Low
Brackenborough Road 2	61	Very Low
North Holme Road	62	High
Keddington Road	63	High
Louth Road 1	64	Low
Mill Hill Way	65	Very Low
Red Leas Lane	66	Low
Pick Hill Lane	67	Very Low
Marsh Lane	68	Low
Louth Road 2	69	Low
B1200 Main Road	70	Medium
Kings Street	71	Very Low
Weelsby Road	72	Medium
A46 Laceby Road	73	Medium
A16	74	Medium
A1173 Manby Road	75	Low

ATC Name	ATC Number	Sensitivity
Keelby Road	76	Low
A180 - East of A1173	77	Very Low
A180 - Between A1173 and A160	78	Very Low
Mablethorpe Road	79	Very Low
Rosper Road	80	Very Low

12.8.4 The above sensitivities will then be used alongside the magnitude of impact in order to determine the significance of any effect.

12.9 Development Design and Embedded Mitigation

Embedded Mitigation

12.9.1 EIA is an iterative process which has informed the design of the Proposed Development.

12.9.2 Mitigation measures that have been identified and adopted as part of the evolution of the Proposed Development's design are referred to as embedded mitigation (as they are "embedded" into the Proposed Development design).

12.9.3 Embedded mitigation measures that will be applied are summarised as follows:

- The routes proposed for construction traffic have been carefully considered to reduce both the number of routes affected and also to remove more sensitive routes where possible; and
- All access points that require the creation of a junction bell-mouth will be designed based on the relevant standard from DMRB CD 123 Geometric Design of at grade priority and signal-controlled junctions (Ref 12-13~~Ref 12-13~~) and in consultation with the LHA, thereby negating any potential safety impact associated with construction activity.

12.10 Potential Impacts and Assessment of Effects

Introduction

12.10.1 This assessment is based upon the access routes identified and discussed with the relevant Local Highway's Authorities. Access to working areas is possible via a network of primary, secondary and tertiary roads, as outlined in the baseline environment section above.

12.10.2 For ease of description the results assessment has been split into the five~~5~~ route sections, and each section is set out as follows.

Assessment of Potential Impacts: Construction Phase – Workers and Construction Traffic

Route Section 1

12.10.3 This section presents the results of the assessment of potential impacts in Section 1 for both the compounds and the construction of the pipeline, including moving pipe from compounds to the working areas.

~~12.10.3~~ Table 12-39

12.10.4 ~~Table 12-39~~ shows the results of the impact at each of the ATCs within section 1. ~~presents the impact assessment of route section 1 for the year 2026.~~

Table 12-3912-38: Route Section 1 Traffic Increase Overview - Construction

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
3	A160	11,260	4,538	40.3%	11,513 11497	4,652 4665	40.4% 40.6%	2.2% 2.1%	2.5%2.8%
41	Habrough Road	4,291	326	7.6%	4,466 4391	373 358	8.4%8.2%	4.1% 2.3%	14.5% 9.9%
42	A1173	7,439	1,954	26.3%	7,513 7536	1,954 1,954	26.0% 25.9%	1.0% 1.3%	0.0%
44	A160 – North of the A180	13,751 15,037	5,542 5,542	36.9%40.3%	15,301 13996	6,358 5669	41.6% 40.5%	1.8% 1.8%	1.8%2.3%
45	Killingholme Road	4,350	394	9.1%	4,463 4410	441 426	9.9%9.7%	2.6% 1.4%	12.0% 8.2%
56	A1173	6,847	1,345	19.6%	6,921 6944	1345	19.4% 19.4%	1.1% 1.4%	0.0%
75	A1173 Manby Road	4,964	1,317	26.5%	5,151 5061	1,372 1,317	26.6% 26.0%	3.8% 1.9%	4.2%0.0%
77	A180 - East of A1173	274,982390	3,902 3,787	13.516.0%	28,449 24861	4,547 3993	16.0% 16.1%	1.7% 1.9%	1.6%2.3%a
80	Rosper Road	3,800	1,583	41.6%	15,301	6,358	41.6%	1.8%	1.8%

12.10.5 The analysis therefore shows that no links are expected to exceed the any step of the IEA guidelines. Habrough Road is forecastexpected to experiencesee an increase in HGV traffic of 9.914.5% which is close to the second 'rule of thumb' with the remaining links only predicted to experience minor increases in traffic.which has a medium sensitivity and as such meetsexceeds the criteria that there is of an HGV increase of more than 10% in sensitive areas.

12.10.512.10.6 Therefore, none of the linksonly link 41 exceeds either of the two 'rules' of thumb' that form the first step of the IEA guidelines which states that a link on the highway network should be included within the study if one of the following criteria is met:

- Traffic flows increase by more than 30% (or HGV flows increase by more than 30%); or
- Traffic flows in sensitive areas increase by more than 10%.

12.10.612.10.7 **Table 12-40Table 12-40** Table 12-39: sets out the magnitude of impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in Table 12-6Table 12-6.

12.10.712.10.8 **Table 12-40Table 12-40** below shows that the magnitude of the impact across all the links is vVery lLow or low with only minor increases in traffic within Ssection 1.

12.10.812.10.9 **Table 12-41Table 12-41** shows the significance of change, based upon the criteria as set out in **Table 12-7Table 12-7**, (the link sensitivity) and the magnitude of change (**Table 12-6Table 12-6**) based on the increases in traffic due to the construction phase. Effects forecastpredicted to be 'major' or 'moderate' are considered to be significant whilst effects predicted to be 'minor' or 'negligible' are considered to be not significant.

Table 12-40~~12-39~~: Magnitude of impact 2026 – Route Section 1

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
3	A160	2.2%~~2.1%~~	2.5%~~2.8%~~	Very Low	Very Low	Very Low	Very Low	Low
41	Habrough Road	4.1%~~2.3%~~	14.5%~~9.9%~~	Low~~Very Low~~	Very Low	Low~~Very Low~~	Very Low	Low
42	A1173	1.0%~~1.3%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
44	A160 – North of A180~~A160~~	1.8%~~1.8%~~	1.8%~~2.3%~~	Very Low	Very Low	Very Low	Very Low	Low
45	Killingholme Road	2.6%~~1.4%~~	12.0%~~8.2%~~	Low~~Very Low~~	Very Low	Low~~Very Low~~	Very Low	Low
~~56~~	~~A1173~~	1.1%~~1.4%~~	0.0%~~0.0%~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Low~~
75	A1173 Manby Road	3.8%~~1.9%~~	4.2%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
77	A180 - East of A1173	1.7%~~1.9%~~	1.6%~~2.3%~~	Very Low	Very Low	Very Low	Very Low	Low
80	Rosper Road	6.3~~5~~4%	7.2%	Very Low	Very Low	Very Low	Very Low	Low

Table 12-41~~12-40~~: Route Section 1 - 24hr AADT – Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
3	A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
41	Habrough Road	Medium	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Minor – Not Significant
42	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
44	A160	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
45	Killingholme Road	Low	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Negligible – Not Significant
56	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
75	A1173 Manby Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
77	A180 - East of A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
80	Rosper Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

~~12.10.9~~12.10.10 As shown above in **Table 12-41**~~**Table 12-41**~~ based upon the magnitude of the change alongside the link sensitivity, the overall significance of effects within Section 1 based upon the 24hr AADT traffic is Negligible or Minor for the majority of links which is not considered to constitute a significant effect.

Public Rights of Way

~~12.10.10~~12.10.11 With reference to Section 12.5 Baseline, there are three PRoWs that directly intersect the route corridor:

- Route 185 which runs north - south from the coast to Rosper Road;
- Route 11 which routes~~uns~~ north - south connecting from other PRoWs in South Killingholme, north of the route corridor, to Mill Lane; and
- Route 13, which runs east west across the route corridor. Whereas Route 11 runs north south connecting from other PRoWs in South Killingholme, north of the route corridor, to Mill Lane.

12.10.1 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.

12.10.2 With reference to **Table 12-5** which sets out the level of sensitivity, **Table 12-6** which sets out the magnitude of impact and **Table 12-7** which gives the overall significance of effect, the impact upon the PRoWs can be set out as follows.

Table 12-42~~12-41~~: Route Section 1 PRoW Impact Assessment

PRoW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route 185	Low	Minor diversion	Medium	Minor – Not Significant
Route 11	Low	No diversion	Very Low	Negligible – Not Significant
Route 13	Low	Minor diversion	Medium	Minor – Not Significant

12.10.3 From the above it is considered that the overall significance of effects in terms of PRoWs is not significant, given that where required a diversion is being proposed, ~~s~~See Public Rights of Way Management Plan [**APP-123**].~~.~~

Route Section 2

This section presents the results of the projected impact in route S~~s~~ection 2 for both the Compound aspect of the Proposed Development and the construction of the pipeline.

12.10.4 Table 12-43~~Table 12-43~~ presents the 24hr AADT impact assessment for the workers and construction aspect of the works.

Table 12-43~~12-42~~: Route Section 2 24hr AADT Impact Assessment

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
1	B1210	9,737	637	6.5%	9,974 ~~9904~~	675 ~~667~~	6.8%~~6.7%~~	2.4%~~1.7%~~	5.9%~~4.7%~~
2	A1173	6,092	668	11.0%	7,183 ~~7247~~	963 ~~1139~~	13.4% ~~15.7%~~	17.9% ~~19.0%~~	44.2% ~~70.6%~~
~~4~~	~~Healing Road~~	~~5871~~	~~469~~	~~8.0%~~	~~5871~~	~~469~~	~~8.0%~~	~~0.0%~~	~~0.0%~~
~~5~~	~~Wells Road~~	~~860~~	~~97~~	~~11.3%~~	~~860~~	~~97~~	~~11.3%~~	~~0.0%~~	~~0.0%~~
14	A46	7,652	865	11.3%	7,853 ~~7843~~	892 ~~917~~	11.4% ~~11.7%~~	2.6%~~2.5%~~	3.1%~~6.0%~~
16	Washingdales Lane	118	5	4.2%	288 ~~202~~	32 ~~38~~	11.1% ~~18.7%~~	144.0 %~~71.1 %~~	541.6 %~~654.4%~~
~~17~~	~~Nooking Lane~~	~~1426~~	~~134~~	~~9.4%~~	~~1426~~	~~134~~	~~9.4%~~	~~0.0%~~	~~0.0%~~
18	A1173	3,485	562	16.1%	4,292 ~~4365~~	814 ~~929~~	19.0% ~~21.3%~~	23.2% ~~25.2%~~	44.8% ~~65.2%~~
19	A18 - Barton Street North	13,039	1,846	14.2%	13,780 ~~13812~~	2,056 ~~2165~~	14.9% ~~15.7%~~	5.7%~~5.9%~~	11.4% ~~17.3%~~
49	A180 - Westgate	30,420	1,521	5.0%	30,923 ~~30891~~	1,592 ~~1612~~	5.1%~~5.2%~~	1.7%~~1.5%~~	4.7%~~6.0%~~
57	Roxton Road	167	5	3.0%	244 ~~167~~	43 ~~5~~	17.5% ~~3.0%~~	46.4% ~~0.0%~~	756.4 %~~0.0 %~~
76	Keelby Road	2,272	129	5.7%	2,429 ~~2380~~	152 ~~161~~	6.2%~~6.8%~~	6.9%~~4.7%~~	17.6% ~~24.7%~~
78	A180 - Between A1173 and A160	~~33888~~ 22,715	~~32472~~, 176	9.6%	23,611 ~~34961~~	2,488 ~~3796~~	10.5% ~~10.9%~~	3.9%~~3.2%~~	14.3% ~~16.9%~~

12.10.5 In terms of Rule 1, Table 12-43~~Table 12-43~~ shows that three links have a >30% increase in HGV numbers, namely:~~;~~

- T~~t~~he A1173 (at ATC 2 and 18) with increases of 44~~70~~.2~~6~~% and 44~~65~~.8~~2~~%, and
- Washingdales Lane (ATC 16), with the increase of 541.6~~654~~%.

12.10.6 The increase on Washingdales Lane is due to the low number of vehicles within the B~~b~~aseline, as the road only services an Anglian Water Reservoir and a single farm. The overall number of HGVs are anticipated to ~~would~~ increase from five~~5~~ per day to 43~~38~~ per day.

12.10.7 Whilst there are increases in HGVs >10% at other locations within this route section, these locations are considered to have a low or very low sensitivity, as such they are not considered to pass the threshold for Rule 2.

12.10.8 None of the other links exceeds either of the two 'rules of thumb' that form the first step of the IEA guidelines.

12.10.9 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-44~~Table 12-44~~** provides an overview of the magnitude of impact of the proposed

peak construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6**~~**Table 12-6**~~.

Table 12-44~~12-43~~: Magnitude of Impact 2026 – Section 2 – 24hr AADT

ATC	Name	Increase All Vehicles %	Increase HGVs %	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	2.4%~~1.7%~~	5.9%~~4.7%~~	Very Low	Very Low	Very Low	Very Low	Low
2	A1173	17.9%~~19.0%~~	44.2%~~70.6%~~	Medium	Very Low	Medium	Very Low	Low
~~4~~	~~Healing Road~~	~~0.0%~~	~~0.0%~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Low~~
~~5~~	~~Wells Road~~	~~0.0%~~	~~0.0%~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Low~~
14	A46	2.6%~~2.5%~~	3.1%~~6.0%~~	Very Low	Very Low	Very Low	Very Low	Low
16	Washingdales Lane	144.0%~~71.1%~~	541.6%~~654.4%~~	High	~~Medium~~High	High	~~Medium~~High	High
~~17~~	~~Nooking Lane~~	~~0.0%~~	~~0.0%~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Low~~
18	A1173	23.2%~~25.2%~~	44.8%~~65.2%~~	Medium	Very Low	Medium	Very Low	Low
19	A18 - Barton Street North	5.7%~~5.9%~~	11.4%~~17.3%~~	Low	Very Low	Low	Very Low	Low
49	A180 - Westgate	1.7%~~1.5%~~	4.7%~~6.0%~~	Very Low	Very Low	Very Low	Very Low	Low
57	Roxton Road	46.4%~~0.0%~~	756.4%~~0.0%~~	~~Very Low~~High	~~Very~~ Low	~~Very Low~~High	~~Very~~ Low	~~Low~~High
76	Keelby Road	6.9%~~4.7%~~	17.6%~~24.7%~~	Low	Very Low	Low	Very Low	Low
78	A180 - Between A1173 and A160	3.9%~~3.2%~~	14.3%~~16.9%~~	Very Low~~Low~~	Very Low	Very Low~~Low~~	Very Low	Low

12.10.1 **Table 12-44**~~**Table 12-44**~~ shows that the magnitude of impact across most of the links is either low or very low with the exception of the A1173 (ATC 2 and 18) and Washingdales Lane (ATC 16) which show a high or medium magnitude in terms of S~~s~~severance, F~~f~~ear and I~~i~~ntimidation and R~~r~~oad S~~s~~afety, with Washingdales Lane also having a ~~medium~~ high magnitude for ~~both~~ pedestrian amenity and driver delay. Roxton Road is also expected to have a high magnitude in terms of fear intimidation, Severance and road safety due to the relative increase in HGVs on the link. However as noted in the baseline data this is due to a low baseline ~~in the~~ number of HGVs, as such an increase in this vehicle type results in a larger impact than would be expected once construction begins.

~~12.10.4~~12.10.2 As noted in **Table 12-43**~~**Table 12-43**~~ the actual increase on Washingdales Lane (ATC 16) is 27~~33~~ HGVs during the day compared to the baseline figure of ~~five~~55 HGVs during the day resulting in a total of 33 HGVs. This then results in a percentage increase of 5~~6~~54.41.6%, and this is only considered to occur due to the relatively low Bbaseline flow with an increase of 27~~33~~ HGVs during the day not considered to be necessarily severe. Despite the relatively large percentage increase in HGVs at this location the sensitivity is very low and apart from vehicles accessing the Anglian Water facility and the single farm it is unlikely that any other vehicles would use this access point.

~~12.10.5~~12.10.3 **Table 12-45**~~**Table 12-45**~~ shows the significance of change, based upon the criteria as set out in **Table 12-7**~~**Table 12-7**~~, (the link sensitivity) and the magnitude of change (**Table 12-6**~~**Table 12-6**~~) based on the increases in traffic due to the construction phase. Effects predicted to be ‘major’ or ‘moderate’ are considered to be significant whilst effects predicted to be ‘minor’ or ‘negligible’ are considered to be not significant.

Table 12-45~~12-44~~: Route Section 2 - 24hr AADT - Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
2	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
4	~~Healing Road~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor – Not Significant~~
~~5~~	~~Wells Road~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
14	A46	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
16	Washingdales Lane	Very Low	Minor– Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Minor– Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Minor– Not Significant
~~17~~	~~Nooking Lane~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
18	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
19	A18 - Barton Street North	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
49	A180 - Westgate	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
57	Roxton Road	Very Low	~~Negligible~~ Minor – Not Significant	Negligible – Not Significant	~~Negligible~~ Minor – Not Significant	Negligible – Not Significant	~~Negligible~~ Minor – Not Significant
76	Keelby Road	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
78	A180 - Between A1173 and A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

12.10.4 Table 12-45~~Table 12-45~~ shows that none of the effects on the link / roads within S~~s~~ection 2 are considered to be significant.

Public Rights of Way

12.10.5 With reference to Section 12.5 Baseline, there are five PRoWs that directly intersect the route corridor:

- Route 4 which runs alongside the railway line between Habrough and ~~Stalinborough~~Stallingborough;
- Route 26 which routes~~uns~~ east - west across the route corridor, just north of Riby Road, and close to the route corridor;
- Route 116 which connects Barton Street with Nooking Lane and other PRoWs; and
- Routes 119 and 130 which runs from the A18 towards Irby Upon Humber.

12.10.6 In terms of the NCN, there are no routes intersecting the scheme corridor therefore no impact is anticipated from the scheme. However, there are cycle routes on Limber Road to the east of the route corridor in Section 2. This section is an on-road route which is of standard quality and along a minor road.

12.10.7 With reference to **Table 12-5~~Table 12-5~~** which sets out the level of sensitivity, **Table 12-6~~Table 12-6~~** which sets out the magnitude of impact and **Table 12-7~~Table 12-7~~** which gives the overall significance of effect, the impact upon the PRoWs can be set out as follows:~~.~~

Table 12-46~~12-45~~: Route Section 2 PRoW Impact Assessment

PRoW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route 4	Low	Minor Diversion	Medium	Minor – Not Significant
Route 26	Low	No Diversion	Very Low	Negligible – Not Significant
Route 116	Low	Minor Diversion	Medium	Minor – Not Significant
Route 130	Low	Minor Diversion	Medium	Minor – Not Significant
Route 119	Low	Minor Diversion	Medium	Minor – Not Significant

12.10.8 From the above it is considered that the overall significance of effects in terms of PRoWs is not significant, given that where required a diversion is being proposed. S~~s~~ee~~.~~ Public Rights of Way Management Plan [**APP-123**]

Route Section 3

12.10.9 This section presents the results of the projected impact in route Ssection 3 for the construction of the pipeline. **Table 12-47~~Table 12-47~~** presents the 24hr AADT impact assessment for the workers and construction aspect of the works.

Table 12-47~~12-46~~: Route Section 3 24hr AADT Impact Assessment

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
6	A18	6,323	980	15.5%	6,846 ~~6916~~	1,081 ~~1120~~	15.8%~~16.2%~~	8.3%~~9.4%~~	10.3%~~14.3%~~
7	Waltham Road 1	5,056	402	8.0%	5228~~5056~~	4934~~02~~	9.4%~~8.0%~~	3.4%~~0.0%~~	22.6%~~0.0%~~
9	A16	11,429	1362	11.9%	2,172 ~~12244~~	1,417 ~~1418~~	11.6%~~11.6%~~	6.5%~~7.1%~~	4.1%~~4.1%~~
10	Thoroughfare	242	19	7.9%	339 ~~344~~	36 ~~31~~	10.6%~~9.1%~~	40.3%~~42.3%~~	89.95% ~~65.3%~~
11	White Road	1,786	278	15.6%	2,050 ~~1948~~	345 ~~314~~	16.8%~~16.1%~~	14.8%~~9.1%~~	24.3%~~12.8%~~
12	A18	5,567	947	17.0%	6,070 ~~6103~~	1,048 ~~1087~~	17.3%~~17.8%~~	9.0%~~9.6%~~	10.7%~~14.8%~~
13	A16	12,051	1504	12.5%	12,578 ~~12682~~	1,542 ~~1547~~	12.3%~~12.2%~~	4.4%~~5.2%~~	2.5%~~2.9%~~
15	A46 – Grimsby Road	15,757	1534	9.7%	16,077 ~~16061~~	1,596 ~~1631~~	9.9%~~10.2%~~	2.0%~~1.9%~~	4.1%~~6.3%~~
20	A18 – Barton Street South	10,471	1380	13.2%	11,118 ~~11207~~	1,518 ~~1565~~	13.7%~~14.0%~~	6.2%~~7.0%~~	10.0%~~13.4%~~
21	A16 Peaks Parkway	16,392	1478	9.0%	17,135 ~~17207~~	1,533 ~~1534~~	8.9%~~8.9%~~	4.5%~~5.0%~~	3.7%~~3.8%~~
22	Pear Tree Lane	2,221	263	11.8%	2,311 ~~2343~~	3013~~06~~	13.0%~~13.1%~~	4.1%~~5.5%~~	14.5%~~16.4%~~
27	A18	3,881	677	17.4%	4,307 ~~4368~~	715 ~~774~~	16.6%~~17.7%~~	11.0%~~12.5%~~	5.6%~~14.3%~~
50	A1031 Grimsby Road	13,512	188	1.4%	3,752 ~~13724~~	272 ~~320~~	2.0%~~2.3%~~	1.8%~~1.6%~~	44.9%~~70.2%~~
51	A1031 Humberston Road	4,565	59	1.3%	4,805 ~~4777~~	143 ~~191~~	3.0%~~4.0%~~	5.3%~~4.7%~~	142.9% ~~223.7%~~
52	A1031 Thoresby Road	2,959	37	1.3%	3,199 ~~3171~~	121 ~~169~~	3.8%~~5.3%~~	8.1%~~7.2%~~	227.9% ~~356.7%~~

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
72	Weelsby Road	21,576	1170	5.4%	21,869 ~~21856~~	1,242 ~~1252~~	5.7% ~~5.7 %~~	1.4% ~~1.3%~~	6.2% ~~7.0 %~~
73	A46 Laceby Road	18,295	1151	6.3%	18,588 ~~18577~~	1,223 ~~1233~~	6.6% ~~6.6 %~~	1.6% ~~1.5%~~	6.3% ~~7.2 %~~
74	A16	15,801	1315	8.3%	16,874 ~~16918~~	1,386 ~~1406~~	8.2% ~~8.3 %~~	6.8% ~~7.1%~~	5.4% ~~6.9 %~~

12.10.10 The analysis shows that within this section there are forecast~~predicted~~ to be large percentage increases in HGV traffic on the A1031 Humberston Road (ATC 51) and A1031 Thoresby Road (ATC 52) with respective increases of 142.9~~223~~% and ~~356~~227.9%. However as noted earlier this is because both these links have relatively low B~~b~~aseline HGV flows and as such any increase in HGV traffic brings a high percentage change~~significantly increases this value~~.

12.10.11 There are also increases on Grimsby Road (ATC 50) with an increase of 44~~70~~.9~~2~~% in terms of HGV traffic as well as Thoroughfare (ATC 10) which is predicted to increase 40.3~~42.43~~% in terms of all vehicles and 89~~65~~.9~~3~~% in terms of HGVs.

12.10.12 Whilst there are increases in HGVs >10% at other locations within this route section, these locations are considered to have a low or very low sensitivity, as such they are not considered to pass the threshold for Rule 2.

12.10.13 As such none of the other links exceeds either of the two 'rules of thumb' that form the first step of the IEA guidelines.

12.10.14 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-48**~~**Table 12-48**~~ provides an overview of the magnitude of impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in Table 12-6~~Table 12-6~~.

12.10.15 **Table 12-48**~~**Table 12-48**~~ below shows that the magnitude of effects across all the links is either low or very low with the exception of Thoroughfare (ATC 10), Grimsby Road (ATC 50), A1031 Humberston Road (ATC 51) and A1031 Thoresby Road (Link 52). Which are predicted to experience either a high or medium magnitude of change depending on the criteria.

~~12.10.16~~ **Table 12-49**~~**Table 12-49**~~ below shows that the impacts on the links/roads within section 3 are not predicted to be significant.

Table 12-48~~12-47~~: Magnitude of impact 2026 – Route Section 3 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
6	A18	8.3%~~9.4%~~	10.3%~~14.3%~~	Low	Very Low	Low	Very Low	Low
7	Waltham Road 1	3.4%~~0.0%~~	22.6%~~0.0%~~	~~Very~~ Low	Very Low	~~Very~~ Low	Very Low	Low
9	A16	6.5%~~7.1%~~	4.1%~~4.1%~~	Very Low	Very Low	Very Low	Very Low	Low
10	Thoroughfare	40.3%~~42.3%~~	89.95%~~65.3%~~	Medium	Very Low	Medium	~~Low~~Medium	Medium
11	White Road	14.8%~~9.1%~~	24.3%~~12.8%~~	Low	Very Low	Low	Very Low	Low
12	A18	9.0%~~9.6%~~	10.7%~~14.8%~~	Low	Very Low	Low	Very Low	Low
13	A16	4.4%~~5.2%~~	2.5%~~2.9%~~	Very Low	Very Low	Very Low	Very Low	Low
15	A46 – Grimsby Road	2.0%~~1.9%~~	4.1%~~6.3%~~	Very Low	Very Low	Very Low	Very Low	Low
20	A18 – Barton Street South	6.2%~~7.0%~~	10.0%~~13.4%~~	Low	Very Low	Low	Very Low	Low
21	A16 Peaks Parkway	4.5%~~5.0%~~	3.7%~~3.8%~~	Very Low	Very Low	Very Low	Very Low	Low
22	Pear Tree Lane	4.1%~~5.5%~~	14.5%~~16.4%~~	Low~~Low~~	Very Low~~Very Low~~	Low~~Low~~	Very Low~~Very Low~~	Low~~Low~~
27	A18	11.0%~~12.5%~~	5.6%~~14.3%~~	Very Low~~Low~~	Very Low	Very Low~~Low~~	Very Low	Low
50	A1031 Grimsby Road	1.8%~~1.6%~~	44.9%~~70.2%~~	Medium	Very Low	Medium	Very Low	Low
51	A1031 Humberston Road	5.3%~~4.7%~~	142.9%~~223.7%~~	High	Very Low	High	Very Low	High
52	A1031 Thoresby Road	8.1%~~7.2%~~	227.9%~~356.7%~~	High	Very Low	High	Very Low	High
72	Weelsby Road	1.4%~~1.3%~~	6.2%~~7.0%~~	Very Low	Very Low	Very Low	Very Low	Low
73	A46 Laceby Road	1.6%~~1.5%~~	6.3%~~7.2%~~	Very Low	Very Low	Very Low	Very Low	Low
74	A16	6.8%~~7.1%~~	5.4%~~6.9%~~	Very Low	Very Low	Very Low	Very Low	Low

Table 12-4912-48: Route Section 3 – 24hr AADT – Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
6	A18	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
7	Waltham Road 1	Medium	~~Negligible~~ Minor – Not Significant	Negligible – Not Significant	~~Negligible~~ Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
9	A16	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
10	Thoroughfare	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
11	White Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
12	A18	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
13	A16	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
15	A46 – Grimsby Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
20	A18 – Barton Street South	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
21	A16 Peaks Parkway	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
22	Pear Tree Lane	Low	Minor– Not Significant~~Minor– Not Significant~~	Negligible – Not Significant~~Negligible – Not Significant~~	Minor– Not Significant~~Minor– Not Significant~~	Negligible – Not Significant~~Negligible – Not Significant~~	Minor– Not Significant~~Minor– Not Significant~~
27	A18	Low	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant	Negligible – Not Significant~~Minor– Not Significant~~
50	A1031 Grimsby Road	Medium	**Moderate – Significant**	Negligible – Not Significant	**Moderate – Significant**	Negligible – Not Significant	Minor– Not Significant~~Moderate– Significant~~
51	A1031 Humberston Road	Medium	**Major – Significant**	Negligible – Not Significant	**Major – Significant**	Negligible – Not Significant	**Major – Significant**
52	A1031 Thoresby Road	Medium	**Major – Significant**	Negligible – Not Significant	**Major – Significant**	Negligible – Not Significant	**Major – Significant**
72	Weelsby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
73	A46 Laceby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
74	A16	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant

~~12.10.17~~12.10.16 As shown when taking the magnitude of the change alongside the link sensitivity the overall significance of the links contained in route S~~s~~ection 3 is mainly either Minor or Negligible which is not significant, with the exception of ATC 50, Grimsby Road, ATC 51, A1031 Humberston Road and ATC 52 A1031 Thoresby Road, where a Moderate or Major, significant effect is predicted in terms of Severance, Fear and Intimidation and Highway Safety. The reason for this is that the baseline number of HGVs is very low, which results in a large percentage increase, even though the actual number of construction HGVs is relatively low and will last for a short duration.

~~12.10.18~~12.10.17 However, the implementation of the OCTMP (*Application Document 6.4.12.5*) will~~ould~~ aim to reduce any impact from the construction traffic as far as is possible.

Public Rights of Way

~~12.10.19~~12.10.18 With reference to Section 12.5 Baseline, there are nine ~~ProWs~~ PRoWs that directly intersect the route corridor:

- Route 161a which runs east-west from Irby Upon Humber towards the A18;
- Route 124 which aligns~~runs~~ from near Walk Farm to the A18;
- Route 94 which connects Barnoldby Le Beck to the A18 near Wickster House;
- Route 81 travelling~~running~~ east ~~-~~ west just off Ashby Lane;
- Route 82 running south from Brigsley to link up with route 81;
- Route 85 routing~~unning~~ north ~~-~~ south from Brigsley to south of Thoroughfare;
- Route 86 running east from Ashby cum Fenby, to link up with route 85;
- Route 87 aligning~~running~~ south from Ashby cum Fenby; and
- Route Ntho/113/1 running from the A18 to North Thoresby.

~~12.10.20~~12.10.19 In terms of the NCN, there is on~~-~~road cycle infrastructure along the highway out of Beelsby, along a short stretch of the A18, and then along Beelsby Road near of Barnoldby le Beck. This route therefore intersects the scheme alignment and potential impacts should be considered.

~~12.10.21~~12.10.20 With reference to Table 12-5~~Table 12-5~~ which sets out the level of sensitivity, Table 12-6~~Table 12-6~~ which sets out the magnitude of impact and Table 12-7~~Table 12-7~~ which gives the overall significance of effect, the impact upon the ProWs can be set out as follows.

Table 12-50~~12-49~~: Route Section 3 ProW Impact Assessment

ProW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route 161a	Low	Minor Diversion	Medium	Minor – Not Significant
Route 124	Low	Minor Diversion	Medium	Minor – Not Significant
Route 94	Low	Minor Diversion	Medium	Minor – Not Significant
Route 81	Low	Minor Diversion	Medium	Minor – Not Significant
Route 82	Low	Minor Diversion	Medium	Minor – Not Significant
Route 85	Low	Minor Diversion	Medium	Minor – Not Significant
Route 86	Low	No Diversion	Very Low	Negligible – Not Significant
Route 87	Low	Minor Diversion	Medium	Minor – Not Significant

ProW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route Ntho/113/1	Low	Minor Diversion	Medium	Minor – Not Significant

~~12.10.22~~12.10.21 From the criteria~~above~~ it is considered that the overall significance of effects in terms of ProWs is not significant, given that where required a diversion is being proposed, see Public Rights of Way Management Plan [**APP-123**]. ~~.~~

Route Section 4

~~12.10.23~~12.10.22 This section presents the results of the projected impact in route S~~s~~ection 4 for both the Compound aspect of the Proposed Development and the construction of the pipeline.

~~12.10.24~~12.10.23 **Table 12-51** ~~**Table 12-51**~~ shows the 24hr AADT impact assessment within route S~~s~~ection 4.

Table 12-51 ~~**12-50**~~**: Route Section 4 24hr AADT Impact Assessment**

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV %	All	HGV	HGV%	All	HGV
23	Ings Lane	290	32	11.0%	310 ~~290~~	32 ~~32~~	10.3%~~1 1.0%~~	6.9% ~~0.0%~~	0.0%~~0 .0%~~
24	Alvingham/ Louth Road	837	67	8.0%	1,049 ~~957~~	117 ~~105~~	11.1%~~1 1.0%~~	25.4 %~~14. 3%~~	73.9% ~~56.7%~~
25	Yarburgh Road	611	71	11.6%	661 ~~649~~	121 ~~109~~	18.2%~~1 6.8%~~	8.1% ~~6.3%~~	69.8% ~~54.0%~~
26	Westfield Road	567	47	8.3%	587 ~~567~~	47 ~~47~~	8.0%~~8. 3%~~	3.5% ~~0.0%~~	0.0%~~0 .0%~~
28	A16	16,102	1,916	11.9%	6,898 ~~16965~~	1,954 ~~2012~~	11.6%~~1 1.9%~~	4.9% ~~5.4%~~	2.0%~~5 .0%~~
29	Louth Bypass	14,621	848	5.8%	15,039 ~~15004~~	904 ~~936~~	6.0%~~6. 2%~~	2.9% ~~2.6%~~	6.6%~~1 0.4%~~
~~46~~	~~Lock Road~~	~~694~~	~~86~~	~~12.4%~~	~~694~~	~~86~~	~~12.4%~~	~~0.0%~~	~~0.0%~~
53	A1031 Main Road	2,757	61	2.2%	2,997 ~~2969~~	145 ~~193~~	4.8%~~6. 5%~~	8.7% ~~7.7%~~	138.2 %~~216. 4%~~
54	A1031 Warren Road	3,211	62	1.9%	3,435 ~~3385~~	137 ~~156~~	4.0%~~4. 6%~~	7.0% ~~5.4%~~	120.3 %~~151. 1%~~
59	Little Grimsby Lane	372	39	10.5%	459 ~~467~~	39 ~~47~~	8.5%~~10 .0%~~	23.4 %~~25. 7%~~	0.0%~~1 9.9%~~
60	Brackenborough Road	598	38	6.4%	637 ~~654~~	38 ~~38~~	6.0%~~5. 8%~~	6.5% ~~9.3%~~	0.0%~~0 .0%~~
61	Brackenborough Road 2	1,150	72	6.3%	1,189 ~~1177~~	72 ~~72~~	6.1%~~6. 1%~~	3.4% ~~2.3%~~	0.0%~~0 .0%~~

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV %	All	HGV	HGV%	All	HGV
62	North Holme Road	14,650	1008	6.9%	4,947 ~~14923~~	1,008 ~~1008~~	6.7%~~6.8%~~	2.0% ~~1.9%~~	0.0%~~0.0%~~
63	Keddington Road	3049	213	7.0%	3,395 ~~3340~~	213 ~~213~~	6.3%~~6.4%~~	11.4 %~~9.5%~~	0.0%
64	Louth Road 1	2,209	151	6.8%	2,438 ~~2404~~	151 ~~151~~	6.2%~~6.3%~~	10.4 %~~8.8%~~	0.0%~~0.0%~~
65	Mill Hill Way	2,418	202	8.4%	2,555 ~~2540~~	211 ~~238~~	8.3%~~9.4%~~	5.7% ~~5.1%~~	4.4%~~17.7%~~
66	Red Leas Lane	87	8	9.2%	107 ~~117~~	8 ~~8~~	9.2%~~6.9%~~	22.9 %~~34.1%~~	0.0%~~0.0%~~
67	Pick Hill Lane	189	18	9.5%	209 ~~247~~	18 ~~18~~	9.5%~~7.4%~~	10.5 %~~30.6%~~	0.0%~~1.7%~~
68	Marsh Lane	1,688	206	12.2%	1,825 ~~1811~~	215 ~~242~~	11.8%~~13.4%~~	8.1% ~~7.3%~~	4.3%~~17.5%~~
69	Louth Road 2	1,332	102	7.7%	1,375 ~~1376~~	145 ~~146~~	10.6%~~10.6%~~	3.3% ~~3.3%~~	42.5% ~~43.2%~~
70	Main Road	1,024	88	8.6%	1,047 ~~1038~~	88 ~~88~~	8.4%~~8.5%~~	2.2% ~~1.4%~~	0.0%~~0.0%~~
71	Kings Street	718	51	7.1%	768 ~~756~~	101 ~~89~~	13.1%~~11.8%~~	6.9% ~~5.3%~~	97.1% ~~75.1%~~

~~12.10.25~~12.10.24 The analysis shows that the largest increase in traffic and HGVs will occur on A1031 Main Road (ATC 53) with an increase of 138.2~~216~~% in terms of HGVs though only a 8.7~~7.7~~% increase in terms of all vehicles. A1031 Warren Road (ATC 54) shows an increase in HGVs of 120.3~~151~~% and increase in all vehicles of 7.0%~~.~~

~~12.10.26~~12.10.25 In terms of other links predicted to experience increases in HGV percentage above 30%, Kings Street (ATC 71) is predicted to increase by ~~75.1~~97.1%, Alvingham Road (ATC 24) by ~~56.7~~73.9%, Yarburgh Road (ATC 25) by ~~54~~69.8%, with Louth Road 2 (ATC 69) expected to increase by ~~43.2~~42.5%.

~~12.10.27 In relation to all vehicles the only significant increases occur on Red Leas Lane (ATC 66) and Pick Hill Lane (ATC 67) with increases of 34.1% and 30.6% respectively, however both have a low or very low sensitivity.~~

~~12.10.28~~ Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-52**~~**Table 12-52**~~ provides an overview of the magnitude of impact of the proposed peak construction traffic on Section 4, based upon the magnitude of impact criteria as set out in **Table 12-6**~~**Table 12-6**~~. ~~Table 12-51 provides an overview of the magnitude of impact of the proposed peak construction traffic on Section 4, based upon the magnitude of impact criteria as set out in Table 12-6.~~

Table 12-52~~12-51~~: Magnitude of impact 2026 – Route Section 4 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
23	Ings Lane	6.9%~~0.0%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Very Low
24	Alvingham/ Louth Road	25.4%~~14.3%~~	73.9%~~56.7%~~	Medium	Very Low	Medium	Very Low	Medium~~Low~~
25	Yarburgh Road	8.1%~~6.3%~~	69.8%~~54.0%~~	Medium	Very Low	Medium	Very Low	Medium~~Low~~
26	Westfield Road	3.5%~~0.0%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
28	A16	4.9%~~5.4%~~	2.0%~~5.0%~~	Very Low	Very Low	Very Low	Very Low	Low
29	Louth Bypass	2.9%~~2.6%~~	6.6%~~10.4%~~	~~Low~~Very Low	Very Low	~~Low~~Very Low	Very Low	Low
~~46~~	~~Lock Road~~	~~0.0%~~	~~0.0%~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Very Low~~	~~Low~~
53	A1031 Main Road	8.7%~~7.7%~~	138.2%~~216.4%~~	High	Very Low	High	Very Low	High
54	A1031 Warren Road	7.0%~~5.4%~~	120.3%~~151.1%~~	High	Very Low	High	Very Low	High
59	Little Grimsby Lane	23.4%~~25.7%~~	0.0%~~19.9%~~	Very Low	Very Low	Very Low	Very Low	Low
60	Brackenborough Road	6.5%~~9.3%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
61	Brackenborough Road 2	3.4%~~2.3%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
62	North Holme Road	2.0%~~1.9%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
63	Keddington Road	11.4%~~9.5%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
64	Louth Road 1	10.4%~~8.8%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
65	Mill Hill Way	5.7%~~5.1%~~	4.4%~~17.7%~~	Very Low~~Low~~	Very Low	Very Low~~Low~~	Very Low	Low
66	Red Leas Lane	22.9%~~34.1%~~	0.0%~~0.0%~~	Very Low	Very Low~~Very Low~~	Very Low~~Low~~	Very Low~~Low~~	Very Low~~Low~~
67	Pick Hill Lane	10.5%~~30.6%~~	0.0%~~1.7%~~	Very Low~~Low~~	Very Low	Very Low~~Low~~	Very Low~~Low~~	Very Low
68	Marsh Lane	8.1%~~7.3%~~	4.3%~~17.5%~~	Very Low~~Low~~	Very Low	Very Low~~Low~~	Very Low	Low
69	Louth Road 2	3.3%~~3.3%~~	42.5%~~43.2%~~	Medium	Very Low	Medium	Very Low	Low
70	Main Road	2.2%~~1.4%~~	0.0%~~0.0%~~	Very Low	Very Low	Very Low	Very Low	Low
71	Kings Street	6.9%~~5.3%~~	97.1%~~75.1%~~	High~~Medium~~	Very Low	High~~Medium~~	Very Low	Medium

~~12.10.29~~12.10.26 **Table 12-52~~Table 12-52 Table 12-51~~** above shows that the magnitude of impact across all the links is either low or very low with the exception of A1031 Main Road (Link 53) and A1031 Warren Road (Link 54) which are forecast~~predicted~~ to experience a high magnitude of change within some of the criteria. Whilst Alvingham / Louth Road (Link 24), Yarborough Road (Link 25), ~~Little Grimsby Lane (Link 59),~~ Louth Road 2 (Link 69) and Kings Street (Link 71) are expected to experience a medium magnitude of change.

~~12.10.30~~12.10.27 **Table 12-53~~Table 12-53~~** shows the significance of change, based upon the criteria as set out in Table 12-7~~Table 12-7~~, (the link sensitivity) and the magnitude of change (Table 12-6~~Table 12-6~~) based on the increases in traffic due to the construction phase. Effects predicted to be ‘major’ or ‘moderate’ are considered to be significant whilst effects predicted to be ‘minor’ or ‘negligible’ are considered to be not significant.

Table 12-53~~12-52~~: Route Section 4 - 24hr AADT – Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
23	Ings Lane	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
24	Alvingham Road	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
25	Yarburgh Road	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
26	Westfield Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
28	A16	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
29	Louth Bypass	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
~~46~~	~~Lock Road~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
53	A1031 Main Road	Medium	**Major– Significant**	Negligible – Not Significant	**Major– Significant**	Negligible – Not Significant	**Major– Significant**
54	A1031 Warren Road	Medium	**Major– Significant**	Negligible – Not Significant	**Major– Significant**	Negligible – Not Significant	**Major– Significant**
59	Little Grimsby Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
60	Brackenborough Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
61	Brackenborough Road 2	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
62	North Holme Road	High	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant
63	Keddington Road	High	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant	Minor– Not Significant
64	Louth Road 1	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
65	Mill Hill Way	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
66	Red Leas Lane	Low	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant~~Minor– Not Significant~~
67	Pick Hill Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
68	Marsh Lane	Low	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant	Negligible – Not Significant~~Minor– Not Significant~~	Negligible – Not Significant	Minor– Not Significant
69	Louth Road 2	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
70	Main Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
71	Kings Street	Very Low	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Negligible – Not Significant	Negligible – Not Significant

~~12.10.31~~12.10.28 As shown~~,~~ ~~above~~ the significance of impact across all the links is mostly either minor or negligible, which is not considered to be significant, with the exception of the A1031 Main Road (ATC 53) and A1031 Warren Road (ATC 54) are predicted to have major changes in terms of severance, fear and intimidation and highway safety. The reason for this is that the baseline number of HGVs is very low, which results in a large percentage increase, eventhough the actual number of construction HGVs is relatively low and will last for a short duration.

~~12.10.32~~12.10.29 ~~However, t~~The ~~implantation~~implementation of an OCTMP ~~which~~ would aim to reduce as far as possible any impacts generated by ~~from~~ ~~the~~ construction traffic ~~as far as is possible~~.~~,~~ ~~I~~in addition it should also be ~~noted~~ highlighted that any impact is considered to be temporary ~~only during the construction phase~~.

~~12.10.33~~12.10.30 The remaining overall significance within the links contained in route S~~s~~ection 4 is either Minor or Negligible which is not considered to be significant.

Public Rights of Way

~~12.10.34~~12.10.31 With reference to Section 12.5 Baseline, there are seven PRoWs that directly intersect the route corridor:

- Route Utte/78/1, Route Utte/83/1 and Route Utte/83/2 which runs from Grove Farm to the right of Utterby and connects with other PRoWs to give access to Covenham St Mary;
- Route LGri/77/1 connects Little Grimsby in the west to Brackenborough Road in the east;
- Route Alvi/343/4 route runs along the waterbody; and
- Route NCoc/67/1 and route NCoc/68/runs east-west from Keddington Corner Farm to Lock Road.

~~12.10.35~~12.10.32 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.~~.~~

~~12.10.36~~12.10.33 With reference to Table 12-5~~Table 12-5~~ which sets out the level of sensitivity, Table 12-6~~Table 12-6~~ which defines~~sets out~~ the magnitude of impact and Table 12-7~~Table 12-7~~ which gives the overall significance of effect, the impact upon the PRoWs can be set out as follows:~~.~~

Table 12-54: Route Section 4 PRoW Impact Assessment

PRoW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route Utte/83/1	Low	Minor Diversion	Medium	Minor – Not Significant
Route Utte/83/2	Low	Minor Diversion	Medium	Minor – Not Significant
Route LGri/77/1	Low	Minor Diversion	Medium	Minor – Not Significant
Route Alvi/343/4	Low	No Diversion	Very Low	Negligible – Not Significant
Route NCoc/67/1	Low	No Diversion	Very Low	Negligible – Not Significant
Route NCoc/68/1	Low	Minor Diversion	Medium	Minor – Not Significant
Route Utte/78/1	Low	Minor Diversion	Medium	Minor – Not Significant

~~12.10.37~~12.10.34 From the above it is considered that the overall significance of effects in terms of PRoWs is not significant, given that where required a diversion is being proposed, see Public Rights of Way Management Plan [**APP-123**].~~.~~

Route Section 5

~~12.10.38~~12.10.35 This section presents the results of the projected impact in route S~~s~~ection 5 for both the compound aspect of the Proposed Development and the construction of the pipeline.

~~12.10.39~~12.10.36 **Table 12-55~~Table 12-55~~** shows the results of the 24hr AADT impact assessment within route S~~s~~ection 5.

Table 12-55~~12-54~~: Route Section 5 24hr AADT Impact Assessment

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
30	B1200 Middlegate	4,082	435	10.7%	4,500 ~~4465~~	491 ~~523~~	10.9%~~11.7%~~	10.2%~~9.4%~~	12.9%~~20.3%~~
~~31~~	~~A157~~	~~4021~~	~~406~~	~~10.1%~~	~~4021~~	~~406~~	~~10.1%~~	~~0.0%~~	~~0.0%~~
~~32~~	~~A157~~	~~2595~~	~~253~~	~~9.7%~~	~~2595~~	~~253~~	~~9.7%~~	~~0.0%~~	~~0.0%~~
33	Saltfleet Road	3,344	346	10.3%	3,581 ~~3488~~	398 ~~396~~	11.1%~~11.3%~~	7.1% ~~4.3%~~	15.0%~~14.3%~~
~~34~~	~~A1031~~	~~4416~~	~~408~~	~~9.2%~~	~~4416~~	~~408~~	~~9.2%~~	~~0.0%~~	~~0.0%~~
35	Thacker Bank	192	24	12.5%	374 ~~308~~	70 ~~61~~	18.6%~~19.7%~~	94.8%~~60.3%~~	190.0%~~152.7%~~
36	Thacker Bank	2,164	174	8.0%	2,262 ~~2266~~	174 ~~174~~	7.7%~~7.7%~~	4.5% ~~4.7%~~	0.0%~~0.0%~~
~~37~~	~~Alford Road~~	~~6648~~	~~603~~	~~9.1%~~	~~6648~~	~~603~~	~~9.1%~~	~~0.0%~~	~~0.0%~~

		Baseline			With Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
38	Three Bridge Lane	2,003	1041	52.0%	2,270 2255	1,087 1090	47.9%48.3%	13.3%12.6%	4.4%4.7%
39	Mill Road	2,256	210	9.3%	2,276 2268	210 210	9.2%9.3%	0.9% 0.5%	0.0%0.0%
40	Station Road	179	51	28.5%	179	51	28.5%	0.0%	0.0%
47	A16	9903	1368	13.8%	9903	1368	13.8%	0.0%	0.0%
79	Mablethorpe Road	3,211	62	1.9%	3,416 3355	114 112	3.3%3.3%	6.4% 4.5%	83.5%79.9%

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12.10.40 12.10.37 The analysis therefore shows that only one link in route Ssection 5 has an increase larger than 30% in terms of all vehicles and HGVs which is ATC 35 on Thacker Bank. This is predicted to increase from 192 to 288308 in terms of all vehicles (94.860.3% increase) and from 24 to 7061 in terms of HGVs (19052.07% increase).

12.10.41 12.10.38 Mablethorpe Road (ATC 79) is predicted to have an increase of 8379.59% in terms of HGV traffic.

12.10.42 12.10.39 The B1200 Middlegate (ATC 30) is predicted to have an increase in HGV numbers by 20.312.9%. H however, the sensitivity along this link is considered to be low as such this does not meet any of the rules associated with IEA guidelines.

12.10.43 12.10.40 As with other links the relatively large increase on Thacker Bank can be attributed to a relatively low daily flow of 192 vehicles and 24 HGVs and therefore the increase in the construction phase of 19616 vehicles and 9637 HGVs will cause a large percentage increase even with relatively modest increases in traffic. The remaining links all have modest increases in terms of all vehicles and HGV increases with some links having no increases at all.

12.10.44 12.10.41 None of the other links exceeds either of the two 'rules of thumb' that form the first step of the IEA guidelines. Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-56Table 12-56** provides an overview of the magnitude of impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6Table 12-6**.

12.10.45 12.10.42 **Table 12-56Table 12-56** shows that the magnitude of effects across all the links is either low or very low with the exception of Thacker Bank (ATC 35) which is predicted to have a high or medium magnitude of effect in terms of Severance, Fear and Intimidation and Highway Safety, with B1200 Manby Middlegate (ATC 30) having a medium magnitude for Highway Safety only.

12.10.46 12.10.43 **Table 12-57Table 12-57** shows the significance of change, based upon the criteria as set out in **Table 12-7Table 12-7**, (the link sensitivity) and the magnitude of change (**Table 12-6Table 12-6**) based on the increases in traffic due to the construction phase. Effects predicted to be 'major' or 'moderate' are considered to be significant whilst effects predicted to be 'minor' or 'negligible' are considered to be not significant.

Table 12-5612 55: Magnitude of Impact 2026 – Route Section 5 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
30	B1200 Manby Middlegate	10.2%9.4%	12.9%20.3%	Low	Very Low	Low	Very Low	Low
31	A157	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
32	A157	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
33	Saltfleet Road	7.1%4.3%	15.0%14.3%	Low	Very Low	Low	Very Low	Low
34	A1031	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
35	Thacker Bank	94.8%60.3%	190.0%152.7%	High	MediumLow	High	MediumHigh	High
36	Thacker Bank	4.5%4.7%	0.0%0.0%	Very Low	Very Low	Very Low	Very Low	Low
37	Alford Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
38	Three Bridge Lane	13.3%12.6%	4.4%4.7%	Very Low	Very Low	Very Low	Very Low	Low
39	Mill Road	0.9%0.5%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
40	Station Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
47	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
79	Mablethorpe Road	6.4%4.5%	83.5%79.9%	Medium	Very Low	Medium	Very Low	Medium

Table 12-57~~12-56~~: Magnitude of Effects 2026 – Route Section 5 – 24hr AADT

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
30	B1200 Manby Middlegate	Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
~~31~~	~~A157~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
~~32~~	~~A157~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
33	Saltfleet Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
~~34~~	~~A1031~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
35	Thacker Bank	Very Low	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Minor– Not Significant~~Negligible – Not Significant~~	Minor– Not Significant
36	Thacker Bank	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
~~37~~	~~Alford Road~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
38	Three Bridge Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
39	Mill Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
~~40~~	~~Station Road~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Minor– Not Significant~~
~~47~~	~~A16~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
79	Mablethorpe Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

~~12.10.47~~12.10.44 As shown when taking the magnitude of the change alongside the link sensitivity, the overall significance within route S~~s~~ection 5 is either Minor or Negligible which is not considered to be significant.

~~12.10.48~~12.10.45 However, the implementation of a OCTMP ~~which~~ would aim to reduce as far as possible any impact from the construction traffic as far as is possible, in addition it should also be noted that any impact is considered to be temporary only during the construction phase.

Public Rights of Way

~~12.10.49~~12.10.46 With reference to Section 12.5 Baseline, there are four PRoW that directly intersect the route corridor, namely:

- Route GayM/193/1. This route runs east - west across the corridor from Theddlethorpe All Saints towards Clayton Le Marsh Route;
- Route ThSH/250/2 routes~~uns~~ southwest from Theddlethorpe St Helen to Highgate; and
- Route ThSH/249/1 runs from the A1031 to High Gate; and
- Route ThSH/253/1 which aligns~~runs~~ from the north of Mablethorpe to link with the A1031.

~~12.10.50~~12.10.47 In terms of the NCN, there are no routes within this area, as such no disruption is anticipated.

~~12.10.51~~12.10.48 With reference to **Table 12-5~~Table 12-5~~** which sets out the level of sensitivity, **Table 12-6~~Table 12-6~~** which informs on ~~sets out~~ the magnitude of impact and Table 12-7~~Table 12-7~~ which gives the overall significance of effect, the impact upon the PRoWs can be set out as follows.

Table 12-58~~12-57~~: Route Section 5 PRoW Impact Assessment

PRoW Ref	Sensitivity	Construction impact	Magnitude	Significance of Effect
Route GayM/193/1	Low	Minor Diversion	Medium	Minor – Not Significant
Route ThSH/250/2	Low	Minor Diversion	Medium	Minor – Not Significant
Route ThSH/249/1	Low	Minor Diversion	Medium	Minor – Not Significant
Route ThSH/253/1	Low	No Diversion	Very Low	Negligible – Not Significant

~~12.10.52~~12.10.49 From the above it is considered that the overall significance of effects in terms of PRoWs is not significant, given that where required a diversion is being proposed, S~~s~~ee Public Rights of Way Management Plan [**APP-123**]. ~~-~~

Assessment of Potential Impacts: Pipe Delivery and Setup

~~12.10.53~~12.10.50 This section sets out the results of the potential impact of the pipe delivery and set up of the pipe compounds.

Route Section 1

~~12.10.54~~12.10.51 The following paragraphs inform on ~~is section presents the results of~~ the assessment of potential impacts in Section 1 for both the compounds and the delivery of the pipeline.

~~12.10.55~~12.10.52 **Table 12-59~~Table 12-59~~** presents the impact assessment of route S~~s~~ection 1 for the year 2026.

Table 12-59~~12-58~~: Route Section 1 Traffic Increase Overview

		Baseline			With Delivery and Set up~~With Construction~~			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
3	A160	11,260	4,538	40.3%	11,671	4,927	42.2%	3.6%	8.6%
~~41~~	~~Habrough Road~~	~~4291~~	~~326~~	~~7.6%~~	~~4291~~	~~326~~	~~7.6%~~	~~0.0%~~	~~0.0%~~
~~42~~	~~A1173~~	~~7439~~	~~1954~~	~~26.3%~~	~~7439~~	~~1954~~	~~26.3%~~	~~0.0%~~	~~0.0%~~
44	A160 – North of the A180	15,037 ~~13751~~	5,542~~5 542~~	36.9% ~~40.3%~~	15,358 ~~14071~~	5,850~~5 850~~	38.1% ~~41.6%~~	2.1%~~2 .3%~~	5.6%~~5 .5%~~
45	Killinghol me Road	4,350	394	9.1%	4,4414 ~~350~~	485~~39 4~~	10.9% ~~9.1%~~	2.1%~~0 .0%~~	23.1% ~~0.0%~~
~~56~~	~~A1173~~	~~6847~~	~~1345~~	~~19.6%~~	~~6847~~	~~1345~~	~~19.6%~~	~~0.0%~~	~~0.0%~~
~~75~~	~~A1173 Manby Road~~	~~4964~~	~~1317~~	~~26.5%~~	~~4964~~	~~1317~~	~~26.5%~~	~~0.0%~~	~~0.0%~~
~~77~~	~~A180 - East of A1173~~	~~24390~~	~~3902~~	~~16.0%~~	~~24390~~	~~3902~~	~~16.0%~~	~~0.0%~~	~~0.0%~~
80	Rosper Road	3,800	1,580	42%	4,201	1,972	47%	9.6%	19.7%

~~12.10.56~~12.10.53 The analysis ~~therefore~~ shows that no links are expected to exceed the first step of the IEA guidelines with the largest increase in all traffic anticipated to be on the A160 at ATC 3 and ATC 44.

~~12.10.57~~12.10.54 None~~Therefore, none~~ of the links exceed either of the two 'rules of thumb' that form the first step of the IEA guidelines which states that a link on the highway network should be included within the study if one of the following criteria is met:

- Traffic flows increase by more than 30% (or HGV flows increase by more than 30%); or
- Traffic flows in sensitive areas increase by more than 10%.

~~12.10.58~~12.10.55 **Table 12-60~~Table 12-60~~** sets out the magnitude of impact of the proposed ~~peak construction traffic~~impact of the pipeline delivery and compound set up, based upon the magnitude of impact criteria as set out in **Table 12-6~~Table 12-6~~**.

~~12.10.59~~12.10.56 **Table 12-60~~Table 12-60~~** ~~below~~ shows that the magnitude of the impact across all the links is v~~V~~ery l~~L~~ow, or low with only minor increases in traffic within S~~s~~ection 1.

~~12.10.60~~12.10.57 Table 12-61~~Table 12-61~~ shows the significance of change, based upon the criteria as set out in Table 12-7~~Table 12-7~~, (the link sensitivity) and the magnitude of change (Table 12-6~~Table 12-6~~) based on the increases in traffic due to the pipeline delivery and compound set up phase. Effects predicted to be 'major' or 'moderate' are considered to be significant whilst effects predicted to be 'minor' or 'negligible' are considered to be not significant.

Table 12-6012 59: Magnitude of impact 2026 – Route Section 1

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
3	A160	3.65%	7.98.6%	Very Low	Very Low	Very Low	Very Low	Low
41	Habrough Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
42	A1173	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
44	A160 – North of A180A160	2.1%2.3%	5.6%5.3%	Very Low	Very Low	Very Low	Very Low	Low
45	Killingholme Road	2.1%0.0%	23.1%0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
56	A1173	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
75	A1173 Manby Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
77	A180 - East of A1173	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
80	Rosper Road	9.6%	19.7%	Very Low	Very Low	Very Low	Very Low	Very Low

Table 12-6112 60: Route Section 1 - 24hr AADT - Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
3	A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
41	Habrough Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
42	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
44	A160 – North of A180A160	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
45	Killingholme Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
56	A1173	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
75	A1173 Manby Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
77	A180 - East of A1173	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
80	Rosper Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

~~12.10.61~~12.10.58 As shown above in **Table 12-61**~~**Table 12-61**~~ based upon the magnitude of the change alongside the link sensitivity, the overall significance of effects within Section 1 based upon the 24hr AADT traffic is Negligible which is not considered to constitute a significant effect.

Route Section 2

~~12.10.62~~12.10.59 This section presents the results of the projected impact in route S~~s~~ection 2 ~~for~~ for both the setup of the compounds and the delivery of the pipeline sections.~~both the compound aspect of the Proposed Development and the construction of the pipeline~~. **Table 12-62**~~**Table 12-62**~~ presents the 24hr AADT impact assessment for the workers and construction aspect of the works.

Table 12-62~~12-61~~: Route Section 2 24hr AADT Impact Assessment

		Baseline			With ~~Construction~~Delivery and Set up			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
~~1~~	~~B1210~~	~~9737~~	~~637~~	~~6.5%~~	~~9737~~	~~637~~	~~6.5%~~	~~0.0%~~	~~0.0%~~
2	A1173	6,092	668	11.0%	6,231	794	12.7%	2.3%	18.9%
~~4~~	~~Healing Road~~	~~5871~~	~~469~~	~~8.0%~~	~~5871~~	~~469~~	~~8.0%~~	~~0.0%~~	~~0.0%~~
~~5~~	~~Wells Road~~	~~860~~	~~97~~	~~11.3%~~	~~860~~	~~97~~	~~11.3%~~	~~0.0%~~	~~0.0%~~
~~14~~	~~A46~~	~~7652~~	~~865~~	~~11.3%~~	~~7652~~	~~865~~	~~11.3%~~	~~0.0%~~	~~0.0%~~
~~16~~	~~Washingdales Lane~~	~~118~~	~~5~~	~~4.2%~~	~~118~~	~~5~~	~~4.2%~~	~~0.0%~~	~~0.0%~~
~~17~~	~~Nooking Lane~~	~~1426~~	~~134~~	~~9.4%~~	~~1426~~	~~134~~	~~9.4%~~	~~0.0%~~	~~0.0%~~
18	A1173	3,485	562	16.1%	3,624	688	19.0%	4.0%	22.4%
19	A18 - Barton Street North	13,039	1,846	14.2%	13,178	1,972	15.0%	1.1%	6.8%
~~49~~	~~A180 - Westgate~~	~~30420~~	~~1521~~	~~5.0%~~	~~30420~~	~~1521~~	~~5.0%~~	~~0.0%~~	~~0.0%~~
~~57~~	~~Roxton Road~~	~~167~~	~~5~~	~~3.0%~~	~~167~~	~~5~~	~~3.0%~~	~~0.0%~~	~~0.0%~~
~~76~~	~~Keelby Road~~	~~2272~~	~~129~~	~~5.7%~~	~~2272~~	~~129~~	~~5.7%~~	~~0.0%~~	~~0.0%~~
78	A180 - Between A1173 and A160	22,715~~33888~~	3,151~~3247~~	13.9%~~9.6%~~	22,863~~4036~~	3,286~~382~~	14.4%~~9.9%~~	0.7%~~0.4%~~	4.3%~~4.2%~~

~~12.10.63~~12.10.60 **Table 12-62**~~**Table 12-62**~~ shows that ~~only~~ the A1173 will experience a rise in HGV traffic with increases~~rises~~ of 18.9% and 22.4% at ATC 2 and ATC 18. There are also forecast~~predicted~~ to be minor increases on the A18 (ATC 19) and the A180 with respective increase of 6.8% and 4.2~~3~~% in terms of HGV traffic.

~~12.10.64~~12.10.61 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-63**~~**Table 12-63**~~ provides an overview of the magnitude of

impact of the proposed peak pipeline delivery construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6**~~Table 12-6~~.

~~12.10.65~~12.10.62 **Table 12-63**~~Table 12-63~~ shows that the magnitude of impact across most of the links is either low or very low.

Table 12-6312 62: Magnitude of Impact 2026 – Section 2 – 24hr AADT

ATC	Name	Increase All Vehicles %	Increase HGVs %	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
2	A1173	2.3%	18.9%	Low	Very Low	Low	Very Low	Low
4	Healing Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
5	Wells Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
14	A46	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
16	Washingdales Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
17	Nooking Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
18	A1173	4.0%	22.4%	Low	Very Low	Low	Very Low	Low
19	A18 - Barton Street North	1.1%	6.8%	Very Low	Very Low	Very Low	Very Low	Low
49	A180 - Westgate	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
57	Roxton Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
76	Keelby Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Low
78	A180 - Between A1173 and A160	0.74%	4.32%	Very Low	Very Low	Very Low	Very Low	Low

Table 12-6412 63: Route Section 2 - 24hr AADT - Significance

ATC	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
1	B1210	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
2	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
4	Healing Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
5	Wells Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
14	A46	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
16	Washingdales Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
17	Nooking Lane	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
18	A1173	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
19	A18 - Barton Street North	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
49	A180 - Westgate	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
57	Roxton Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
76	Keelby Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
78	A180 - Between A1173 and A160	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

~~12.10.66~~12.10.63 Table 12-64~~Table 12-64~~ shows the significance of change, based upon the criteria as set out in Table 12-7~~Table 12-7~~, (the link sensitivity) and the magnitude of change (Table 12-6~~Table 12-6~~) based on the increases in traffic due to the construction phase. Effects predicted to be 'major' or 'moderate' are considered to be significant whilst effects predicted to be 'minor' or 'negligible' are considered to be 'not significant'.

~~12.10.67~~12.10.64 **Table 12-64~~Table 12-64~~** shows that the impacts on the link /roads within Ssection 2 are not significant.

Route Section 3

~~12.10.68~~12.10.65 The following paragraphs~~is section~~ presents the results of the projected impact in route Ssection 3 for the delivery of the pipeline and set up of construction compounds.

~~12.10.69~~12.10.66 **Table 12-65~~Table 12-65~~** presents the 24hr AADT impact assessment for the pipeline delivery aspect of the works.

Table 12-65~~12-64~~: Route Section 3 24hr AADT Impact Assessment

		Baseline			With Delivery and Set up~~With Construction~~			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
~~6~~	~~A18~~	~~6323~~	~~980~~	~~15.5%~~	~~6323~~	~~980~~	~~15.5%~~	~~0.0%~~	~~0.0%~~
~~7~~	~~Waltham Road 1~~	~~5056~~	~~402~~	~~8.0%~~	~~5056~~	~~402~~	~~8.0%~~	~~0.0%~~	~~0.0%~~
~~9~~	~~A16~~	~~11429~~	~~1362~~	~~11.9%~~	~~11429~~	~~1362~~	~~11.9%~~	~~0.0%~~	~~0.0%~~
~~10~~	~~Thoroughfare~~	~~242~~	~~19~~	~~7.9%~~	~~242~~	~~19~~	~~7.9%~~	~~0.0%~~	~~0.0%~~
~~11~~	~~White Road~~	~~1786~~	~~278~~	~~15.6%~~	~~1786~~	~~278~~	~~15.6%~~	~~0.0%~~	~~0.0%~~
~~12~~	~~A18~~	~~5567~~	~~947~~	~~17.0%~~	~~5567~~	~~947~~	~~17.0%~~	~~0.0%~~	~~0.0%~~
~~13~~	~~A16~~	~~12051~~	~~1504~~	~~12.5%~~	~~12051~~	~~1504~~	~~12.5%~~	~~0.0%~~	~~0.0%~~
15	A46 - Grimsby Road	15,757	1,534	9.7%	15,798	1571	9.9%	0.3%	2.4%
~~20~~	~~A18 - Barton Street South~~	~~10471~~	~~1380~~	~~13.2%~~	~~10569~~	~~1469~~	~~13.9%~~	~~0.9%~~	~~6.4%~~
~~21~~	~~A16 Peaks Parkway~~	~~16392~~	~~1478~~	~~9.0%~~	~~16392~~	~~1478~~	~~9.0%~~	~~0.0%~~	~~0.0%~~
~~22~~	~~Pear Tree Lane~~	~~2221~~	~~263~~	~~11.8%~~	~~2221~~	~~263~~	~~11.8%~~	~~0.0%~~	~~0.0%~~
~~27~~	~~A18~~	~~3881~~	~~677~~	~~17.4%~~	~~3881~~	~~677~~	~~17.4%~~	~~0.0%~~	~~0.0%~~
50	A1031 Grimsby Road	13,512	188	1.4%	13,553	225	1.7%	0.3%	19.7~~9~~%
51	A1031 Humberston Road	4,565	59	1.3%	4,606	96	2.1%	0.9%	~~63.~~42.7%
52	A1031 Thoresby Road	2959	37	1.3%	3,000	74	2.5%	1.4%	~~101.~~2100%
72	Weelsby Road	21,576	1170	5.4%	21,613	1204	5.6%	0.2%	2.9%

		Baseline			With Delivery and Set upWith Construction			Increase	
ATC	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
73	A46 Laceby Road	18,295	1151	6.3%	18,332	1185	6.5%	0.2%	2.9%
~~74~~	~~A16~~	~~15801~~	~~1315~~	~~8.3%~~	~~15801~~	~~1315~~	~~8.3%~~	~~0.0%~~	~~0.0%~~

~~12.10.70~~12.10.67 The analysis shows that within this section there are forecast~~predicted~~ to be large percentage increases in HGV traffic on the A1031 Humberston Road (ATC 51) and Thoresby Road (ATC 52) with respective increases of 62.7~~101.2~~% and 100~~63.4~~% respectively. ~~However as noted earlier both these links have relatively low baseline HGV flows as such any increase in HGV traffic significantly increases this value.~~

~~12.10.71~~12.10.68 Grimsby Road (ATC 50) is predicted to an increase of 19.9% in terms of HGV traffic, albeit a negligible ~~with~~ 0.3% increase in all vehicle~~s~~ traffic. However, this site is considered to be medium in terms of sensitivity and such does not meet of the two rules outlined within the IEA guidelines.

~~12.10.72~~12.10.69 None of the other links exceeds either of the two ‘rules of thumb’ that form the first step of the IEA guidelines.

~~12.10.73~~12.10.70 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-66**~~**Table 12-66**~~ provides an overview of the magnitude of impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6**~~**Table 12-6**~~.

~~12.10.74~~12.10.71 **Table 12-66**~~**Table 12-66**~~ ~~below~~ shows that the magnitude of effects across all the links is either low or very low with the exception of the A1031 Humberston Road (ATC 51) and Thoresby Road (ATC 52) which are expected to have medium and high magnitude changes respectively in terms of Severance, Fear and Intimidation and Highway S~~s~~afety.

~~12.10.75~~12.10.72 **Table 12-67**~~**Table 12-67**~~ shows that the impacts on the links/roads within S~~s~~ection 3 are not significant.

Table 12-6612 65: Magnitude of impact 2026 – Route Section 3 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
6	A18	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
7	Waltham Road 1	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
9	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
10	Thoroughfare	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
11	White Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
12	A18	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
13	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
15	A46 - Grimsby Road	0.3%	2.4%	Very Low	Very Low	Very Low	Very Low	Low
20	A18 - Barton Street South	0.9%	6.4%	Very Low	Very Low	Very Low	Very Low	Low
21	A16 Peaks Parkway	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
22	Pear Tree Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
27	A18	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
50	A1031 Grimsby Road	0.3%	19.79%	Low	Very Low	Low	Very Low	Low
51	A1031 Humberston Road	0.9%	62.73.4%	Medium	Very Low	Medium	Very Low	Medium
52	A1031 Thoresby Road	1.4%	101.2100%	High	Very Low	High	Very Low	High
72	Weelsby Road	0.2%	2.9%	Very Low	Very Low	Very Low	Very Low	Low
73	A46 Laceby Road	0.2%	2.9%	Very Low	Very Low	Very Low	Very Low	Low
74	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low

Table 12-67~~12-66~~: Route Section 3 - 24hr AADT – Significance

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
~~6~~	~~A18~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~7~~	~~Waltham Road 1~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~9~~	~~A16~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~10~~	~~Thoroughfare~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~11~~	~~White Road~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~12~~	~~A18~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~13~~	~~A16~~	~~Very Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
15	A46 - Grimsby Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
20	A18 - Barton Street South	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
~~21~~	~~A16 Peaks Parkway~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~22~~	~~Pear Tree Lane~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
~~27~~	~~A18~~	~~Low~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~
50	A1031 Grimsby Road	Medium	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant	Negligible – Not Significant	Minor– Not Significant
51	A1031 Humberston Road	Medium	**Moderate - Significant**	Negligible – Not Significant	**Moderate - Significant**	Negligible – Not Significant	**Moderate - Significant**
52	A1031 Thoresby Road	Medium	**Major - Significant**	Negligible – Not Significant	**Major - Significant**	Negligible – Not Significant	**Major - Significant**
72	Weelsby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
73	A46 Laceby Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor– Not Significant
~~74~~	~~A16~~	~~Medium~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~	~~Negligible – Not Significant~~

~~12.10.76~~12.10.73 As shown when taking the magnitude of the change alongside the link sensitivity the overall significance of the links contained in route Section 3 is either mostly minor or negligible which is not significant; with the exception of the A1031 Humberston Road (ATC 51) and A1031 Thoresby Road (ATC 52) which is forecast to be of either moderate or major impact for Severance, Fear and Intimidation and Road Safety.

Route Section 4

~~12.10.77~~12.10.74 This section presents the results of the projected impact in route Ssection 4 for the delivery of the pipeline and set up of construction compounds.~~for both the Compound aspect of the Proposed Development and the construction of the pipeline.~~

~~12.10.78~~12.10.75 **Table 12-68**~~**Table 12-68**~~ shows the 24hr AADT impact assessment within route Ssection 4.

Table 12-68~~12-67~~: Route Section 4 24hr AADT Impact Assessment

		Baseline			With Delivery and Set up~~With Construction~~			Increase	
ATC No.	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
~~23~~	~~Ings Lane~~	~~290~~	~~32~~	~~11.0%~~	~~290~~	~~32~~	~~11.0%~~	~~0.0%~~	~~0.0%~~
~~24~~	~~Alvingham/ Louth Road~~	~~837~~	~~67~~	~~8.0%~~	~~837~~	~~67~~	~~8.0%~~	~~0.0%~~	~~0.0%~~
~~25~~	~~Yarburgh Road~~	~~611~~	~~71~~	~~11.6%~~	~~611~~	~~71~~	~~11.6%~~	~~0.0%~~	~~0.0%~~
~~26~~	~~Westfield Road~~	~~567~~	~~47~~	~~8.3%~~	~~567~~	~~47~~	~~8.3%~~	~~0.0%~~	~~0.0%~~
~~28~~	~~A16~~	~~16102~~	~~1916~~	~~11.9%~~	~~16102~~	~~1916~~	~~11.9%~~	~~0.0%~~	~~0.0%~~
~~29~~	~~Louth Bypass~~	~~14621~~	~~848~~	~~5.8%~~	~~14621~~	~~848~~	~~5.8%~~	~~0.0%~~	~~0.0%~~
~~46~~	~~Lock Road~~	~~694~~	~~86~~	~~12.4%~~	~~694~~	~~86~~	~~12.4%~~	~~0.0%~~	~~0.0%~~
53	A1031 Main Road	2,757	61	2.2%	2,798	98	3.5%	1.5%	~~61.4~~60.7%
54	A1031 Warren Road	3,211	62	1.9%	3,252	99	3.1%	1.3%	59.7~~6~~0.4%
~~59~~	~~Little Grimsby Lane~~	~~372~~	~~39~~	~~10.5%~~	~~372~~	~~39~~	~~10.5%~~	~~0.0%~~	~~0.0%~~
~~60~~	~~Brackenborough Road~~	~~598~~	~~38~~	~~6.4%~~	~~598~~	~~38~~	~~6.4%~~	~~0.0%~~	~~0.0%~~
~~61~~	~~Brackenborough Road 2~~	~~1150~~	~~72~~	~~6.3%~~	~~1150~~	~~72~~	~~6.3%~~	~~0.0%~~	~~0.0%~~
~~62~~	~~North Holme Road~~	~~14650~~	~~1008~~	~~6.9%~~	~~14650~~	~~1008~~	~~6.9%~~	~~0.0%~~	~~0.0%~~
~~63~~	~~Keddington Road~~	~~3049~~	~~213~~	~~7.0%~~	~~3049~~	~~213~~	~~7.0%~~	~~0.0%~~	~~0.0%~~
~~64~~	~~Louth Road 1~~	~~2209~~	~~151~~	~~6.8%~~	~~2209~~	~~151~~	~~6.8%~~	~~0.0%~~	~~0.0%~~
~~65~~	~~Mill Hill Way~~	~~2418~~	~~202~~	~~8.4%~~	~~2418~~	~~202~~	~~8.4%~~	~~0.0%~~	~~0.0%~~
~~66~~	~~Red Leas Lane~~	~~87~~	~~8~~	~~9.2%~~	~~87~~	~~8~~	~~9.2%~~	~~0.0%~~	~~0.0%~~
~~67~~	~~Pick Hill Lane~~	~~189~~	~~18~~	~~9.5%~~	~~189~~	~~18~~	~~9.5%~~	~~0.0%~~	~~0.0%~~
~~68~~	~~Marsh Lane~~	~~1688~~	~~206~~	~~12.2%~~	~~1688~~	~~206~~	~~12.2%~~	~~0.0%~~	~~0.0%~~
~~69~~	~~Louth Road 2~~	~~1332~~	~~102~~	~~7.7%~~	~~1332~~	~~102~~	~~7.7%~~	~~0.0%~~	~~0.0%~~
~~70~~	~~Main Road~~	~~1024~~	~~88~~	~~8.6%~~	~~1024~~	~~88~~	~~8.6%~~	~~0.0%~~	~~0.0%~~
~~71~~	~~Kings Street~~	~~718~~	~~51~~	~~7.1%~~	~~718~~	~~51~~	~~7.1%~~	~~0.0%~~	~~0.0%~~

~~12.10.79~~12.10.76 The analysis shows that the largest increase in traffic and HGVs will occur on A1031 Main Road (ATC 53) with an ~~respective~~ increase of 60.7~~1.4~~% in terms of HGVs albeit ~~with~~ only a 1.5% increase in terms of all vehicles. A1031 Warren Road (ATC 54) shows an

increase in HGVs of 59.760.4%, albeit ~~however~~ this is because of the low baseline HGV flow on this link (6254 HGVs).

~~12.10.80~~12.10.77 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-69~~Table 12-69~~** provides an overview of the magnitude of impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6~~Table 12-6~~**.

~~12.10.81~~12.10.78 **Table 12-68~~Table 12-68~~** ~~above~~ shows that the magnitude of impact across all the links is either low or very low which the exception of the A1031 Main Road (ATC 53) and A1031 Warren Road (ATC 54) which are forecast~~predicted~~ to experience a medium magnitude of change in terms of S~~s~~severance, F~~f~~ear and I~~i~~ntimidation and H~~h~~ighway S~~s~~afety.

~~12.10.82~~12.10.79 **Table 12-70~~Table 12-70~~** shows the significance of change, based upon the criteria as set out in Table 12-7~~Table 12-7~~, (the link sensitivity) and the magnitude of change (Table 12-6~~Table 12-6~~) based on the increases in traffic due to the pipeline phase. Effects predicted to be ‘major’ or ‘moderate’ are considered to be significant whilst effects envisaged to be ‘minor’ or ‘negligible’ are considered to be not significant.

Table 12-6912 68: Magnitude of impact 2026 – Route Section 4 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
23	Ings Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
24	Alvingham Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
25	Yarburgh Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
26	Westfield Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
28	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
29	Louth Bypass	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
46	Lock Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
53	A1031 Main Road	1.5%	60.7%61.4%	Medium	Very Low	Medium	Very Low	Medium
54	A1031 Warren Road	1.3%	59.7%60.4%	Medium	Very Low	Medium	Very Low	Medium
59	Little Grimsby Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
60	Brackenborough Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
61	Brackenborough Road 2	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
62	North Holme Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
63	Keddington Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
64	Louth Road 1	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
65	Mill Hill Way	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
66	Red Leas Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
67	Pick Hill Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
68	Marsh Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
69	Louth Road 2	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
70	Main Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
71	Kings Street	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low

Table 12-7012-69: Route Section 4 - 24hr AADT – Significance

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
23	Ings Lane	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
24	Alvingham Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
25	Yarburgh Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
26	Westfield Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
28	A16	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
29	Louth Bypass	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
46	Lock Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
53	A1031 Main Road	Medium	**Moderate – Significant**	Negligible – Not Significant	**Moderate – Significant**	Negligible – Not Significant	**Moderate – Significant**
54	A1031 Warren Road	Medium	**Moderate – Significant**	Negligible – Not Significant	**Moderate – Significant**	Negligible – Not Significant	**Moderate – Significant**
59	Little Grimsby Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
60	Brackenborough Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
61	Brackenborough Road 2	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
62	North Holme Road	High	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant
63	Keddington Road	High	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant	Minor – Not Significant
64	Louth Road 1	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant	Minor – Not Significant
65	Mill Hill Way	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
66	Red Leas Lane	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
67	Pick Hill Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
68	Marsh Lane	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
69	Louth Road 2	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
70	Main Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant
71	Kings Street	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Minor – Not Significant

~~12.10.83~~12.10.80 As shown above the magnitude of impact across all the links is either low or very low which exception of the A1031 Main Road (Link 53) and A1031 Warren Road (Link 54) which are predicted to experience moderate effects in terms of Severance, Fear and Intimidation and Highway Safety.

~~12.10.84~~12.10.81 The remaining overall significance within the links contained in route Section 4 are either minor or negligible which is not considered to be significant.

Route Section 5

~~12.10.85~~12.10.82 Thie following paragraphs~~s section~~ presents the results of the projected impact in route S~~s~~ection 5 for ~~for~~ the delivery of the pipeline and set up of construction compounds~~both the Compound aspect of the Proposed Development and the construction of the pipeline~~.

~~12.10.86~~12.10.83 **Table 12-71~~Table 12-71~~** shows the results of the 24hr AADT impact assessment within route S~~s~~ection 5 for the delivery of the pipe as well as the set up the pipe compounds.

Table 12-71~~12-70~~: Route Section 5 24hr AADT Impact Assessment

		Baseline		With Delivery and Set up ~~With Construction~~				Increase	
ATC Number	Name	All	HGV	HGV%	All	HGV	HGV%	All	HGV
~~30~~	~~B1200 Middlegate~~	~~4082~~	~~435~~	~~10.7%~~	~~4082~~	~~435~~	~~10.7%~~	~~0.0%~~	~~0.0%~~
~~31~~	~~A157~~	~~4021~~	~~406~~	~~10.1%~~	~~4021~~	~~406~~	~~10.1%~~	~~0.0%~~	~~0.0%~~
~~32~~	~~A157~~	~~2595~~	~~253~~	~~9.7%~~	~~2595~~	~~253~~	~~9.7%~~	~~0.0%~~	~~0.0%~~
33	Saltfleet Road	3,344	346	10.3%	3,385	383	11.3%	1.2%	10.7~~8~~ %
~~34~~	~~A1031~~	~~4416~~	~~408~~	~~9.2%~~	~~4416~~	~~408~~	~~9.2%~~	~~0.0%~~	~~0.0%~~
~~35~~	~~Thacker Bank~~	~~192~~	~~24~~	~~12.5%~~	~~192~~	~~24~~	~~12.5%~~	~~0.0%~~	~~0.0%~~
~~36~~	~~Thacker Bank~~	~~2164~~	~~174~~	~~8.0%~~	~~2164~~	~~174~~	~~8.0%~~	~~0.0%~~	~~0.0%~~
~~37~~	~~Alford Road~~	~~6648~~	~~603~~	~~9.1%~~	~~6648~~	~~603~~	~~9.1%~~	~~0.0%~~	~~0.0%~~
~~38~~	~~Three Bridge Lane~~	~~2003~~	~~1041~~	~~52.0%~~	~~2003~~	~~1041~~	~~52.0%~~	~~0.0%~~	~~0.0%~~
~~39~~	~~Mill Road~~	~~2256~~	~~210~~	~~9.3%~~	~~2256~~	~~210~~	~~9.3%~~	~~0.0%~~	~~0.0%~~
~~47~~	~~A16~~	~~9903~~	~~1368~~	~~13.8%~~	~~9903~~	~~1368~~	~~13.8%~~	~~0.0%~~	~~0.0%~~
79	Mablethorpe Road	3,211	62	1.9%	3,248	96	2.9%	1.2%	54.8~~2~~ %

~~12.10.87~~12.10.84 The analysis ~~therefore~~ shows that only two links will experience increases in traffic associated with the pipe delivery which are Saltfleet Road (ATC 33) and Mablethorpe Road (ATC 79). These are forecast~~predicted~~ to have an increase of 10.7~~8~~% and 54.8~~2~~% in terms of HGV traffic respectively, as well a 1.2% increase in all vehicles.

~~12.10.88~~12.10.85 None of the other links exceeds either of the two ‘rules of thumb’ that form the first step of the IEA guidelines as there is predicted to be an increase of traffic associated with ~~no traffic outside with~~ the pipe setup and delivery on other links.~~.~~

~~12.10.89~~12.10.86 Based upon the above percentage increases in traffic at the peak year of construction, 2026, **Table 12-72~~Table 12-72~~** provides an overview of the magnitude of

impact of the proposed peak construction traffic, based upon the magnitude of impact criteria as set out in **Table 12-6**~~Table 12-6~~.

~~12.10.90~~12.10.87 **Table 12-72**~~Table 12-72~~ ~~below~~ shows that the magnitude of effects across all the links is either low or very low.

~~12.10.91~~12.10.88 **Table 12-73**~~Table 12-73~~ ~~below~~ summarises~~shows~~ that none of the routes will experience a significant effect.

Table 12-7212 71: Magnitude of Impact 2026 – Route Section 5 – 24hr AADT

ATC	Name	All Vehicle Increase	HGV Increase	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
30	B1200 Manby Middlegate	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
31	A157	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
32	A157	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
33	Saltfleet Road	1.2%	10.78%	Low	Very Low	Low	Very Low	Low
34	A1031	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
35	Thacker Bank	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
36	Thacker Bank	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
37	Alford Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
38	Three Bridge Lane	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
39	Mill Road	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
47	A16	0.0%	0.0%	Very Low	Very Low	Very Low	Very Low	Very Low
79	Mablethorpe Road	1.2%	54.82%	Medium	Very Low	Medium	Very Low	Medium

Table 12-7312-72: Significance of Effects 2026 – Route Section 5 – 24hr AADT

No.	Name	Sensitivity of Receptor	Severance	Pedestrian Amenity	Fear and Intimidation	Driver Delay	Highway Safety
30	B1200 Manby Middlegate	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
31	A157	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
32	A157	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
33	Saltfleet Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
34	A1031	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
35	Thacker Bank	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
36	Thacker Bank	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
37	Alford Road	Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
38	Three Bridge Lane	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
39	Mill Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
40	Station Road	Medium	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
47	A16	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant
79	Mablethorpe Road	Very Low	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant

~~12.10.92~~12.10.89 When taking account of ~~As shown when taking~~ the magnitude of the change alongside the link sensitivity, the overall significance within most of the links contained in route S~~s~~ection 5 is n~~N~~egligible which is not considered to be significant.

12.11 Additional Mitigation and Enhancement Measures

Additional Mitigation – Construction Phase

12.11.1 A Draft Construction Environmental Management Plan (CEMP) has been prepared as part of this ES and is provided in *ES Volume IV: Appendix 3~~.~~1 (Application Document 6.4.3.1)*. This sets out standard construction site best practices as well as any additional mitigation measures identified through this assessment. The mitigation presented in the Draft CEMP will be secured through a requirement within the DCO, which requires a CEMP to be submitted for approval after the grant of development consent.

12.11.2 In addition, an Outline Construction Traffic Management Plan (OCTMP) is provided in *ES Volume IV: Appendix 12-3 (Application Document 6.4.12.5).* This will form the basis of the detailed Construction Traffic Management Plan (CTMP) developed further at the detailed design stage and which will include further measures to be adopted during the construction phase assessment, albeit~~though~~ these measures have not been considered in the assessment of the significance of effects.

12.11.3 H1: Produce a Detailed Construction Traffic Management Plan (CTMP) to establish construction vehicle routeing, safe access and egress to construction compounds and accesses in consultation with the relevant Highways Authorities. This will be based on the Outline Construction Traffic Management Plan (Application Document 6.4.12.5) and include such items as:

- The necessary agreements and timing restrictions for construction traffic for example Monday to Saturday working, prohibition during school drop-off and pick-up times on certain links (this will be managed by appropriate measures in the CTMP which will likely prohibit movements during busy network periods such as the weekday AM and PM peaks), and prohibition during loading times at commercial premises;
- Implementation of an HGV booking system that will enable a daily profile of deliveries to be managed to ensure that the required deliveries are planned. This will assist in managing HGV volumes to reduce the level of forecast traffic-associated environmental effects;

~~o Investigation of the potential to increase the number of pipes transported by each HGV delivery above the 2 pipes per delivery assessed as a worst case within this chapter, thus reducing the overall number of HGV trips required;~~

- ~~o~~ Escort arrangements for abnormal loads;
- ~~o~~ Route signage;
- ~~o~~ Details of the advanced notification to the general public, warning of any construction transport movements, specifically Abnormal ~~I~~Indivisible Loads;
- ~~o~~ Details of proposed information and road signage, warning road users of forthcoming AIL transport and construction traffic movements;
- ~~o~~ Arrangements for regular road maintenance and cleaning, such as~~e.g.,~~ road sweeping in the vicinity of the site access points, as necessary, drain clearing, wheel cleaning / dirt control arrangements;
- ~~o~~ Arrangements for winter road maintenance to include~~e.g.,~~ de-icing and snow clearing;
- ~~o~~ Construction Contractor speed limits;

- ~~•~~ Proposals for monitoring and agreeing maintenance cost; and
- ~~•~~ Community and emergency services liaison details.

12.11.4 H2: Produce a Construction Logistics Plan to manage sustainable delivery of goods and materials;

12.11.5 H3: Implement a Travel Plan that supports and encourages sustainable travel by workers (public transport, cycling, walking and car-sharing; and.

~~12.11.3~~12.11.6 H6: HGV~~eavy Goods Vehicle (HGV)~~ movements to and from the site (excluding abnormal loads) during construction of the pipeline will be limited to 07:00 to 19:00hrs Monday to Friday, and 07:00 to 16:00hrs on Saturdays, with no HGV movements taking place on Sundays or on national public holidays, unless agreed in advance with the relevant Local Authority.

~~12.11.4~~12.11.7 Temporary diversions or other mitigation measures for footpaths and cycle paths will be proposed where necessary.

~~12.11.5~~12.11.8 **Table 12-74**~~**Table 12-74** below~~ provides further detail of the sensitivity of the links that have identified as having a potentially significant effect. As shown, most of the impacts are associated with schools, hospital facilities as well as care homes and have a medium sensitivity, and mitigation is identified to reduce the magnitude of impact on these links.

Additional Mitigation and Enhancement – Operational Phase

~~12.11.6~~12.11.9 It is anticipated that the amount of operational traffic will be negligible, being associated with purely with periodic inspection and maintenance at the Immingham Facility, Theddlethorpe Facility and Block Valve Stations. On this basis operational traffic is not considered further in this chapter.

Additional Mitigation and Enhancement – Decommissioning Phase

~~12.11.7~~12.11.10 It is anticipated that the decommissioning stage~~phase~~ will have a similar impact to the construction phase and an appropriate OCTMP will be prepared to cover this phase at the appropriate time. On this basis the traffic associated with decommissioning is not considered further in this chapter.

Table 12-74~~12-73~~: Mitigation for Affected Links

ATC Number	Road Name	Sensitivity Rationale	Sensitivity	Committed Mitigation (assessed when considering residual effects)	Other mitigation for Detailed CTMP (not assessed when considering residual effects)
50	A1031 Grimsby Road	Homes a~~A~~djacent to the Carriageway with nearby shops / businesses.	Medium	• Restrictions on HGV journey times to avoid school pick up and drop off periods. • A booking system for deliveries will be established. The booking system will enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned. • Monitoring to ensure prohibited construction routes are not used by construction traffic	The final CTMP as prepared by the Contractor could include: • Car sharing for construction workers. • Mini-buses to collect construction workers from key locations. • Review of construction programme with a view to reducing the number of daily HGV movements. • ~~Increase in pipe numbers per delivery to reduce overall numbers per load.~~
51	A1031 Humberston Road	Homes near to roadside with nearby school just off the A1031 (Tetney Primary School)	Medium	• Restrictions on HGV journey times to avoid school pick up and drop off periods. • A booking system for deliveries will~~ould~~ be established. The system will~~booking system would~~ enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned. • Monitoring to ensure prohibited construction routes are not used by construction traffic	The final CTMP as prepared by the Contractor could include: • Car sharing for construction workers. • Mini-buses to collect construction workers from key locations. • Review of construction programme with a view to reducing the number of daily HGV movements. • ~~Increase in pipe numbers per delivery to reduce overall numbers per load.~~

ATC Number	Road Name	Sensitivity Rationale	Sensitivity	Committed Mitigation (assessed when considering residual effects)	Other mitigation for Detailed CTMP (not assessed when considering residual effects)
52	A1031 Thoresby Road	Homes near to roadside with nearby school just off the A1031 (Tetney Primary School)	Medium	• Restrictions on HGV journey times to avoid school pick up and drop off periods. • A booking system for deliveries will~~ould~~ be established. The ~~booking~~ system will~~ould~~ enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned. • Monitoring to ensure prohibited construction routes are not used by construction traffic	The final CTMP as prepared by the Contractor could include: • Car sharing for construction workers. • Mini buses to collect construction workers from key locations. • Review of construction programme with a view to reducing the number of daily HGV movements. • ~~Increase in pipe numbers per delivery to reduce overall numbers per load.~~
53	A1031 Main Road	Homes near to roadside with nearby school just off the A1031 (Grainthorpe Junior School on Fen Lane)	Medium	• Restrictions on HGV journey times to avoid school pick up and drop off periods. • A booking system for deliveries will~~ould~~ be established. The ~~booking~~ system will~~ould~~ enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned. • Monitoring to ensure prohibited construction routes are not used by construction traffic	The final CTMP as prepared by the Contractor could include: • Car sharing for construction workers. • Mini-buses to collect construction workers from key locations. • Review of construction programme with a view to reducing the number of daily HGV movements. • ~~Increase in pipe numbers per delivery to reduce overall numbers per load.~~
54	A1031 Warren Road	Homes near to roadside with nearby school just	Medium	• Restrictions on HGV journey times to avoid school pick up and drop off periods.	The final CTMP as prepared by the Contractor could include:

ATC Number	Road Name	Sensitivity Rationale	Sensitivity	Committed Mitigation (assessed when considering residual effects)	Other mitigation for Detailed CTMP (not assessed when considering residual effects)
		off the A1031 (North Somercotes Church of England Primary School)		• A booking system for deliveries willould be established. The booking system willould enable a daily profile of deliveries to be maintained and allow the Contractor to ensure that the required deliveries are forecast and planned. • Monitoring to ensure prohibited construction routes are not used by construction traffic	• Car sharing for construction workers. • Mini--buses to collect construction workers from key locations. • Review of construction programme with a view to reducing the number of daily HGV movements. • ~~Increase in pipe numbers per delivery to reduce overall numbers per load.~~

12.12 Residual Significant Effects

Assessment of Residual Significant Effects: Construction Phase

12.12.1 With additional mitigation introduced, professional judgement has been used to determine that the effects would be reduced by one level (for example, major effects would be reduced to moderate and so on). Based on this methodology, residual ~~Based upon the assessment of the traffic and transport associated with the Proposed Development,~~ significant effects are forecast ~~predicted relating to~~on the following ~~five four~~four links from a total of 80~~79~~ that have been assessed, and this is summarised further within **Table 12-74**~~**Table 12-74** above~~:

~~12.12.1~~

~~50 - A1031 Grimsby Road;~~

- 51 - A1031 Humberston Road;
- 52 - A1031 Thoresby Road;
- 53 - A1031 Main Road; and.
- 54 - A1031 Warren Road.

12.12.2 In terms of the pipe delivery ~~the only~~residual significant effects are forecast~~predicted~~ to be on the same ~~following~~ links as ~~quoted~~those above.~~:on Link 53 A1031 Main Road.~~

~~50 - A1031 Grimsby Road;~~

~~51 - A1031 Humberston Road;~~

~~52 - A1031 Thoresby Road;~~

~~53 - A1031 Main Road; and.~~

~~54 - A1031 Warren Road~~

Assessment of Residual Effects: Operational Phase

12.12.3 As set out previously the O~~o~~perational phase is not considered to result in any severe impact and has not therefore been assessed and this has been agreed through the S~~s~~coping stage.

Assessment of Residual Effects: Decommissioning Phase

~~12.12.2~~12.12.4 The D~~d~~ecommissioning phase has not been assessed given the uncertainties around any Future Baseline and is likely to be similar in terms of impact to the Construction phase.

12.13 Cumulative Effects

12.13.1 An assessment of the potential for cumulative effects with the other short listed developments has been undertaken, with the results set out in **Table 12-75**~~**Table 12-7512-76**~~.

12.13.2 Whilst a small number of other developments may have an overlapping construction period, these are mostly located within Section 1 of the Proposed Development, centred around Immingham. The proposed construction access routes assessed in this section for the Proposed Development have all been identified as having only negligible effects. As negligible effects are considered to be 'barely perceptible' it if not considered feasible for the effects of the Proposed Development to add to those of other development to such an extent that a cumulative effect of greater significance than either project alone, could occur.

12.13.3 Having identified those projects where cumulative effects cannot be ruled out, a further analysis has been undertaken to assess whether there are likely to be significant cumulative

effects with the Proposed Development. This assessment is set out in **Table 12-76**~~**Table 12-7712-78**~~.

Table 12-75: Assessment of Potential for Cumulative Effects with Other Projects

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
Nationally Significant Infrastructure Projects				
#DCO-5	TR030007	Immingham Eastern Ro-Ro Terminal	Pre-examination stage, construction not likely to start until 2026 at earliest.	**YES** - from the supporting ES Chapter, construction was due to commence in early 2024 and be complete in mid-2025. However, it is now understood that construction is unlikely to start until 2026 at the earliest, there is therefore the potential for a cumulative construction impact.
#DCO-7	EN070006	Humber Low Carbon Pipelines (previously developed by National Grid Ventures)	At the pre-application stage, DCO submission expected Q3 of 2023.	**YES** – there are shared construction routes identified in the PEIR for the development. .
#DCO-8	TR030008	Immingham Green Energy Terminal (Associated British Ports)	At the pre-application stage, Scoping Report submitted to the Planning Inspectorate on 30 August 2022.	**YES** - from the Scoping Report the affected road network comprises the A1173, A180, Queens Road and Kings Road, and is located to the east of the Viking CCS project. It is therefore likely that the construction traffic for both projects would use different parts of the network.
North East Lincolnshire Council				
#NELC CULM-1	DM/0211/20/REM	Keigar Homes Ltd – Residential Development off Station Road, Habrough. Outline application for a residential development of up to 118 dwellings	Approved – September 2021.	**NO**, once operational any traffic will be included within the TEMPRO growth factors. Any construction impact is likely to be local to Habrough only and will be less than the impact once operational.
#NELC CULM-2	DM/1175/17/FUL	Peter Ward Homes – Brocklesby Avenue Habrough Road Residential development for 145 dwellings	Approved – 23 December 2019. Construction of this	**NO**, as construction has commenced, traffic will have been recorded within baseline ATC data.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
			development has commenced.	Operational traffic is already factored into the TEMPRO growth factors.
#NELC CULM-3	DM/0696/19/FUL	Cyden Homes – Residential development at Midfield Road, Humberston. Erection of 225 dwellings	Pending consideration – application validated 15 August 2019. Amended plans and information were submitted in May 2023.	**NO -** Any construction impact is likely to be local to Humberston only and will be less than the impact once operational. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-5	DM/1240/21/FUL	Barratt York – New Waltham Phase 2 Residential Development Erection of 227 dwellings,	Approved - 24 August 2022.	**NO** - Any construction impact likely to be local to New Waltham only. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-6	DM/0026/18/FUL	North Beck Energy Ltd – North Beck Energy Centre Erect an Energy Recovery Facility with an electricity export capacity of up to 49.5MW	Approved – 12 October 2018.	**NO**, as the development was approved in 2018. Although not yet commenced, it is considered that the construction period is highly unlikely to overlap with that of the Proposed Development. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-7	DM/1145/19/FUL	Engie - NEL Energy Park Construction and operation of an energy park comprising photovoltaic (PV) solar panels	Approved – 6 November 2020.	**NO**, development has commenced in July 2023 therefore no cumulative impact during the construction phase. Operational traffic will be limited, as is operational traffic related to the Proposed Development. Therefore, the development is highly unlikely to have cumulative effects with the Proposed Development.
#NELC CULM-8	DM/0105/18/FUL	Engie – SHIIP Stallingborough Interchange	Approved – 12 October 2018.	**NO**, as the development was approved in 2018. Although not yet commenced, it is considered

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
		Hybrid application seeking outline consent with access, landscaping and scale to be considered for the development of a 62ha Business Park comprising up to 120,176 sq.m for B1 (Business), B2 (General Industrial) and B8 (Storage and Distribution		that the construction period is highly unlikely to overlap with that of the Proposed Development. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-9	DM/0198/20/REM	Cyden Homes – Proposed Residential Development at Land Off Larkspur Avenue Reserved matters application following DM/0378/15/OUT (Outline planning application with means of access to be considered for the construction of up to 250 residential dwellings	Approved – 5 February 2021.	**NO**, construction has commenced and as such no cumulative impact during construction is predicted. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-12	DM/0899/21/FUL	Grimsby Solar Farm – Aura Power	Approved – 25 November 2022.	**NO**, construction is anticipated to start in 2024 with the construction of the Proposed Development occurring in 2026, therefore no cumulative impact is predicted. Operational traffic will be limited and therefore highly unlikely to have cumulative effects with the Proposed Development.
#NELC CULM-20	DM/0728/18/OUT	Brocklesby Estate – Residential Development on Land East of Stallingborough Road, Immingham. Outline planning application for the development of up to 525 residential dwellings	Approved – 12 November 2020.	**NO**, development approved in 2020 and whilst it has not yet commenced it is considered highly likely that this will be before the construction year of 2026 for the Proposed Development. Operational traffic will already have been accounted for within the TEMPRO growth factors.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
#NELC CULM-24	DM/0118/15/OUT	Monmouth Properties - Residential Development on Land at Toll Bar New Waltham. Outline application with access to be considered for residential development (of up to 400 dwellings)	Granted at Appeal – 22 November 2017.	**NO**, development approved in 2017 and not yet commenced on site, and it is it is likely that should it come forward that it will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-28	DM/0769/22/FUL	CHI Investments – The Willows Construction of new foul sewer and associated works	Validated - 1 December 2022 - Pending Consideration.	**NO**, not yet approved however construction is considered likely to be before the 2026 year of construction for Viking CCS. Operational traffic will be limited and therefore highly unlikely to have cumulative effects with the Proposed Development.
#NELC CULM-31	DM/1133/17/OUT	Humberside Land Developers Ltd - Residential Development in Laceby Outline application for 152 dwellings	Approved – 5 August 2019.	**NO**, development approved in 2019 and whilst it has not yet commenced it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-33	DM/1167/16/FUL / AP/001/19	Cyden Homes – Residential Development Land off Brigsley Road, Waltham Hybrid application to include Full Planning for 194 dwellings (	Appeal Allowed with Conditions – 6 November 2020. ~~Conditions have~~	**NO**, development approved in 2020 and whilst it has not yet commenced it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#NELC CULM-38	DM/0118/23/FUL	Land Developers (Lincs) Ltd – Residential Development at Land off Field Head Road, Laceby Erection of 60 dwellings	Pending – validated 20 February 2023.	**NO**, not yet approved but construction is considered likely to be before the 2026 year of construction for Viking CCS. Operational traffic will already have been accounted for within the TEMPRO growth factors.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
#NELC CULM-39	DM/0261/23/OUT	Residential Development at Land off Waltham Road, Barnoldby Outline erection of 42 dwellings	Pending – validated 28 March 2023.	**NO**, not yet approved but construction is considered likely to be before the 2026 year of construction for Viking CCS. Operational traffic will already have been accounted for within the TEMPRO growth factors.
North Lincolnshire Council				
#NLC CULM-2	PA/2022/1223	Associated British Ports (ABP) – Land Adjacent to the Westgate Entrance, Port of Immingham A hybrid application for port related employment uses.	Pending – validated 18 August 2022	**NO**, the accompanyingsupporting Transport Assessment (TA) does not include any details regarding the construction phase traffic generation, and once operational any traffic willould be included within the TEMPRO growth rates. In addition, the TA includes a capacity assessment at a year of 2025, which is assumed to be the opening year and as such any construction phase would not result in a cumulative impact with Viking CCS construction year of 2026.
#NLC CULM-3	PA/2022/1548	VPI Immingham - VPI Immingham Pilot Carbon Capture Plant Planning permission to construct and operate a temporary pilot post-combustion carbon capture plant and associated infrastructure	Approved with Conditions – 26 October 2022.	**NO** As this is a pilot project granted permission in October 2022, it is considered that construction of the project is highly unlikely to overlap with construction of the Proposed Development.
#NLC CULM-4	PA/2022/628	MF Strawson Limited – Residential Development at Main Road, Sturton Hybrid application comprising full planning permission to erect 32 dwellings and outline planning permission for 85 dwellings	Approved – 23 March 2023.	**NO**, development approved in 2023 and whilst it has not yet commenced any construction impact would be less than the impact once operational. Operational traffic will already have been accounted for within the TEMPRO growth factors.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
#NLC CULM-5	PA/2022/443	Lightrock Power Ltd – Sweetbriar Farm Planning permission for the installation of a solar photovoltaic array/solar farm and& associated infrastructure.	Pending - validated 18 February 2022.	**NO**, no details regarding the year of construction has been provided, with a 6-month construction phase being predicted. It is therefore assumed that the construction phases will not result in a cumulative impact. Operational traffic will be limited and therefore highly unlikely to have cumulative effects with the Proposed Development.
#NLC CULM-9	PA/SCO/2022/13	Orsted Gigastack Limited and Phillips 66 Limited – Gigastack Project EIA Scoping request for a 100MV hydrogen electrolyser together with an underground electrical cable connection to the Hornsea Two onshore substation, water discharge and a hydrogen export pipeline to the Humber Refinery.	Awaiting Scoping Opinion	**NO**, from the Sscoping report the construction is due to start in Q3 2023 and open in 2025. Operational traffic will be limited and therefore highly unlikely to have cumulative effects with the Proposed Development.
#NLC CULM-12	PA/2023/422	Humber Zero Project – Phillips-66 Carbon Capture Plant Planning permission for the construction and operation of a post-combustion carbon capture plant,	Pending - Validated 16 March 2023.	**YES** - from the Construction Programme, works are due to start in Q2 of 2024 for Phillips 66 and in Q3 2024 for VPI, with a completion in Q4 2027for Phillips and Q2 2028 for VPI. There is therefore the potential for some construction overlap during the Viking CCS construction phase in 2026.
#NLC CULM-13	PA/2023/421	Humber Zero Project – VPI Immingham LLP Carbon Capture Plant Planning permission for the construction & operation of a post-combustion carbon capture plant, including carbon dioxide compressor.	Pending - Validated 8 March 2023. completed in 2028.	

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
#NLC CULM-14	PA/SCO/2023/1	Associated British Ports – Immingham Onshore Wind EIA Scoping request for Immingham onshore wind including up to three wind turbines (Immingham Dock Western Entrance, Humber Road, South Killingholme).	Opinion given – 20 June 2023	**NO**, From the Scoping report no details regarding the construction timescales have been provided, although it is noted that Traffic and Transport is proposed to be scoped out. It is therefore considered that there will be no cumulative construction impact with Viking CCS.
#NLC CULM-15	PA/SCO/2023/2	Associated British Ports – Immingham Onshore Wind EIA Scoping request for Immingham onshore wind including up to three wind turbines (Land Along Tracks, West Haven Way, South Killingholme).	Validated 3 April 2023.	**NO**, From the Scoping report no details regarding the construction timescales have bene provided although it is noted that Traffic and Transport is proposed to be scoped out. It is therefore considered that there will be no cumulative construction impact with Viking CCS.
#NLC CULM-16	PA/2023/612	VEV Services Limited - Vitol (VPI Immingham) Planning permission for the installation of a 71.28 kwp solar carport.	Pending - Validated 27 March 2023.	**NO,** no construction traffic information provided and therefore it is assumed that there would not be any cumulative construction traffic impact with the Proposed Development.
#NLC CULM-17	PA/2018/918	Planning permission to construct a new gas-fired power station with a gross electrical output of up to 49.9 megawatts.	Approved – 07 September 2018.	**NO**, according to the supporting Transport Statement, construction was due to commence in 2019. Given that it was approved 5 years ago it is considered that there is no cumulative construction impact.
#NLC CULM-18	PA/SCO/2022/12	Uniper - Humber Hub Blue Project EIA scoping request for the Humber Hub Blue Project; a blue hydrogen production facility (HPF) on the south bank of the Humber to supply low-	Pending – validated 22 November 2022.	**YES** - from the Scoping Report construction could start in mid-2025 and be completed by mid / late 2028.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
		carbon hydrogen via a pipeline to industrial and power customers.		The affected road network is given as comprising Chase Hill Road, Rosper Road, East Halton Road, the A160 and A180 all located to the eastern edge of Immingham.
#NLC CULM-19	PA/2023/502	Able UK Limited – Site Enabling Works, Land East of Rosper Road, Killingholme. Full planning application for enabling works on land east of Rosper Road, Killingholme,	Pending - validated 23 March 2023.	**YES** - it is not clear from the Transport Statement when construction would occur, although the affected road network is given as comprising Rosper Road, the A160 and A180 all located to the eastern edge of Immingham.
#NLC CULM-27	PA/2021/1525	Able UK Limited - Monopole Manufacturing Facility at Land at Able Marine Energy Park, south of Station Road, South Humber Bank, South Killingholme Planning permission to erect a monopole manufacturing facility to provide an offshore wind turbine monopile foundation manufacturing facility.	Approved – 08 August 2022.	**NO**, from the Traffic report it is stated that construction would commence in 2022 and last for around 21 months, thus finishing in 2024. Therefore, whilst construction is not yet understood to have commenced it is not considered that there would be a cumulative impact with the Proposed Development's construction in 2026.
East Lindsey District Council				
#ELDC CULM-1	N/085/00883/15	Housing Development – Louth Road A hybrid application consisting of outline erection of up to 300 dwellings.	Approved – 22 November 2017.	**NO**, development approved in 2017 and whilst it has not yet commenced it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-2	N/133/01413/21	Cyden Homes – Residential development at Ludborough Road Application for the erection of 198no. dwellings.	Pending decision – validated 1 July 2021.	**NO**, development not yet commenced, although it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
				already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-15	N/105/01055/22	Charterpoint (Louth) Limited – Daisy Way, Louth Outline erection of up to 90no. dwellings.	Pending – appeal date unknown.	**NO** – The potential construction traffic generated by a 90-dwelling development is considered highly unlikely to have a cumulative effect with construction traffic relating to the Proposed Development. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-18	N/019/01451/20	Brackenborough Ltd – Brackenborough Hotel Change of use of land for the siting of 114 no. holiday lodges.	Approved – 19 February 2021.	**NO**, development not yet commenced, although it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-19	N/092/01017/20	Lovell – Residential Development Chestnut Drive Outline erection of up to 141 no. dwellings.	Approved – 15 June 2021.	**NO**, development not yet commenced, although it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-22	N/085/01215/21	Homes by Gleeson – Residential Development Louth Road, Holton Le Clay Application for approval of reserved matters (appearance, landscaping, layout and scale) for 233no. dwellings.	Approved – 30 June 2022. Development not yet built.	**NO**, development not yet commenced, although it is likely that this will be before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
#ELDC CULM-31	N/105/01961/19	Gleeson - Proposed Residential Brackenborough Road, Louth Erection of 237no. dwellings,	Approved - 26 March 2021	**NO**, development has commenced on site and will therefore be complete before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.

ID	Application Reference	Development Name and Details	Status (at time of assessment) and schedule	Include in Traffic and Transport Inter Project Cumulative Assessment
#ELDC CULM-32	N/105/00593/19	Cyden Homes – Proposed Residential Development at The Park, Eastfield Road, Louth. Erection of 60no. houses in total.	Approved - 9 August 2019.	**NO**, development has commenced on site and will therefore be complete before the Viking CCS construction year of 2026. Operational traffic will already have been accounted for within the TEMPRO growth factors.
Lincolnshire County Council				
#LCC CULM -7	PL/0037/23	Manby BGE Ltd - Anaerobic Digestor and Fertiliser Production Plant For an anaerobic digestor and fertiliser production plant at Land at Manby Airfield, off Manby Middlegate, Manby.	Validated – 19 May 2023. No decision yet.	**YES** - it is not clear when the construction period would start from the supporting information, so additional consideration required.
West Lindsey District Council				
No relevant developments identified within West Lindsey District Council.				
Wider Viking CCS Project				
#OFF CULM-1	N/A	Wider Viking CCS Project – off-shore elements including refurbishment of the existing off-shore Lincolnshire Off-shore Gas Gathering system (LOGGS) Pipeline and a newly installed spur pipeline, to the offshore injection facilities for permanent storage.	Pre-application stage, Non-statutory Scoping Report currently being prepared (May 2023).	In order to evaluate the potential for any cumulative impacts associated with the on-shore and off-shore parts of the overall Viking CCS Project, a bridging document (*Application Document 6.12*) has been prepared which looks at this in more detail. This will be included separately to the wider cumulative assessment and based on information available at the time of writing in relation to the oOff-shore part of the Viking CCS Project.

Table 12-76: Assessment of Cumulative Effects

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
Nationally Significant Infrastructure Projects				
#DCO-5	TR030007	Immingham Eastern Ro-Ro Terminal	The Traffic and Transport ES Chapter for IEERT concludes that there are no significant impacts in relation to traffic and transport; however, effects are not necessarily negligible. With reference to Section 12.10 of the *ES Volume II Chapter 12 Traffic and Transport* (*Application Document 6.2.12*) the significance of effect within section 1, which covers the Immingham area, is considered to be negligible. This is likely to be because routes around the Port of Immingham have been designed to service a major port and there are already a high number of HGVs on these routes.	**Not Significant -** It is considered unlikely that a negligible effect as a result of the proposed development could exacerbate a non-significant effect from IEERT to such an extent that a significant cumulative effect could result.
#DCO-7	EN070006	Humber Low Carbon Pipelines (previously developed by National Grid Ventures)	The PEIR for the project identifies the following routes which are shared by the Proposed Development, with HLCP classifying Rosper Road and the A160 as being “Not Sensitive”. • Rosper Road • A160 Humber Road • A180	**Not Significant** - It is considered unlikely that a negligible effect as a result of the proposed development could exacerbate a non-significant effect from HLCP to such an extent that a significant cumulative effect could result.

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
			Although there are some shared routes, the impact of the Proposed Development on these routes has been assessed as negligible.	
#DCO-8	TR030008	Immingham Green Energy Terminal (Associated British Ports)	The project is located to the east of the Viking CCS project from the Scoping Report and the parts of the road network affect comprise the A1173, A180, Queens Road and Kings Road. It is therefore likely that the construction traffic for both projects would use different parts of the network. In addition, the Proposed Development is predicted to have only a negligible effect on all routes in section 1, which covers the Immingham area.	**Not Significant -** It is considered unlikely that a negligible effect as a result of the proposed development could exacerbate a non-significant effect from HLCP to such an extent that a significant cumulative effect could result.
North East Lincolnshire Council				
No other relevant developments identified that have potential for cumulative effects.				
North Lincolnshire Council				
#NLC CULM-12	PA/2023/422	Humber Zero Project – Phillips-66 Carbon Capture Plant Planning permission for the construction and operation of a post-combustion carbon capture plant.,	From the Construction Programme, works are due to start in Q2 of 2024 for Phillips 66 and in Q3 2024 for VPI, with a completion in Q4 2027for Phillips and Q2 2028 for VPI. There is therefore the potential for some construction overlap during the Viking CCS construction phase in 2026.	**Not Significant -** it is considered that as the effects of the Proposed Development in this area are ~~considered to be 'barely perceptible~~ 'negligible ~~and~~ it is therefore highly unlikely that a cumulative effect would occur.
#NLC CULM-13	PA/2023/421	Humber Zero Project – VPI Immingham LLP Carbon		

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
		Capture Plant Planning permission for the construction and& operation of a post-combustion carbon capture plant, including carbon dioxide compressor.	The ES for the project identifies the following routes which are shared by the Proposed Development: • Rosper Road • A160 • A180 • A1173 Manby Roadd However, with reference to Chapter 8 of the supporting information for both sites, the residual impacts from both Phillips 66 and VPI is considered to be not significant during the construction phase, with all road links deemed to have either a low or negligible sensitivity. Furthermore, with reference to the Viking CCS ES Chapter, Section 12.10, the significance of effect with section 1, which covers the Immingham area, is considered to be negligible – not significant in terms of the impact from the Viking CCS scheme.	
#NLC CULM-18	PA/SCO/2022/12	Uniper - Humber Hub Blue Project EIA Sscoping request for the Humber Hub Blue Project; a blue hydrogen production facility (HPF) on the south bank of the Humber to supply	The affected road network is given as comprising:. • Chase Hill Road, • Rosper Road, • East Halton Road, • A160	**Not Significant** - as the Proposed Development only has a negligible effect it is therefore highly unlikely that a cumulative effect would occur.

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
		low-carbon hydrogen via a pipeline to industrial and power customers.	• A180 all located to the eastern edge of Immingham. No details of any construction traffic are available, and as such a quantitative assessment cannot be undertaken. However, with reference to the Viking CCS ES Chapter, Section 12.10, the significance of effect with Ssection 1, which covers the Immingham area, is considered to be negligible – not significant in terms of the impact from the Viking CCS scheme.	
#NLC CULM-19	PA/2023/502	Able UK Limited – Site Enabling Works, Land East of Rosper Road, Killingholme. Full planning application for enabling works on land east of Rosper Road, Killingholme,	It is not clear from the Transport Statement when construction would occur, although the affected road network is given as comprising Rosper Road, the A160 and A180 all located to the eastern edge of Immingham. However, with reference to the Viking CCS ES Chapter, Section 12.10, the significance of effect with section 1, which covers the Immingham area, is considered to be negligible – not significant in terms of the impact from the Viking CCS scheme.	**Not Significant** - as the Proposed Development only has a negligible effect it is therefore highly unlikely that a cumulative effect would occur.
East Lindsey District Council				
No other relevant developments identified that have potential for cumulative effects.				

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
Lincolnshire County Council				
#LCC CULM -7	PL/0037/23	Manby BGE Ltd - Anaerobic Digestor and Fertiliser Production Plant For an anaerobic digestor and fertiliser production plant at Land at Manby Airfield, off Manby Middlegate, Manby.	It is not clear when the construction period would start from the supporting information. Manby is located on the boundary between sections 4 and 5 of the Viking CCS assessment, close to links 67, 68, 30 and 38 all of which, with reference to the Viking CCS ES Chapter, Section 12.10, have a negligible effect as a result of the Proposed Development. Link 35, Thacker Bank, to the south of the B1200 is predicted to have a Minor (not significant) effect. However, the proposed Production Plant will take access from the B1200 and as such no cumulative impact during construction is considered to be likely, with the link on the B1200, link 30, as set out above having a negligible effect from the Viking CCS construction.	**Not Significant** - as the Proposed Development only has a negligible effect it is therefore highly unlikely that a cumulative effect would occur.
West Lindsey District Council				
No relevant developments identified within West Lindsey District Council.				
Wider Viking CCS Project				
#OFF CULM-1	N/A	Wider Viking CCS Project – offshore elements including refurbishment of the existing offshore Lincolnshire Offshore	In order to evaluate the potential for any cumulative impacts associated with the onshore and offshore parts of the overall Viking CCS Project, a bridging	**Not Significant**

ID	Application Reference	Development Name and Details	Potential Cumulative Effects and Additional Mitigation Requirements	Likely Significance of any Cumulative Effects
		Gas Gathering system (LOGGS) Pipeline and a newly installed spur pipeline, to the offshore injection facilities for permanent storage.	document (Application Document 6.12) has been prepared which looks at this in more detail. This will be included separately to the wider cumulative assessment and based on information available at the time of writing in relation to the Off-shore part of the Viking CCS Project.	

12.14 Summary

12.14.1 Only the construction phase of the Proposed Development has been assessed, with two ~~scenarios development~~construction phases ~~scenarios~~ assessed i.e. pipe delivery to compounds and then the main construction period.~~;~~ N~~n~~either the operational nor decommissioning phases were considered, ~~in line with~~i ~~-~~n accordance with the Scoping Opinion issued by the Planning Inspectorate on behalf of the Secretary of State. ~~what was agreed with decision makers during the the proposed Sscoping exercisee. The assessment is based upon construction traffic information provided to which a 20% uplift has then been applied to provide a substantial level of robustness and flexibility to the assessment.~~

12.14.2 Based on the current understanding of traffic and transport associated with the Proposed Development, residual significant effects are anticipated on ~~five~~ four construction routes out of initial tranche of 80 ATCs.~~:~~

- ~~50 – A1031 Grimsby Road;~~
- 51 – A1031 Humberston Road;
- 52 - A1031 Thoresby Road;
- 53 - A1031 Main Road; and
- 54 – A1031 Warren Road.

12.14.3 It should then be noted that the magnitude as based upon the assessment above do not take account of any further measures adopted by the contractor to reduce traffic levels during the construction phase through the Contractor's CTMP.

12.14.4 Therefore, the assessment does not take account of any car sharing by construction workers, or the potential for the contractor to use mini buses to transport workers from key destinations directly to the working area, and both of these measures would then reduce the number of construction worker trips.

~~It is likely that such measures willould reduce potential effects further and will be discussed and agreed with the Local Highway Authority as the CTMP is developed, and therefore the residual significance reported in this Summarybelow provides an allowance for these measures based upon professional judgement. Based on the implementation of the CTMP the residual effect has been reduced by one level to account of the measure and the role it will play in reducing any potential effect.~~

12.14.5 It should also be emphasised~~noted~~ that the effects reported have not been modified in relation to their duration, which under this methodology, are assumed to last for the entire ~~15 month~~15-month construction period. However, the peak week traffic numbers are likely to last for a much shorter duration.

12.14.6 A summary of potential residual traffic and transport impact and mitigation measures is presented in Table 12-77~~Table 12-7912-80~~.

Table 12-~~77~~79: Summary of Construction Phase Residual Significant Effects

Receptor	Sensitivity	Description of Potential Impact	Magnitude	Potential Effect Significance	Mitigation Measure(s)	Magnitude	Residual Effect Significance
~~**50 - A1031 Grimsby Road**~~	~~Medium~~	~~Severance, Fear and Intimidation and Highway Safety~~	~~Medium~~	~~Moderate~~	~~Outline Construction Traffic Management Plan measures.~~	~~Low~~	~~**Minor (not significant)**~~
51 - A1031 Humberston Road	Medium	Severance, Fear and Intimidation and Highway Safety, for both construction phases	High	Major	Outline Construction Traffic Management Plan measures.	Medium	**Moderate (significant)**
52 - A1031 Thoresby Road	Medium	Severance, Fear and Intimidation and Highway Safety, for both construction phases	High	Major	Outline Construction Traffic Management Plan measures.	Medium	**Moderate (significant)**
53 - A1031 Main Road	Medium	Severance, Fear and Intimidation and Highway Safety, for both construction phases	High	Major	Outline Construction Traffic Management Plan measures.	Medium	**Moderate (significant)**
54 - A1031 Warren Road	Medium	Severance, Fear and Intimidation and Highway Safety, for both construction phases	High	Major	Outline Construction Traffic Management Plan measures.	Medium	**Moderate (significant)**

12.15 References

Ref 12-1 Department of Energy and Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/5a79522de5274a2acd18bd53/1938-overarching-nps-for-energy-en1.pdf Accessed August 2023.

Ref 12-2 Department for Energy Security and Net Zero (2023). Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147380/NPS_EN-1.pdf Accessed August 2023.

Ref 12-3 Department of Energy and Climate Change (2011). National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4). Available at: https://assets.publishing.service.gov.uk/media/5a78c52140f0b62b22cbcaa4/1941-nps-gas-supply-oil-en4.pdf Accessed August 2023.

Ref 12-4 Department for Energy Security and Net Zero (2023). Draft National Policy Statement for Gas Supply Infrastructure and Oil Pipelines' (EN-4). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147383/NPS_EN-4.pdf Accessed August 2023.

Ref 12-5 *Ministry of Housing, Communities & Local Government (2023).* National Planning Policy Framework. Available at: *National Planning Policy Framework (publishing.service.gov.uk) Accessed 12/09/2023* Accessed August 2023.

Ref 12-6 Central Lincolnshire Local Plan – Adopted 2023. Available at: https://www.n-kesteven.gov.uk/sites/default/files/2023-04/Local%20Plan%20for%20adoption%20Approved%20by%20Committee.pdf Accessed August 2023.

Ref 12-7 North East Lincolnshire Council (2018). North East Lincolnshire Local Plan 2013 to 2032 – Adopted 2018. Available at: https://www.nelincs.gov.uk/assets/uploads/2020/10/The-NEL-Local-Plan-adopted-2018.pdf Accessed August 2023.

Ref 12-8 Lincolnshire Local Transport Plan (2013/14 – 2022/23). Available at: https://www.n-kesteven.gov.uk/sites/default/files/2023-03/TRA001%204th%20Lincolnshire%20Local%20Transport%20Plan%20201314%20to%20202223.pdf Accessed August 2023.

Ref 12-9 North Lincolnshire Local Transport Plan 2011 to 2026. Available at: https://www.northlincs.gov.uk/transport-and-streets/local-transport-plan-2011-2026/ Accessed August 2023.

Ref 12-10 Institute of Environmental Management and Assessment (IEMA) (formally the Institute of Environmental Assessment (IEA)) (1993). 'Guidelines for the Environmental Assessment of Road Traffic' – January 1993. Available at: [redacted] Accessed August 2023.

Ref 12-11 DfT Circular 01/2022 Strategic Road network and the delivery of sustainable development – updated December 2023. Available at:

https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development Accessed August 2023.

Ref 12-12 Transport analysis guidance (Department for Transport) – November 2022. Available at: https://www.gov.uk/guidance/transport-analysis-guidance-tag Accessed August 2023.

Ref 12-13 Design Manual for Road and Bridges (DMRB) CD 123 Geometric Design of at grade priority and signal-controlled junctions. Available at:
[redacted]
Accessed August 2023.