VikingCCS

Viking CCS Pipeline

Environmental Statement Volume IV - Appendix 12-4 TransportAssessment - Revision A (Tracked)

Document Reference: EN070008/APP/6.4.12.4

Applicant: Chrysaor Production (U.K.) Limited,
a Harbour Energy Company
PINS Reference: EN070008
Planning Act 2008 (as amended)
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(q)
Date: June 2024

Harbour Energy | AECOM

PINS Reference	Document Reference	Document Revision	Date
EN070008	EN070008/APP/6.4.12.4	Revision 1	October 2023
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1 Introduction

1.1.1 This Transport Assessment (TA) has been prepared by AECOM on behalf of Chrysaor Production U.K.) Limited (the 'Applicant') a Harbour Energy group company~~,~~ The Applicant has applied for a Development Consent Order (DCO) for the Viking CCS Pipeline ('the Proposed Development'.

1.1.2 The Proposed Development comprises a new 24 '' (609 mm) diameter onshore pipeline of approximately 55.5 km in length, which will transport Carbon Dioxide (CO2) from the Immingham industrial area to the Theddlethorpe area on the Lincolnshire coast, where it will connect into the existing 36 '' (921 mm) diameter offshore LOGGS pipeline.

1.1.3 The Proposed Development is an integral part of the overall Viking CCS Project, which intends to transport compressed and conditioned CO2 received at a facility at Immingham to store in depleted gas reservoirs under the Southern North Sea. The offshore elements of the Viking CCS Project, including the transport of CO2 through the LOGGS pipeline to the Viking gas fields under the North Sea, are subject to a separate consenting process.

1.1.4 ~~T~~The project is situated within a variety of Local Highway Authority (LHAs) areas namely; North Lincolnshire, North East Lincolnshire, and Lincolnshire. National Highways (NH) also manage highway infrastructure located within the proposed development limits, namely the A180 in the Immingham area.

~~he project is situated within a variety of Local Highway Authorities (LHAs) namely the North Lincolnshire, North East Lincolnshire, and Lincolnshire. National Highways (NH) also have a infrastructure located within the proposed development limits namely the A180 to the North. National Highways (NH) also have an infrastructure located within the proposed development limits namely the A180 to the North.~~

1.1.5 A location plan is provided below in **Figure 1-1** ~~**Figure 1-1Figure 1-1**~~, which shows the route of the Proposed Development along with key roads to be used by ~~related~~construction traffic ~~movements. the Automatic Traffic Count (ATC) monitoring locations.~~

~~1.1.1~~1.1.6 This ~~Transport Assessment (T~~TA~~A)~~ forms **Appendix 12-4** of *ES Volume IV (Application Document 6.4.12.4)*~~,~~ and has been produced to accompany the application for a Development Consent Order (DCO) for the Viking CCS Pipeline (the 'Proposed Development').

~~1.1.2~~1.1.7 It considers the impact on the local road network during construction of the Proposed Development. Other documents that should be read in conjunction with this TA are:

- Application Document 6.2.12 ES Volume II Chapter 12: Traffic and Transport;
- Application Document 6.4.12.1 ES Volume IV Appendix 12-1 – Transport Baseline Survey data;
- Application Document 6.4.12.5 ES Volume IV Appendix 12-3 – Draft Construction Traffic Management Plan; and
- Document Reference 9.22 Quantified Cumulative ~~Traffic~~ Assessment for Traffic and Transport ~~– Technical Note~~[**REP2-033**].

~~1.1.3 This report only considers the impact on traffic of the construction phase of the Proposed Development on the local highway network. For ease of reporting the Pipeline route has been split into five separate sections, routingunning north to south, as follows:~~

- ~~Section 1 – Runs from Immingham to the A180;~~
- ~~Section 2 – Links~~Runs from the A180 to the south of Immingham to the A46, just to the west of the A18 at Laceby;
- ~~Section 3 – Routes~~uns 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 – Connects~~Runs from the B1200 to Theddlethorpe.

~~1.1.4 A location plan is provided below in **Figure 11**, which shows the route of the Proposed Development along with the Automatic Traffic Count (ATC) monitoring locations.~~

1.1.8 This TA has been updated to reflect comments from National Highways (NH) received on the 10th January 2024 and following a meeting with NH on the 5th March 2024. Following these consultations, updates to policy, assessment methodology, and construction traffic numbers have been implemented. ~~This also follows scoping opinion from the Planning Inspectorate in which Paragraph 14.4.15 states 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.~~

Revision: 1 Drawn: LC Checked: CC Approved: MW Date: 2024-05-28

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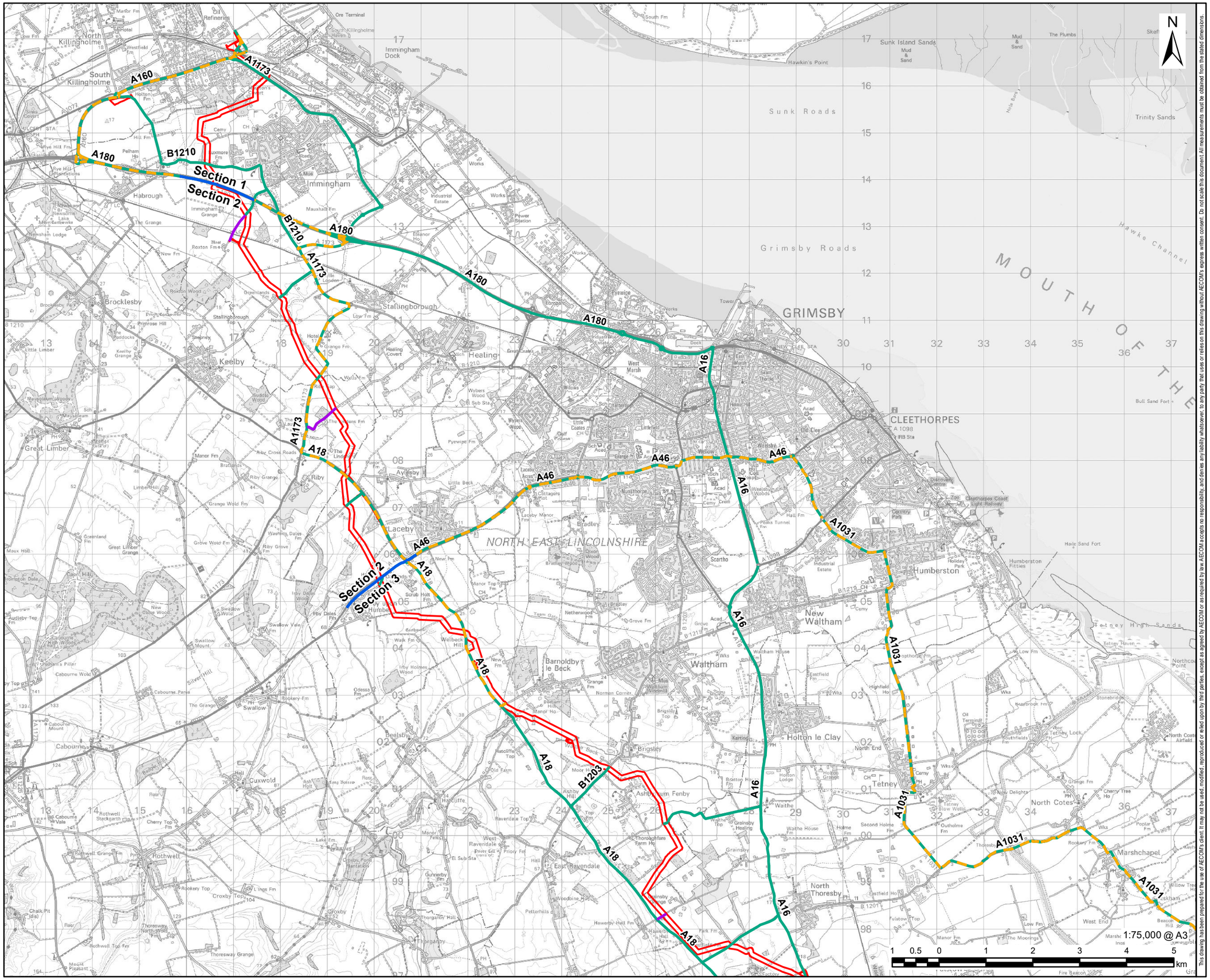

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PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- Proposed Route from Immingham Docks to Construction Compounds
- Proposed Construction Access Route LGV
- Proposed Construction Access Route HGV/LGV

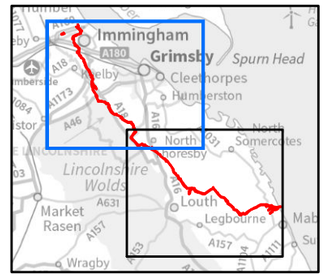

FIGURE TITLE

Figure 1 (1 of 2)
Key Highway Links

ISSUE PURPOSE

TRANSPORT ASSESSMENT

PROJECT NUMBER / REFERENCE

60668955 / VCCS_240528_ESA_12-4-1

Revision: 1 Drawn: LC Checked: CC Approved: MW Date: 2024-05-28

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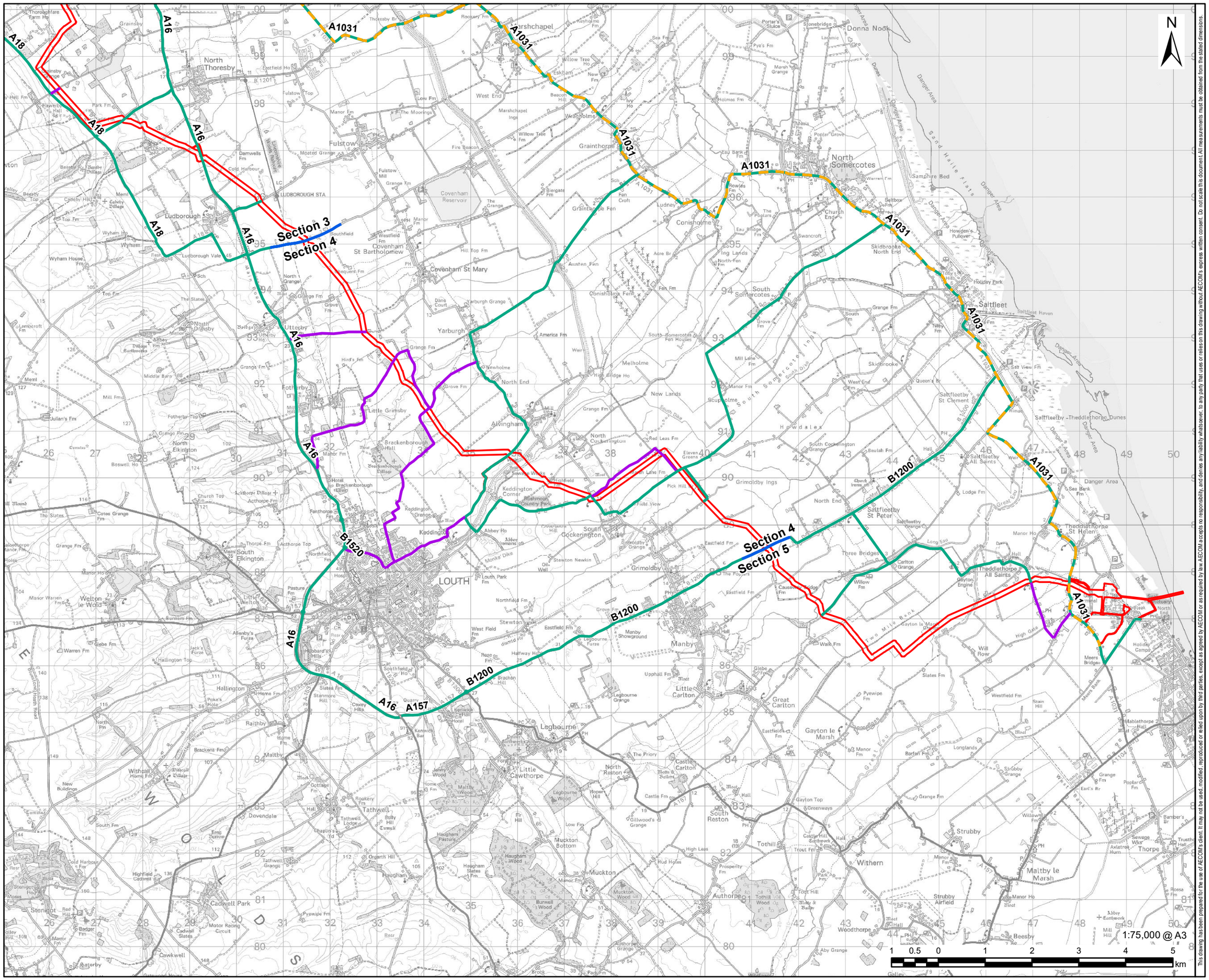

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PROJECT

Viking CCS Pipeline

LEGEND

- DCO Site Boundary
- Route Section Break
- Proposed Route from Immingham Docks to Construction Compounds
- Proposed Construction Access Route LGV
- Proposed Construction Access Route HGV/LGV

NOTES:

FIGURE TITLE

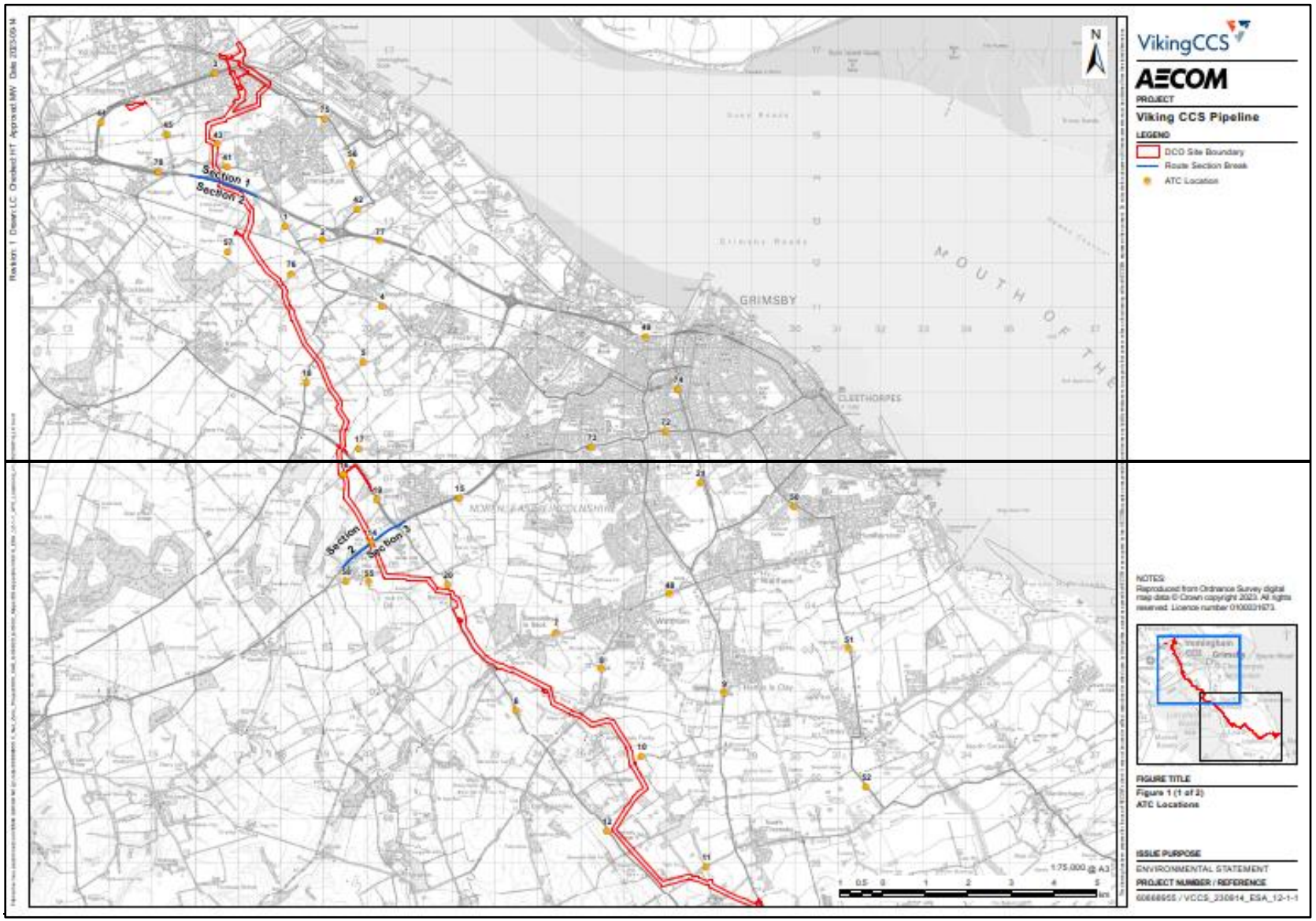
Figure 1 (2 of 2)
Key Highway Links

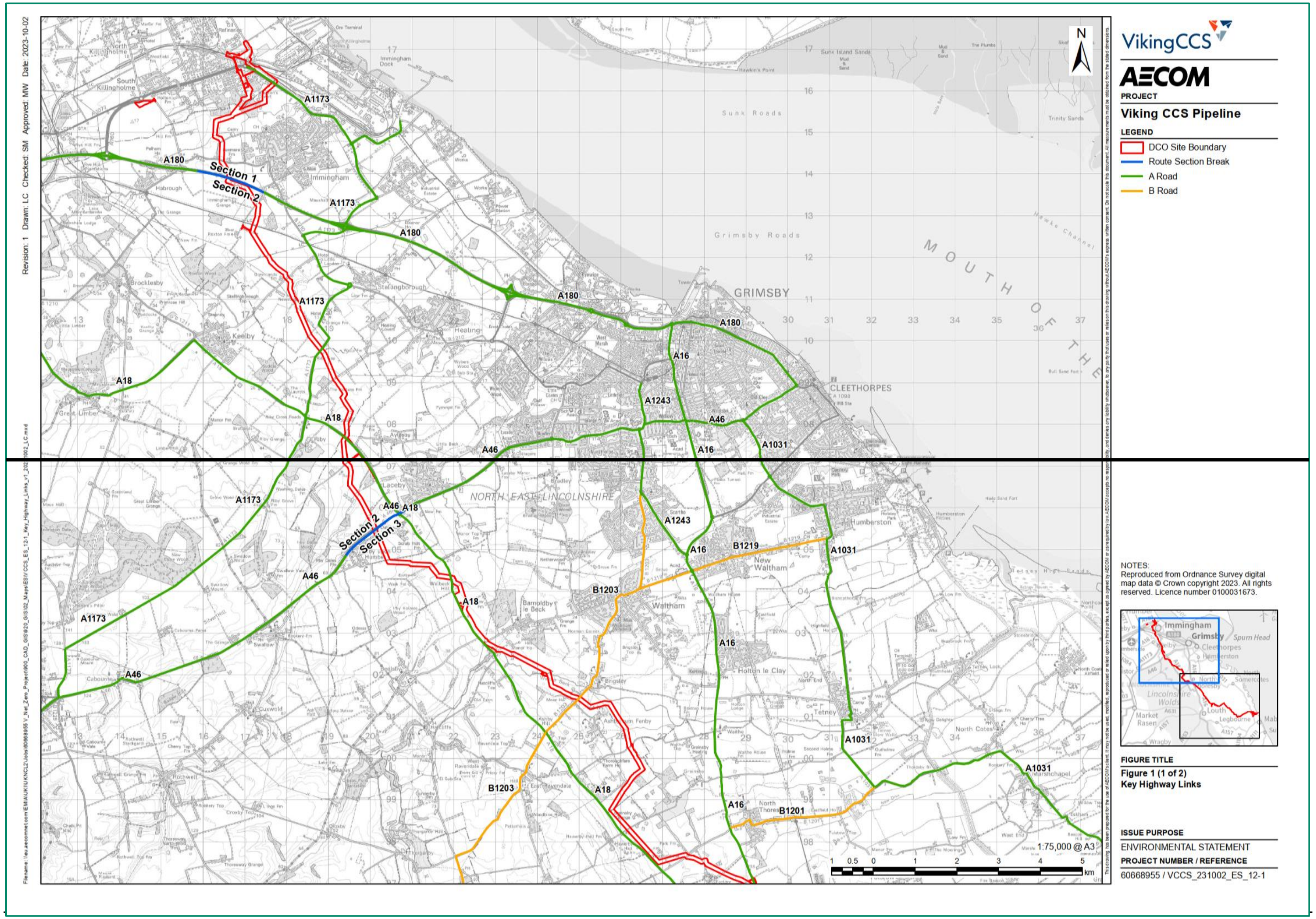
ISSUE PURPOSE

TRANSPORT ASSESSMENT

PROJECT NUMBER / REFERENCE

60668955 / VCCS_240528_ESA_12-4-1


VikingCCS
AECOM
PROJECT
Viking CCS Pipeline
LEGEND
DCO Site Boundary
Route Section Break
ATC Location
Section 1
Section 2
Section 3
GRIMSBY
CLEETHORPES
NOTES:
FIGURE TITLE
Figure 1 (1 of 2)
ATC Locations
ISSUE PURPOSE
ENVIRONMENTAL STATEMENT
PROJECT NUMBER / REFERENCE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VikingCCS
AECOM
PROJECT
Viking CCS Pipeline
LEGEND
DCO Site Boundary
Route Section Break
A Road
B Road
NOTES:
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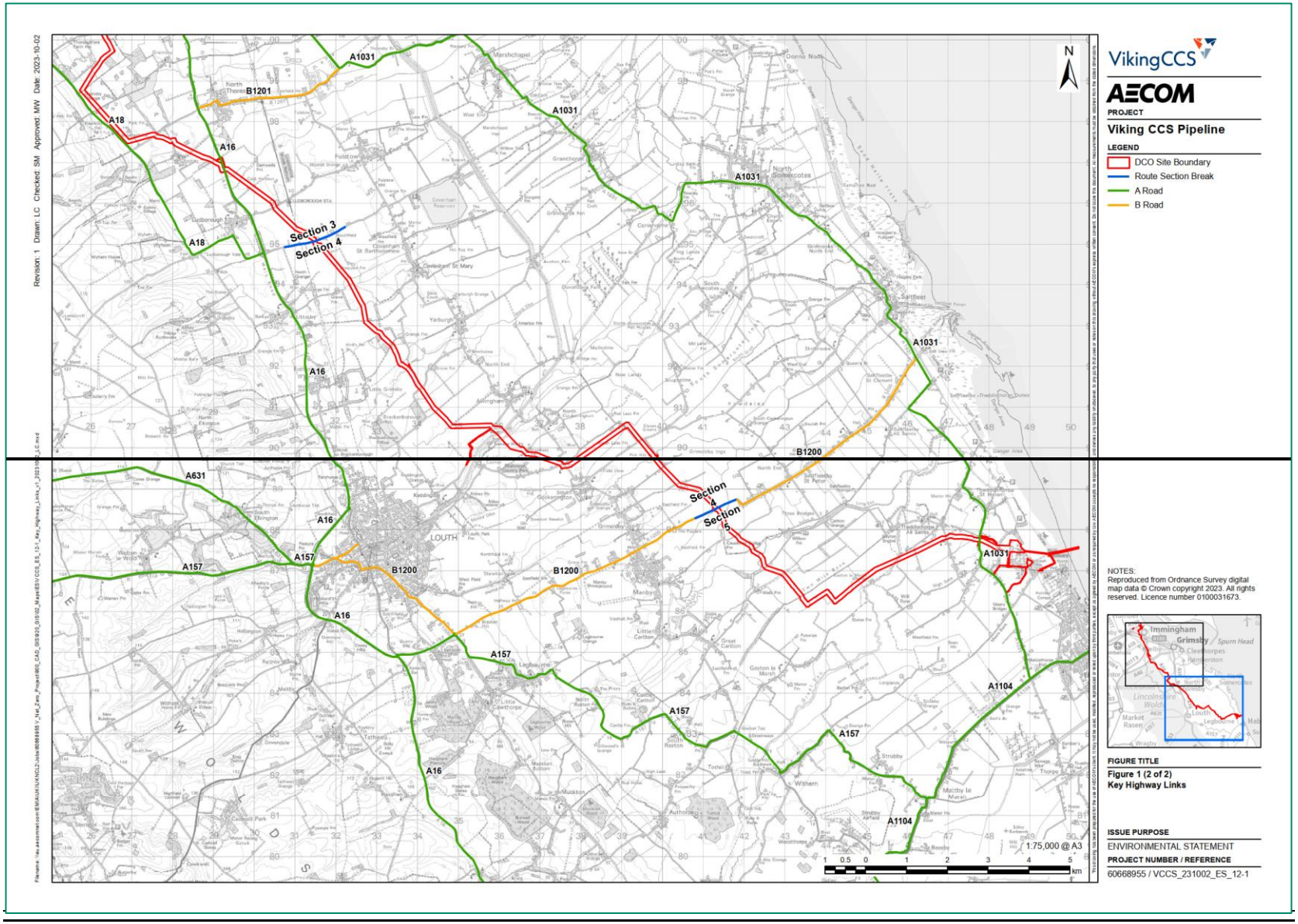
FIGURE TITLE
Figure 1 (1 of 2)
Key Highway Links
ISSUE PURPOSE
ENVIRONMENTAL STATEMENT
PROJECT NUMBER / REFERENCE
60668955 / VCCS_231002_ES_12-1
1:75,000 @ A3
km
Section 1
Section 2
Section 3
A180
A1173
A18
A46
A16
A1243
A1031
B1203
B1219
B1201
GRIMSBY
CLEETHORPES
Immingham
NORTH EAST LINCOLNSHIRE
New Waltham
Waltham
Humberston
MOUTH OF THE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N
A1031
B1201
A18
A16
Section 3
Section 4
Section 5
B1200
A631
A157
LOUTH
A1104
VikingCCS
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LEGEND
DCO Site Boundary
Route Section Break
A Road
B Road
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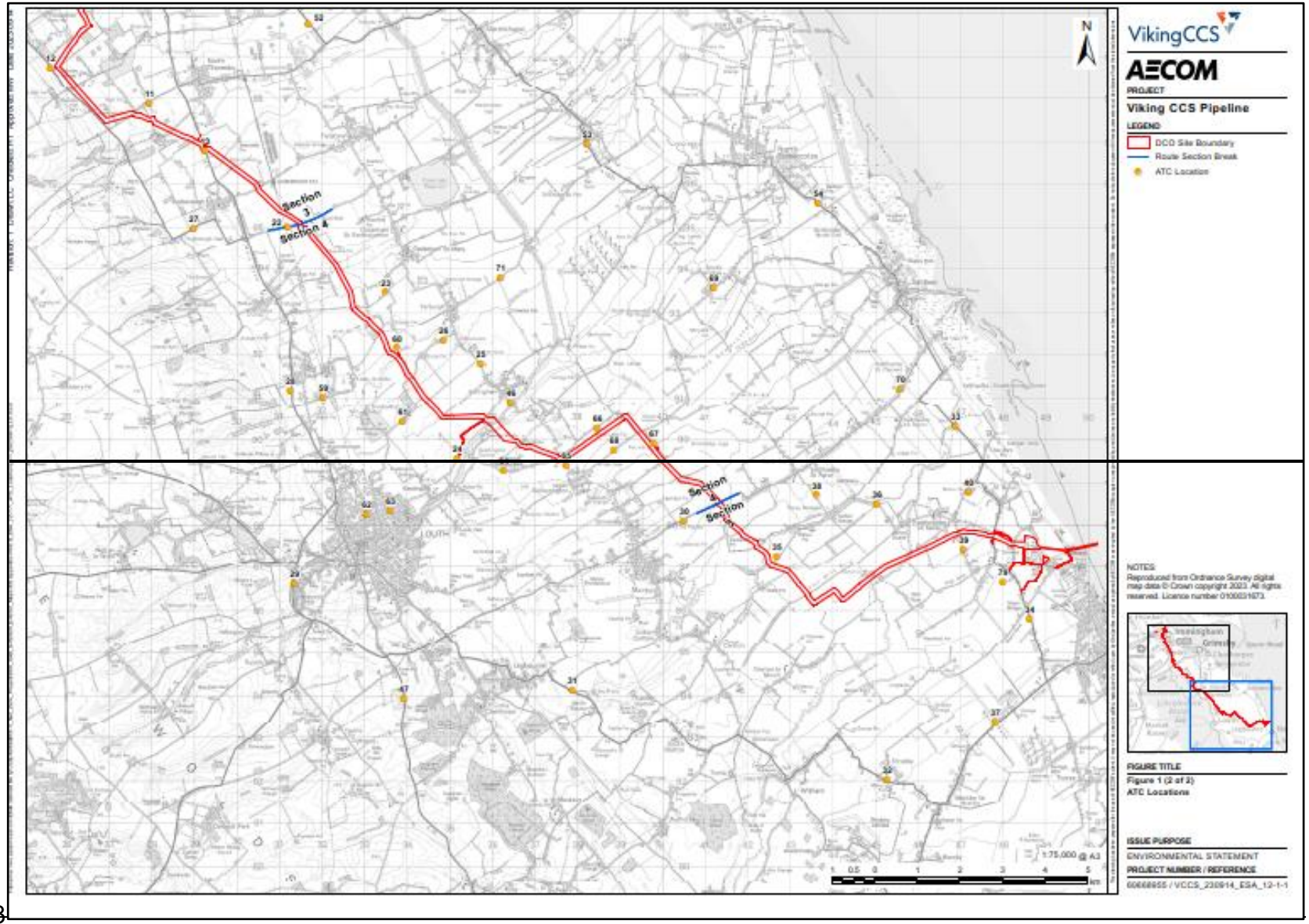
Immingham
Grimsby
FIGURE TITLE
Figure 1 (2 of 2)
Key Highway Links
ISSUE PURPOSE
ENVIRONMENTAL STATEMENT
PROJECT NUMBER / REFERENCE
60668955 / VCCS_231002_ES_12-1
1:75,000 @ A3
km


N
VikingCCS
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PROJECT
Viking CCS Pipeline
LEGEND
DCO Site Boundary
Route Section Break
ATC Location
Section 3
Section 4
Section 5
Section 6
NOTES
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FIGURE TITLE
Figure 1 (2 of 2)
ATC Locations
ISSUE PURPOSE
ENVIRONMENTAL STATEMENT
PROJECT NUMBER / REFERENCE
1:75,000 @ A3
km

6.3

1.2 Overview

Scope of Assessment

1.2.1 This TA focuses on the construction stage of the Proposed Development.

1.2.2 The operational phase will only generate very small amounts of traffic associated with occasional maintenance. Supporting evidence of this is provided in section 6.3.

1.2.3 The decommissioning programme will occur following the end of the operational life of the Proposed Development. A decommissioning environmental management plan would be developed in line with all applicable legislation and best practice in place at the time. Detailed proposals for decommissioning cannot yet be provided, though it is likely the pipeline itself would be left in the ground. As such the potential impacts would be similar to that of construction, as a worst case, though are likely to be substantially less.

Construction Programme

1.2.4 The main construction activities are expected to take around 15 months out of a total construction period lasting between September 2025 and March 2027, with additional time required beforehand for pre-construction and site preparation activities and afterwards for commissioning works. Main pipe laying works are predominantly planned during late spring and early autumn months.

1.2.5 The construction process would be programmed as a series of concurrent work packages along the length of the pipeline, where possible, to ensure that the construction programme is minimised. A work package may focus on a specific area or location where a group of construction workers would carry out a particular aspect of the main pipeline construction activities, such as topsoil stripping, trench excavation, pipe installation and backfilling of trenches. The design life of the pipeline is expected to be at least 25 years, but may be extended.

Working Hours

1.2.6 The working schedule will be 07:00 - 19:00 on Monday to Friday and 07:00 - 13:30 on Saturday, with no Sunday or Bank Holiday working anticipated as being typical. Exceptions may be required for extended hours (including Sunday or Bank Holiday working where necessary) for activities such as: The pull back phase for a major crossing using HDD, where works, once started, need to be completed.

1.2.7 Heavy Goods Vehicle (HGV) movements to and from the site (excluding abnormal loads) during construction of the pipeline will be limited to 07.00 to 19.00 Monday to Friday, and 07.00 to 13:30 on Saturdays, with no HGV movements taking place on Sundays or on national public holidays, unless agreed in advance with the relevant Local Authority.

Construction Traffic Routing

1.2.8 In terms of the routing strategy this varies between construction vehicles (e.g. HGVs) and construction worker vehicles. In terms of the construction vehicles bringing materials to the compounds / access points, given the major arterial route within the area is the A180 which connects from the M180 and M18 to the west, they can transfer to the principal routes (the A1173 and the A1031) to travel to the central and southern compound alongside the access points.

1.2.9 In terms of the worker vehicles, they have been routed from the major urban areas within the area to the 23 parking areas along the route, so there is more variation in terms of routes used to access these, dependant on the origin. A gravity model based on population and

distance has been developed to distribute workers from these areas using the surveyed links included within the assessment. This represents a worst case scenario as in reality most workers will either drive to a compound for onward transport to the working areas of the route via minibus, or else minibuses will pick workers up from the main areas of accommodation to transport them to the working area.

Route Sections

~~1.1.5~~1.2.10 This report only considers the impact of traffic associated with the construction phase of the Proposed Development on the local highway network. For ease of reporting the pipeline route has been split into five separate sections, routeing north to south, as follows:

- Section 1 – Runs from Immingham to the A180;
- Section 2 – Links from the A180 to the south of Immingham to the A46, just to the west of the A18 at Laceby;
- Section 3 – Routes 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 – Connects from the B1200 to Theddlethorpe.

~~1.2~~1.3 Report Structure

~~1.2.1~~1.3.1 Following this introductory chapter, this Transport Assessment includes the following sections:

- Section 2 – outlines relevant National and Local Policies;
- Section 3 – summarises existing baseline conditions;
- Section 4 – provides details of the Proposed Project;
- Section 5 – sets out ~~details~~ the distribution of the construction traffic;
- Section 6 – details the construction trip generation;
- Section 7 – assesses the impact of local committed developments; and
- Section 8 – summarises the findings and provides an overall conclusion.

2 Transport Policy

2.1 Introduction

2.1.1 This section of the Transport Assessment sets out the policy context in relation to the Proposed Development in terms ~~, as it relates to~~ of traffic and transport.~~, within which the application has been developed~~. The following key policy documents are considered:

- National Policy Statements EN-1 and EN-4;
- National Planning Policy Framework (NPPF) (2023);
- Department for Transport Planning Policy Paper (DfT Circular 01/2022);
- National Highways 'The Strategic Road Network: Planning for the Future Guide' (2015);
- Lincolnshire Local Transport Plan;
- North East Lincolnshire Local Transport Plan; and
- North Lincolnshire Local Transport Plan.

2.2 Policy

National Planning Policy

2.2.1 This assessment takes into consideration the relevant National Policy Statements (NPS), including the~~ drafts~~ most recent documents published in ~~March~~ 2023, which are matters that will be integral~~important~~ to the decision-making process. The relevant NPSs are:

- Overarching National Policy Statement for Energy (EN-1) (2011~~)~~ and ~~(~~2023)
- National Policy Statement for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (2011 and ~~2023~~ 2024)

2.2.2 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 regard to traffic and transportation issues, only EN-1 directly applies, with no reference to traffic impact beyond noise and vibration considerations being included within EN-4. As the Viking CCS Pipeline application was accepted for examination prior to the designation of the 2024 National Policy Statements, it is the 2011 versions that are applicable to this application. Although the NPS's designated in 2024 do not directly apply to this application they are capable of being important and relevant in its determination

2.2.3 **Table 2-1~~Table 2-1Table 2-1~~** outlines the relevant paragraphs from the traffic and transport section of EN-1. An overview of how ~~relevant national planning policy statements has~~NPSs have been complied with is provided within the *Planning Statement (Application Document 7.1)*.

Table 2-~~11~~2-~~12~~-~~12~~-~~1~~: National Policy Statement Policies Relevant to Traffic and Transport

Policy Reference	Policy Context
Overarching National Policy Statement for Energy (EN-1) (2011)	

Policy Reference	Policy Context
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 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) (2024~~3~~)	
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. This could include identifying opportunities to:* ~~*"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."*~~ • *reduce the need to travel by consolidating trips;* • *locate development in areas already accessible by active travel and public transport;* • *provide opportunities for shared mobility;* • *re-mode by shifting travel to a sustainable mode that is more beneficial to the network;* • *retime travel outside of the known peak times; and* • *reroute to use parts of the network that are less busy."*
Paragraph 5.14.14	*"the Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that:*

Policy Reference	Policy Context
	• *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.~~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

2.2.4 The National Planning Policy Framework (NPPF) (**Ref 12-1**) sets out Central~~the~~ Government's economic, environmental, and social planning policies for England. The policies set out in this framework apply to the preparation of L~~l~~ocal and N~~n~~eighbourhood P~~p~~lans and to decisions on planning applications. The latest version of NPPF was released in early September 2023.

2.2.5 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.

2.2.6 The NPPF has a presumption in favour of sustainable development, which should be reflected in L~~l~~ocal D~~d~~evelopment P~~p~~lans and F~~f~~rameworks 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.

2.2.7 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.

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

2.2.9 Extracts from the National Planning Policy Framework 2023 relevant to Traffic and Transport is detailed in **Table 2-2~~Table 2-2~~Table 2-2~~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 2-222-22-22-2~~2~~: National Planning Policy Framework Policies Relevant to Traffic and Transport

Policy Reference	Policy Context
Paragraph 106	States that planning policies should *"b) be prepared with the active involvement of Llocal Hhighways Aauthorities, 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 Pplans, 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*"
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*."

Department for Transport Planning Policy Paper, DfT Circular 01/2022, The Strategic Road Network, and the Delivery of Sustainable Development

2.2.10 DfT Circular 01/2022 sets out the way in which National Highways will engage with communities and the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic network.

2.2.11 The planning document was submitted in conjunction with the NPPF in relation to the Strategic Road Network (SRN). The SRN refers to the trunk motorways and all-purpose trunk roads in England.

2.2.12 This document sets out the way in which National Highways will engage with the parties and development proposals to assist sustainable development. A successful development will depend upon a movement network that connects destinations, places and communities. Plan-making and decision-taking should ensure that developments optimise the potential of sites to support local facilities and sustainable transport networks.

2.2.13 Any creation of new connections on the SRN should be identified at planning stages, assessed and mitigated appropriately, and will be decided on a case-by-case basis by National Highways following commitments to modal shift where possible, and if all in accordance with current design and safety guidelines. Successful developments are considered to be those dependent on a movement network that makes connections to destinations, places and communities, both within the development site and beyond its boundaries.

2.2.14 National Highways must be consulted in the development process and should co-operate as far as reasonably practicable with other parties, within acceptable timeframes.

2.2.15 When a Transport Assessment is required, this should seek to test scenarios to determine optimum design for the development, including existing and forecasted trips on the SRN, as well as any committed developments. If a development has unacceptable safety or cumulative impact on the SRN, improvements may need to be put forward.

2.2.16 Developments use of the SRN must not compromise the SRN's prime function to enable long distance movement of people and goods. Promotion of alternative transport modes must be considered when appropriate.

The Strategic Road Network: Planning for the Future – National Highways 2015

2.2.17 This Guidance sets out the National Highways approach to engaging with planning documents and applications, setting out what is expected to be included within these documents for Local Authorities, developers and other parties. The document is applicable to the SRN, comprising of motorways and all purpose trunk roads in England. Enabling efficient movement of people and goods across the SRN generates economic growth in the UK.

2.2.18 To allow for proactive engagement with National Holidays, the following values are suggested as important:

- Engaging early at preparation stages;
- Working openly to support development of infrastructure options;
- Share evidence of analysis, relevant data and traffic models;
- Sharing knowledge of how the SRN interacts with local roads and any consequences that can arise from development; and
- Work collaboratively to help prepare well designed policies.

2.2.19 National Highways commits to working towards a more proactive and collaborative approach to national and local growth. To encourage this, it is suggested that developments should be promoted by Local Authorities and developers at locations that can be made sustainable.

2.2.20 When assessing developments, the overall forecast demand on the SRN and surrounding local road network should be analysed and compared to the ability of the existing network to accommodate traffic. For developments which will be brought forward in phases, this

assessment should focus on the overall forecast demand of the development as a whole, not just the initial phases.

2.2.21 Management of traffic through means such as travel plans should be implemented where appropriate.

Local Policy

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

- Central Lincolnshire Local Plan Adopted 2023;
- North East Lincolnshire Local Plan 2013 to 2032;
- Lincolnshire Local Transport Plan (2013/14 – 2022/23);
- North East Lincolnshire Local Transport Plan (2016-2032); and
- North Lincolnshire Transport Plan (2011-2026).

Central Lincolnshire Local Plan Adopted 2023

2.2.112.2.23 The relevant As it relates to traffic and transport the relevant policies comprise:can are 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 DCTMP to limit as far as possible the construction impact.

North East Lincolnshire Local Plan 2013 to 2032

2.2.122.2.24 The most recent Eexamination of the Local Plan was adopted in 2018 and in terms of traffic and transport the key policies are:.

- 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 in transport and movement termsas it relates to traffic and transport should consider the effects of highway safety and network capacity.
- Policy 36 – Promoting sustainable transport, which aims to reduce congestion and improve environmental quality. This willould then support any measures adopted by the Contractor through the DCTMP to limit as far as possible the construction impact.

Lincolnshire Local Transport Plan

2.2.132.2.25 This Pplan 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 Pplan, 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

2.2.142.2.26 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 Ttransport Pplan 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

2.2.152.2.27 North East Lincolnshire Council's Local Transport Plan has been developed to facilitatesupport 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 Pplan 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.

3 Baseline Conditions

3.1 Introduction

3.1.1 This section of the Transport Assessment sets out the location of the Proposed Development and provides a summary of the existing highway conditions relevant to the Pproject, with further, more detailed analysis included within **Appendix 12-1** (*Application Document 6.4.12.1)* and, where appropriate, has been divided into the five route sections as outlined above in **Figure 1-1** for ease of reference.

3.2 Local Highway Network

3.2.1 A full description of the highway network within each of the five sections of the Proposed Development ~~is included within **Section 12.6 to 12.10** of *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12),* with only the key highway~~ road links set out in this section below.

3.2.2 The ~~Viking CCS Pipeline~~Proposed Development covers three local highway~~s~~ authority (LHA) areas~~ies~~, namely Lincolnshire County Council, North Lincolnshire Council and North East Lincolnshire Council. The ~~Pipeline~~Proposed Development also requires the use of with the SRN, governed by~~, as well as~~ National Highways. This section briefly describes the highways~~roads~~ within the area, focusing on those proposed as potential construction routes.

~~3.2.3~~ A-Roads include the A160, A180, A1173, A18, A1031 and A16, which then provide connections to major settlements within the area, such as Louth, Grimsby, and Immingham and to other roads which in turn connect the area to external destinations such as Hull, Scunthorpe, and Lincoln.~~.~~

~~3.2.4~~3.2.3 ~~The relevant section of the A180 routes~~uns between Brocklesby Interchange and ~~Lockhill Roundabout, just north of Grimsby Town Centre. The section of the A160 listed as a construction route is between Brocklesby Interchange and the roundabout to the east with Manby Road, near to where the Immingham Facility is proposed to be located. The relevant section of the A1173 runs to the east of Immingham continuing to Riby where it meets with the A18. The construction route of the A18 runs southwards to the junction with the A16 south of Ludborough. The A16 construction route runs from Grimsby through to the south of Louth. The construction route on the A1031 runs from just outside of Grimsby, towards the Theddlethorpe Facility.~~

3.2.4 Other notable highways~~roads~~ include lower capacity routes~~smaller roads~~ between the A16 and A1031 just north of Louth. This provides connections between the two roads and passes through small towns such as Little Grimsby, Yarburgh, and South Somercotes.

3.2.5 A breakdown of which key roads fall into each section of the pipeline are set out below:

Section 1

3.2.6 Key roads identified across Section 1 are;

- A160; and
- A1173.

3.2.7 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.

3.2.8 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).

3.2.9 Also, Killingholme Road, the B1210, and Mill Lane are construction routes within this section. Both Killingholme Road and the B1210 are one lane in each direction with no central reservation.

Section 2

3.2.10 Key roads identified across Section 2 are;

- A18;
- A1173;
- B1210;
- Wells Road; and
- A46.

3.2.11 The A1173 is a p~~P~~rimary road. The portion of road relevant to Section 2 runs from Stallingborough Interchange, where the A180 can be accessed via a large ~~20~~unsignalized 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.

3.2.12 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.

3.2.13 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.

3.2.14 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.

3.2.15 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 section 2). The route is likely characterised differently along its full extent, however, in the section relevant to the construction routes of the scheme the route is rural, single lane in each direction, with little / no footway provision, and at national speed limit.

3.2.16 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.

Section 3

3.2.17 Key roads identified across Section 3 are;

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

3.2.18 The A18 runs a north-south alignment in Section 3, before turning east to join the A16 just south of Ludborough. During this section of the A18 the road is single lane in both directions with no pavement provision and national speed limit applied.

3.2.19 The A16 runs to the east of the Proposed Development for much of section 3. Just south of North Thoresby the Proposed Development intersects with the A16 before continuing to the east of the A16 close to where section 3 ends 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.

3.2.20 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.

3.2.21 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 heavy goods vehicles.

3.2.22 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 4 begins.

Section 4

3.2.23 Key roads identified across Section 4 are;

- A16; and
- B1200.

3.2.24 The A16 runs north – south through section 4. It provides connection from Grimsby to the southern section of the study area. The A16 runs via Louth, located in the south of section 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.

3.2.25 The B1200 runs east to west along the southern extent of section 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.

Section 5

3.2.26 Key roads identified across Section 5 are;

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

3.2.27 The A1031 runs 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.

3.2.28 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.

~~3.2.5~~3.2.29 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.

3.3 Other Transport Modes

3.3.1 Given the rural nature of the construction area it would be unlikely that sustainable transportation, such as public transport and active travel modes will be used extensively by construction workers. The feasibility of these modes split by section is set out below.

Walking

3.3.2 Walking is considered to be a viable alternative to car journeys up to 2 km away and can also form part of a larger journey when using public transport.

Section 1

3.3.3 Section 1 of the Pipeline is to the north of Immingham, between Rosper Road in the north and the A180 in the south.

3.3.4 Although Immingham is within 2km of the Pipeline and is well serviced by footways, there is a lack of pedestrian infrastructure along local roads such as the A160 and Manby Road which do not provide footways. This restricts accessibility by foot in this Section.

3.3.5 There are several Public Rights of Way (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 routes north - south connecting from other PRoWs in South Killingholme, north of the route corridor, to Mill Lane. Route 185 runs north - south from the coast to Rosper Road.

Section 2

3.3.6 Section 2 of the Pipeline routes from the south of the A180 to the north of the A46, with the nearest settlements being the villages of Keelby and Laceby as well as Stallingborough and Healing further to the east of the Pipeline.

3.3.7 Though the local villages offer pedestrian access, access to key roads such as Stallingborough Road, the A1173, the A18 and Wells Road have inconsistent provision of footways and lack street lighting, therefore this Section of the Site cannot be considered readily accessible on foot.

3.3.8 There are several PRoWs which intersect the route corridor. These are Route 4, Route 26, Route 116, Route 119 and Route 130.

- Route 4 runs alongside the railway line between Habrough and Stallingborough.
- 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.
- Routes 119 and 130 run from the A18 towards Irby Upon Humber. As well there is PRoW alongside the railway line which intersects with the route corridor.

Section 3

3.3.9 Section 3 of the Pipeline runs south of A48 to the north of Pear Tree Lane. Generally surrounding this section of Pipeline are a few residential areas, with the closest being Waltham to east of the Pipeline.

3.3.10 Access for pedestrians is considered poor, due to a lack of footway provision along local A roads such as the A16 and A18 and there is limited street lighting. Smaller farm tracks also make up part of the local road network, which ~~is~~are ~~also~~ likely to be relatively inaccessible for pedestrians.

3.3.11 There are several PRoWs intersecting the 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.

3.3.12 These routes will be given consideration in the overall assessment for both traffic and other disciplines.

Section 4

3.3.13 This section of the Pipeline runs south from Pear Tree Lane to the north of the B1200. There are several small residential areas close to the Site with the largest being Louth. Although Louth and smaller residential areas nearby are considered accessible on foot locally, access for pedestrians is considered poor, due to a lack of footway provision and street lighting along local A and B roads. Smaller farm tracks also consist of part of the local road network, which is also considered inaccessible for pedestrians due to a lack of footways and lighting.

3.3.14 There are seven PRoWs intersecting the section 4 route.

- One route is the Utte/83/1, Utte/83/2 and Utte/78/1 this runs from Grove Farm to the right 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
- The NCoc/67/1 and NCoc/68 routes runs east-west from Keddington Corner Farm to Lock Road.

Section 5

3.3.15 Section 5 runs from the south of the B1200 to Mablethorpe, where the Pipeline ends to the east of the A1031. The residential areas of Mablethorpe and Theddlethorpe are located close to this section of Pipeline. Mablethorpe is considered accessible on foot, with other villages having some pedestrian provision. However, access for pedestrians is considered poor overall in the area, due to inconsistent footway provision and lighting along local roads such as the A1031 and B1200. Smaller farm tracks also consist of part of the local road network, which is also likely to be inaccessible for pedestrians.

3.3.16 There are three PRoW which intersects the route in Section 5. These are namely:

- Route GayM/193/1, which runs east west across the corridor from Theddlethorpe All Saints towards Clayton Le Marsh.
- Route GayM/193/1, which runs 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 runs from the A1031 to High Gate.
- Route ThSH/253/1 which runs from the north of Mablethorpe to link with the A1031.

3.3.17 As such consideration will be given to this route as part of the overall assessment.

Cycling

3.3.18 Cycling can be considered a viable alternative to longer car journeys of distances up to 8 km in distance. It is recognised that a significant proportion of construction workers may be unlikely to cycle to Site due to the need to bring tools and personal protective equipment to work each day, however the sections below provide a brief overview of facilities / opportunities to cycle.

Section 1

3.3.19 Generally, cycle provision surrounding Section 1 of the pipeline is limited. Some of the local in Immingham may be appropriate for confident cyclists though more strategic -roads such as the A160 and A180 close to the Site may not be suitable due to high speed limits and no cycle lanes. There are no allocated cycle facilities available near to Section 1 of the Pipeline.

3.3.20 Section 1 of the Pipeline has no National Cycle Network (NCN) on-road / off-road routes nearby.

Section 2

3.3.21 Generally, cycle provision surrounding Section 2 of the Pipeline is limited. Some of the local roads such as the A1173 or Aylesbury Road, may be appropriate for confident cyclists though there is a lack of overhead lighting.

3.3.22 In terms of the NCN, there are no routes intersecting the route corridor, however, there are cycle routes on Limber Road to the east of the route corridor in Section 2. This route is on-road which is of standard quality and along a minor road.

Section 3

Generally, cycle provision surrounding Section 3 of the Pipeline is limited. Some of the local roads in Waltham may be appropriate for confident cyclists though more strategic roads such as the A16 close to the Proposed Development will be less suitable due to higher speed limits and no allocated cycle lanes.

3.3.23

3.3.24 In terms of the NCN, there is on road cycle infrastructure along a short stretch of the A18 out of Beelsby, and then along Beelsby Road near to Barnoldby le Beck.

Section 4

3.3.25 Generally, cycle provision surrounding Section 4 of the Pipeline is limited. Some of the local roads such as the Alvingham Road or Louth Road may be appropriate for confident cyclists. There are no other allocated cycle facilities available near to Section 4 of the Pipeline.

3.3.26 There are no NCN designated routes within this area.

Section 5

3.3.27 Generally, cycle provision surrounding section 5 of the pipeline is limited. Some of the local roads such as the B1200 road, may be appropriate for confident cyclists. There are no other allocated cycle facilities available near to Section 5 of the pipeline.

3.3.28 In terms of the NCN, there are no routes within this area.

Public Transport

3.3.29 Buses and trains offer alternatives to long haul car journeys for construction staff, though must be accessible in order to be beneficial.

Section 1

3.3.30 In close proximity to Section 1 of the Pipeline, there is some potential to benefit from the local bus and rail networks. Habrough train station is 2 kms away from the Pipeline at the closest point, which provides services to Cleethorpes and Liverpool Lime Street hourly, and services to Grimsby Town, Leicester, Lincoln, Nottingham, Barton-on-Humber and Cleethorpes bi-hourly during the week.

3.3.31 The nearest provision of bus services run through Immingham and are listed in Table 3-1.

Table 3-~~13~~: Section 1 Local Bus Services

Service No.	Service Provider	Route	Weekday Frequency
5	Stagecoach East Midlands	Immingham County Hotel to Old Clee Hewitts Avenue	Every 30 minutes.
5M	Stagecoach East Midlands	Stallingborough Catch Training Centre to Grimsby Riverhead Exchange	1 AM service only at 06:30 and 4 evening services, every 30 minutes from 16:15.

5S	Stagecoach East Midlands	Immingham County Hotel to Grimsby Riverhead Exchange	1 AM service only at 07:45 and 1 PM service from 15:00.
260	Stagecoach East Midlands	Immingham County Hotel to Barton-upon-Humber Tesco	4 services in each direction from 09:00 to 16:00.

Section 2

3.3.32 Near to Section 2 of the Pipeline, provision of public transport is centred on some local bus services. There are no local train stations.

3.3.33 The nearest provision of bus services are in Healing and along the A1173 (5, 5M and 5S), the A18 and Keelby (250), and in Laceby (250 and 53 InterConnect). These are listed in Table 3-2.

Table 3-24. Section 2 Local Bus Services

Service No.	Service Provider	Route	Weekday Frequency
5	Stagecoach East Midlands	Immingham County Hotel to Old Clee Hewitts Avenue	Every 30 minutes.
5M	Stagecoach East Midlands	Stallingborough Catch Training Centre to Grimsby Riverhead Exchange	1 AM service only at 06:30 and 4 evening services, every 30 minutes from 16:15.
5S	Stagecoach East Midlands	Imminghan County Hotel to Grimsby Riverhead Exchange	1 AM service only at 07:45 and 1 PM service only at 15:00.
53 InterConnect	Stagecoach East Midlands	Grimsby Town Centre to Lincoln via Market Rasen	Every 60 minutes.
250	Stagecoach East Midlands	Grimsby Riverhead Exchange to Hull Interchange	Every 60 – 90 minutes.

Section 3

3.3.34 Local to Section 3 of the Pipeline, provision of public transport is via the local bus network. There are no train stations within close proximity of the Pipeline; only Ludborough railway station which is part of a heritage track that runs on weekends only.

3.3.35 The nearest provision of bus services are along the A18 (25 and 53B InterConnect) and in Waltham (9 and 10). The services are listed in Table 3-3.

Table 3-~~35~~. Section 3 Local Bus Services

Service No.	Service Provider	Route	Weekday Frequency
9	Stagecoach East Midlands	Waltham Barnoldby Road to Old Clee Hewitt's Avenue	Every 30 minutes.
10	Stagecoach East Midlands	Waltham Barnoldby Road to Old Clee Hewitt's Avenue	Every 30 minutes.
25	Stagecoach East Midlands	Grimsby Riverhead Exchange to Market Rasen	1 service to Grimsby at 09:30, and 1 service to Market Rasen at 13:30, on Tuesdays and Fridays only.
53B InterConnect	Stagecoach East Midlands	Grimsby Town Centre to Lincoln via Market Rasen	Every 60 minutes.

Section 4

3.3.36 Around Section 4 of the Pipeline, there is a range of local bus services but no rail connections.

3.3.37 The nearest provision of bus services are along the A16 (28, 51 and 51B), and in Louth (24, 26 Call Connect, 27 Call Connect, 28, 40 Louth Nipper, 40A Louth Nipper, 40B Louth Nipper, 50, 51 and 51B). Table 4 lists the local bus services/

Table 3-~~46~~. Section 4 Local Bus Services

Service No.	Service Provider	Route	Weekday Frequency
24	PC Coaches	Louth to Horncastle	3 services in each direction per day from 09:00 to 14:20.
26 Call Connect	PC Coaches	Louth to Market Rasen	1 service only to Louth at 10:00 and 1 service only to Market Rasen at 13:00.
27 Call Connect	PC Coaches	Louth to Market Rasen	1 service only to Market Rasen at 09:00 and 1 service only to Louth at 13:30.
28	Grayscroft Coaches	Alford to Grimsby via Mablethorpe	1 service only to Grimsby at 09:00 and 1 service only to Alford at 13:45 on Tuesdays only.
40 Louth Nipper	PC Coaches	Louth bus station circular route	Every 120 minutes.
40A Louth Nipper	PC Coaches	Louth bus station circular route	Every 60 minutes.
40B Louth Nipper	PC Coaches	Louth bus station circular route	Every 120 minutes.
50	PC Coaches	Lincoln to Mablethorpe via Louth	Every 120 minutes.
50A	PC Coaches	Lincoln to Mablethorpe via Louth	Every 120 minutes.
51	Stagecoach East Midlands	Grimsby Riverhead Exchange to Louth Bus Station	Every 60 minutes.
51B	Stagecoach East Midlands	Louth Bus Station to Grimsby Riverhead Exchange	1 afternoon service only at 16:00 per day.

Section 5

3.3.38 Near to Section 5 of the Pipeline, the provision of public transport is centred on the local bus network. There are no train stations within close proximity of the Pipeline.

3.3.39 The nearest provision of bus services are along the A1031 (1, 28, 50A, GR18 and N100S) and in Mablethorpe (1, 28, 50A, GR04, GR18 and N100S). These are listed in Table 3-5.

Table 3-~~57~~. Section 5 Local Bus Services

Service No.	Service Provider	Route	Frequency
1	Grayscoft Coaches	Alford to Louth via Mablethorpe	1 service only to Louth at 09:00 and 1 service to Alford at 13:30.
28	Grayscoft Coaches	Alford to Grimsby via Mablethorpe	1 service only to Grimsby at 09:00 and 1 service only Alford at 13:45 on Tuesdays only.
50	PC Coaches	Lincoln to Mablethorpe via Louth and Maltby Le Marsh	Every 60-120 minutes.
50A	PC Coaches	Louth to Mablethorpe via Manby	Every 120 minutes.
GR04	Grayscroft Coaches	Mablethorpe to Alford	2 services to Alford at 09:00 and 15:00 and 2 services to Mablethorpe at 08:40 and 15:00.
GR18	Grayscroft Coaches	Mablethorpe to Alford	1 service only to Alford at 07:50 and 1 service to Mablethorpe 15:45.
N100S	Grayscroft Coaches	Mablethorpe to Theddlethorpe All Saints	1 service only to Theddlethorpe at 08:15 and 1 service to Mablethorpe at 15:40.

3.3.40 .–Car sharing and mini-bus shuttling will be promoted to reduce the number of single occupancy car journeys on the network and promote efficiencies and sustainable practices.

~~3.3.1~~3.3.41 Once workers reach their respective compounds mini-buses will be used to transfer workers from one of the three main compounds to their daily working area which will limit the impact on the mainly local highway network. These measures have been detailed in document reference 9.23 Outline Construction Worker Travel Plan (OCWTP [**REP2-034**]) which has been submitted to National Highways and the Examining Authority

3.4 Road Safety

3.4.1 A full analysis of the road safety data on the local highway network for the most recently available full five-–year period (2017-2021) has been obtained from the relevant Local Highway Authority, and is included within Baseline **Sections 12.6 to 12.10** of *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*, with only a brief analysis being included within this TA.

Route Section 1 – Immingham to the A180

3.4.2 The Personal Injury Collision (PIC) data within Section 1 for the local road network within the vicinity of the Section 1 pipeline, can be summarised within Table 3-6~~Table 3-6~~~~Table 3-1. below.~~

Table 3-683-13-13-1: Section 1 Accident Overview by Year, 2017 - 2021

Year	Slight	Serious	Fatal	Total
2017	813	44	00	127
2018	1017	1011	00	208
2019	815	69	00	1424
2020	512	68	00	1120
2021	1422	03	00	1425
Total	**4579**	**2635**	**0**	**11471**

3.4.3 **Table 3-6Table 3-6Table 3-1** shows that 2018 was the year with the highest number of accidents, with approximately 560% being classified as "slight" in severity and the other 540% classified as "serious". The year with the lowest number of accidents occurring is 202017, during this year 524% of accidents were classified as serious. No fatal accidents occurred in section 1 during the five-year period analysed.

3.4.4 Road links that had multiple collisions are shown by link are shown below.

Table 3-79: Section 1 Accident Overview by Link

Link	Slight	Serious	Fatal	Total
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

3.4.3

Strategic Road Network Safety

3.4.5 Following consultation with National Highways, in addition to the above analysis the SRN (A160 and A180) have been analysed over the most recently available full five-year period, with causation considered.

3.4.6 The PIC data along both roads in the area is summarised within the tables below.

Table 3-~~8103-23-23-2~~: A160 Accident Overview by Year, 2019 - 2023

Year	Slight	Serious	Fatal	Total
2019	1	0	0	1
2020	4	0	0	4
2021	2	1	0	3
2022	1	0	0	1
2023	0	0	0	0
Total	**8**	**1**	**0**	**9**

3.4.7 When analysing this data, causation has been considered for the A160. For the accidents recorded in Table 3-8, 66% had an initial, secondary or tertiary contributory factor, of 'Careless/Reckless/In a hurry' by the driver. Other factors suggest human error, with 22% of contributory factors being from 'failing to look properly', 'alcohol impairment', or from 'dazzling sun', and 44% failing to judge the path or speed of others. There are other factors listed for the accidents, though the majority appear to indicate human error rather than safety or quality of road, or speed limit concerns.

Table -3-~~9113-33-33-3~~: A180 Accident Overview by Year, 2019 - 2023

Year	Slight	Serious	Fatal	Total
2019	5	0	0	5
2020	6	3	0	9
2021	9	2	0	11
2022	2	0	0	2
2023	4	3	2	9
Total	**26**	**8**	**2**	**36**

3.4.8 When analysing this data, causation has been considered for the A180. For the accidents recorded in Table 3-9, 33% had an initial, secondary, or tertiary contributory factor of 'Failed to judge other persons path or speed'. 19% of accidents had a contributory factor of a 'loss of control', and 17% were 'careless/reckless/in a hurry'. There are other factors listed for the accidents, though the majority appear to indicate human error rather than safety or quality of road, or speed limit concerns.

3.4.9 For both fatal accidents in 2023, there is no evidence in the causation factors that appears to indicate issues with the safety or quality of road, or speed limit concerns. The fatal accident in March 2023 involved a stationary vehicle with no displayed lights in the dark, and the other accident in October 2023, suggested the incorrect use of a pedestrian crossing facility was the contributing factor.

~~3.4.4~~

Route Section 2 – A180 to the south of Immingham to the A46, to the west of the A18 at Laceby;

~~3.4.5~~3.4.10 PIC data has been analysed and is presented in **Table 3-10~~Table 3-10~~Table 3-4**.

Table 3-10123-43-43-4: Section 2 Accident Overview by Year, 2017 - 2021

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**

3.4.63.4.11 **Table 3-10Table 3-10Table 3-4** shows that the highest number of accidents occurred in 2019 and in total there were 267 incidentsaccidents that occurred within Ssection 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.

3.4.12 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 five5 fatal accidents across the five-year period, with two2 of these incidentsaccidents occurring in 2017, and one1 in each year of 2019, 2020, and 2021.

3.4.13 Road links that had multiple collisions are shown by link are shown below.

Table 3-1113: 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

3.4.7

Route Section 3 – West of Laceby to Pear Tree Lane, to the east of the A18 close to Ludborough;

3.4.83.4.14 PIC data has been analysed and is presented in **Table 3-12Table 3-12Table 3-5**.

Table 3-12143-53-53-5: Section 3 Accident Overview by Year, 2017 - 2021

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**

~~Table 3-12~~

~~Table 3-12~~

~~3.4.9~~3.4.15 ~~**Table 35**~~ reports~~shows~~ that the year with the highest number of accidents was 2019, with 26% of all incidents~~accidents~~ occurring in this year. The data demonstrates that over the 5-year period 79% are classified as slight in severity, 21% as serious, and under 1% as fatal.

3.4.16 Data also shows that 2020 and 2021 have a lower number of accidents, of all types, than 2018 and 2019, potentially suggesting collisions~~accidents~~ are reducing over time. However, it should be recognised~~must be noted~~ that there were ongoing Covid~~COVID-19~~ imposed restrictions during 2020 and 2021~~at the time~~ which could have impacted on traffic volumes.

3.4.17 Road links that had multiple collisions are shown by link in Table 3-13~~are shown~~ below.

Table 3-1315: 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
B1444	11	5	0	16
B1212	14	1	0	15
Carr Lane	13	2	0	15

~~3.4.10~~

Route Section 4 – Pear Tree Lane to the B1200 to the east of Manby

~~3.4.11~~3.4.18 PIC data have been analysed and is presented in **Table 3-14~~Table 3-14~~Table 3-6**.

Table 3-14~~163-63-63-6~~: Section 4 Accident Overview by Year, 2017 - 2021

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**

~~**Table 3-14**~~

~~**Table 3-14**~~

3.4.19 ~~**Table 36**~~ reports~~shows~~ a total of 286 collisions ~~were~~ recorded across the ~~highway~~ local road network within S~~s~~ection 4 across the five-year period. ~~,~~ 208 of these collisions were considered slight in severity, 72 were serious, and six~~6~~ were fatal. The year with the highest number of collisions was 2019. Data highlights a reduction~~drop~~ in accidents during 2020,

although this could be due to restrictions on travel during the Covidongoing pandemic. restrictions which in many areas reduced traffic flows.

3.4.20 Road links that had multiple collisions are shown by link below.

Table 3-1517: 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

3.4.12

Route Section 5 –B1200 to Theddlethorpe

3.4.133.4.21 PIC data have been analysed and is presented in **Table 3-16Table 3-16Table 3-7**

Table 3-16183-73-73-7: 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**

3.4.22 **Table 3-16Table 3-16Table 3-7** shows that 85 collisions were recorded across the highway network in Ssection 5 in the five-year period between 2017 and 2021. The most accidentscollisions happened in 2017 and 2019, with 19 collisions across section five5 in both these years, albeit the variation in the numbers of reported incidents by Year was marginal. There were two2 fatal collisions during the time period, with these occurring in 2018 and 2020.

3.4.23 Road links that had multiple collisions are shown below.

Table 3-1719: 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

3.4.143.4.24 From the accident data, considering contributory factors across the 5 sections of the road network, it is not considered to show any recurring patterns of accidents occurring in clusters, or occurring due to similar contributory factors that are likely to be exarcebatedexacerbated by additional trips generated by the development. Generally, accidents have fallen 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 noted.

3.5 Traffic Data

Baseline Traffic

3.5.1 The Bbaseline traffic data is set out in **Appendix 12-1,** and the key points are summarised in this section of the TAbelow.

3.5.2 Automated Traffic Counts (ATCs) were undertaken by Nationwide Data Collection (NDC) and Transport Surveys (TS) on the following dates to provide one week's worth of traffic data:

- Week commencing 13th July 2022 - ;NDC;
- Week commencing 23rd November 2022 - TS, and
- Week commencing 21st June 2023 - NDC.

3.5.3 The surveys undertaken in July 2022 were used to inform the Preliminary Environmental Impact Report (PEIR), with the additional surveys undertaken in November 2022 and June 2023 surveys carried out undertaken to include additional highway links that were identified post PEIR as the ES chapter was progressed.

3.5.33.5.4 WEBTRIS data has also been used accessed from the DfT portal, for links 44, 77 and 78.

3.5.43.5.5 The Bbaseline traffic flows are documented in **Table 3-18**. A can then be set out as follows, with a location plan for the ATC sites is included in the Introduction chapter atincluded as **Figures 1-1 and 1-2.** above.

Table 3-18203-83-83-8: 2022/2023 Baseline 24hr AADT All Vehicles and HGVS

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
1	B1210	9,198	602	7%

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
2	A1173	5,755	631	11%
3	A160	10,637	4,287	40%
6	A18	5,973	926	16%
7	Waltham Road 1	4,776	380	8%
9	A16	10,797	1,287	12%
10	Thoroughfare	229	18	8%
11	White Road	1,687	263	16%
12	A18	5,259	895	17%
13	A16	11,384	1,421	12%
14	A46	7,229	817	11%
15	A46 - Grimsby Road	14,885	1,449	10%
16	Washingdales Llane	111	5	5%
18	A1173	3,292	531	16%
19	A18 - Barton Street North	12,318	1,744	14%
20	A18 - Barton Street South	9,892	1,304	13%
21	A16 Peaks Parkway	15,485	1,396	9%
22	Pear Tree Lane	2,098	248	12%
23	Ings Lane	274	30	11%
24	Alvingham Road	791	63	8%
25	Yarburgh Road	577	67	12%
26	Westfield Road	536	44	8%
27	A18	3,666	640	17%
28	A16	15,211	1,810	12%
29	Louth Bypass	13,812	801	6%
30	B1200 Manby Middlegate	3,856	411	11%
33	Saltfleet Road	3,159	327	10%
35	Thacker Bank	181	23	13%
36	Thacker Bank	2,044	164	8%
38	Three Bridge Lane	1,892	983	52%
39	Mill Road	2,131	198	9%
41	Habrough Road	4,054	308	8%
42	A1173	7,027	1,846	26%
44	A160	14,636	5,898	40%
45	Killingholme Road	4,109	372	9%
49	A180 – Westgate	28,737	1,437	5%
50	Grimsby Road	12,764	178	1%
51	A1031	4,312	56	1%

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
52	Thoresby Road	2,795	35	1%
53	A1031 Main Road	2,604	58	2%
54	Warren Road	3,033	59	2%
56	A1173	6,468	1,271	20%
57	Roxton Road	158	5	3%
59	Little Grimsby Lane	351	37	11%
60	Brackenborough Road	565	36	6%
61	Brackenborough Road 2	1,086	68	6%
62	North Holme Road	13,839	952	7%
63	Keddington Road	2,880	201	7%
64	Louth Road 1	2,087	143	7%
65	Mill Hill Way	2,284	191	8%
66	Red Leas Lane	82	8	10%
67	Pick Hill Lane	179	17	9%
68	Marsh Lane	1,595	195	12%
69	Louth Road 2	1,258	96	8%
70	Main Road	967	83	9%
71	Kings Street	678	48	7%
72	Weelsby Road	20,382	1,105	5%
73	A46 Laceby Road	17,283	1,087	6%
74	A16	14,927	1,242	8%
75	A1173 Manby Road	4,689	1,244	27%
76	Keelby Road	2,146	122	6%
77	A180 - East of A1173	27,236	4,357	16%
78	A180 - Between A1173 and A160	22,109	2,118	10%
79	Mablethorpe Road	3,033	59	2%
80	Rosper Road	3,800	1,583	42%

~~3.5.5~~3.5.6 The traffic flows~~above~~ have then been used as the basis for the assessment as set out within *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12).*

2026 Future Baseline

~~3.5.6~~3.5.7 Building~~Based~~ upon the ~~above~~ Baseline ATC data, the Ffuture Bbaseline traffic data has been forecast~~predicted~~ using an average daily traffic growth factor for the year 2026. This future baseline year reflects when construction traffic will be at the peak for the site, specifically in the months of August and September.~~.~~ For local routes within the various Authorities~~'s~~'s jurisdiction, TEMPRO growth factors set out in Table 3-9 have been utilised and applied to all vehicular traffic (HGV inclusive). ~~for all considered local road links apart from roads on the SRN (maintained by NH), as set out below.~~

Table 3-19213-93-93-9: TEMPRO Growth Factor

Local Authority	Daily Traffic Flow Growth Factor (2026)
East Lindsey	1.0571
North East Lincolnshire	1.0559
North Lincolnshire	1.0627
Daily Average	**1.0586**

3.5.8 When considering the SRN links, governed by NH, TEMPRO factors, separated into area and road type have also been applied to the appropriate roads (A160, A180). These factors are presented in Table 3-10.

Table 3-20: North East Lincolnshire Growth Factors by Road Type (2022-2026)

Area	Road Type	Factor
North East Lincolnshire 001	Motorway	1.0303
	Trunk	1.0302
	A Road	1.0145
	Minor	1.0153
	All	1.0193
North East Lincolnshire 007	Motorway	1.0245
	Trunk	1.0245
	A Road	1.0088
	Minor	1.0096
	All	1.0136
Average of North East Lincolnshire 001 and 007	Motorway	1.0274
	Trunk	1.0274
	A Road	1.0117
	Minor	1.0125
	All	1.0165

3.5.73.5.9 Therefore, taking the Bbaseline traffic data from **Table 3-8** and the TEMPRO growth factors frorom **Table 3-19** and **3-210** the 2026 Ffuture Bbaseline traffic can be set out as follows.

Table 3-21233-113-113-11: 2026 Future Baseline 24hr AADT All Vehicles and HGVS

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
1	B1210	9,737	637	7%
2	A1173	6,092	668	11%
3	A160	11,260	4,538	40%
6	A18	6,323	980	16%
7	Waltham Road 1	5,056	402	8%
9	A16	11,429	1,362	12%

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
10	Thoroughfare	242	19	8%
11	White Road	1,786	278	16%
12	A18	5,567	947	17%
13	A16	12,051	1,504	12%
14	A46	7,652	865	11%
15	A46 - Grimsby Road	15,757	1,534	10%
16	Washingdales lane	118	5	5%
18	A1173	3,485	562	16%
19	A18 - Barton Street North	13,039	1,846	14%
20	A18 - Barton Street South	10,471	1,380	13%
21	A16 Peaks Parkway	16,392	1,478	9%
22	Pear Tree Lane	2,221	263	12%
23	Ings Lane	290	32	11%
24	Alvingham Road	837	67	8%
25	Yarburgh Road	611	71	12%
26	Westfield Road	567	47	8%
27	A18	3,881	677	17%
28	A16	16,102	1,916	12%
29	Louth Bypass	14,621	848	6%
30	B1200 Manby Middlegate	4,082	435	11%
33	Saltfleet Road	3,344	346	10%
35	Thacker Bank	192	24	13%
36	Thacker Bank	2,164	174	8%
38	Three Bridge Lane	2,003	1,041	52%
39	Mill Road	2,256	210	9%
41	Habrough Road	4,291	326	8%
42	A1173	7,439	1,954	26%
44	A160	15,037	6,244	40%
45	Killingholme Road	4,350	394	9%
49	A180 - Westgate	30,420	1,521	5%
50	Grimsby Road	13,512	188	1%
51	A1031	4,565	59	1%
52	Thoresby Road	2,959	37	1%
53	A1031 Main Road	2,757	61	2%
54	Warren Road	3,211	62	2%
56	A1173	6,847	1,345	20%
57	Roxton Road	167	5	3%

ID	Road Name	All Traffic AADT	HGVs AADT	HGV%
59	Little Grimsby Lane	372	39	11%
60	Brackenborough Road	598	38	6%
61	Brackenborough Road 2	1,150	72	6%
62	North Holme Road	14,650	1,008	7%
63	Keddington Road	3,049	213	7%
64	Louth Road 1	2,209	151	7%
65	Mill Hill Way	2,418	202	8%
66	Red Leas Lane	87	8	10%
67	Pick Hill Lane	189	18	9%
68	Marsh Lane	1,688	206	12%
69	Louth Road 2	1,332	102	8%
70	Main Road	1,024	88	9%
71	Kings Street	718	51	7%
72	Weelsby Road	21,576	1,170	5%
73	A46 Laceby Road	18,295	1,151	6%
74	A16	15,801	1,315	8%
75	A1173 Manby Road	4,964	1,317	27%
76	Keelby Road	2,272	129	6%
77	A180 - East of A1173	27,982	4,476	16%
78	A180 - Between A1173 and A160	22,715	2,176	10%
79	Mablethorpe Road	3,211	62	2%
80	Rosper Road	4,023	1,676	42%

~~3.5.8~~3.5.10 The 2026 Future Baseline traffic forecasts have ~~above future baseline traffic data has~~ then been used to determine the impact of the construction traffic flows as set out in *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*.

4 Proposed Development

4.1.1 The Proposed Development comprises a new 24 ” (609 mm) diameter on-shore Ppipeline of approximately 55.5 km in length, which will transport Carbon Dioxide (CO2) from the Immingham industrial area to the Theddlethorpe area (as shown in **Figure 1-1**) ~~**Figure 1-1Figure 11**~~ on the Lincolnshire coast, where it will connect into the existing 36 ” (921 mm) diameter off-shore Lincolnshire offshore Gas Gathering system (LOGGS) pipeline.

4.1.2 The Proposed Development is an integral part of the overall Viking CCS Project, which intends to transport compressed and conditioned CO2 received at a facility at Immingham to store in depleted gas reservoirs under the Southern North Sea. The off-shore elements of the Viking CCS Project, including the transport of CO2 through the LOGGS Ppipeline to the Viking gas fields under the North Sea, are subject to a separate consenting process.

4.1.3 The key components of the Proposed Development are listed below ~~comprise:~~.

~~4.1.3~~ ***Immingham Facility***

4.1.4 The Immingham Facility is a permanent facility located to the south of the VPI Immingham site, which will facilitate five connections from emitters. The emitters capture, meter and compress any captured CO_2 for transport and connection to the Proposed Development. Each emitter would also undertake flow metering and compositional analysis to an agreed specification.

4.1.5 The Immingham facility would also include the following key components:

- -Inlet manifold with valve access platform;
- Permanent pig launcher and receiver to allow the onshore CO2 pipeline to be cleaned and inspected during commissioning and operation and be suitable for intelligent pigging;
- Common pig handling area for the pig receiver and launcher, which includes a projectile blast wall;
- High-integrity pressure protection system (HIPPS);
- Emergency Shutdown Valve (ESDV) for each pipeline and Isolation valves;
- Venting system including vent pipework, valves and vent stack. Permanent vent stato be a maximum of 24” diameter and up to 25 metres high;
- Various instruments installed on the pipework, including temperature, pressure and flow measurement;
- Central control room (CCR);
- Local equipment room (LER);
- Analyser house; and
- Supporting utilities.

4.1.6 The Immingham Facility would be secured by a single palisade security fence 3.2 m high.~~;~~

- ***Onshore Steel Pipeline***

4.1.7 An approximately 55.5 km 24 inch (”) on-shore steel Ppipeline (including cathodic protection) will be implemented with construction commencing from the northern end at the Immingham Facility and move in a southerly direction. ~~;~~

- ***Block Valve Stations***

4.1.8 Three Block Valve Stations, which allow pipeline sections to be isolated for operational and maintenance reasons are proposed along the pipeline route. These stations are known as: ~~;~~

- Block Valve Station 1, hereafter called Washingdales Lane BVS;
- Block Valve Station 2, hereafter called Thoroughfare BVS; and
- Block Valve Station 3, hereafter called Louth Road BVS.

4.1.9 The Block Valve Stations will be remotely monitored from the main control centre, with local control monitoring/control capable when maintenance personnel are physically on site. Each Block Valve Station would be electrically connected to the National Grid system, with these connections included within the order limits.

Theddlethorpe Facility~~;~~

4.1.10 The Theddlethorpe Facility is a permanent facility with final location to be confirmed. The facility will enable the CO2 to flow from the new 24" pipeline into the existing LOGGS (36") pipeline, and then onwards to be stored in the depleted gas fields within the southern North Sea.

4.1.11 The facility would comprise the following key components:

- LOGGS pipeline tie-in;
- Emergency Shutdown Valves;
- Pig receiver and launcher;
- High-integrity Pressure Protection System;
- Venting system including vent pipework, valves, and vent stack;
- Local equipment room (LER); and
- Supporting Utilities.

4.1.12 The Theddlethorpe Facility would be secured by a single mesh (e.g., weldmesh fencing), security fence 3.2 m high.

- ***Existing LOGGS Pipeline***

4.1.13 The Existing LOGGS P~~p~~ipeline and isolation valve to the extent of the Order Limits at Mean Low Water Springs (MLWS) is to be utilised~~;~~.

4.1.14 The proposed facilities at the Theddlethorpe Facility are principally to connect the new 24" onshore pipeline to the existing and re-purposed 36" LOGGS offshore pipeline which will allow the CO_2 to flow seamlessly from onshore to offshore and onwards to the proposed storage reservoir.

- This will be achieved through a simple pipeline configuration that will directly connect the two pipelines and will include an appropriate section that will increase the diameter of the pipe from 24" to 36". An additional connection is provided to allow for future carbon capture projects to connect to the facilities at Theddlethorpe.

4.1.15

Permanent access to facilities;

4.1.16 During construction and operation, permanent access will be maintained at facilities along the pipeline to allow for construction, operational, maintenance and emergency works.

Mitigation and landscaping works;

4.1.17 Before construction works, measures will be taken to avoid impacting the natural environment where possible, tosustain watercourses, woodlands, and PRoW.

4.1.18 Following construction works, reinstatement can then take place, with in-stream vegetation returned from its temporary locations, and the banks of watercourses replanted and reseeded where necessary in accordance with the reinstatement plans contained within the Landscape and Ecological Management Plan (LEMP).

Temporary construction compounds, laydown, parking and welfare facilities;

4.1.19 3 main temporary construction compounds are proposed, all of which will consist of pipe storage areas, welfare facilities, and plant storage maintenance areas/

4.1.20 The locations of explained below:

- Northern Compound - located to the south of Habrough Roundabout and the A160, approximately 21,500 m^2 in area. This is greenfield land (arable) and would be used as a main construction compound and pipe storage area. This is expected to hold around 3,000 sections of pipe (12 m lengths). Access would be via Harborough Road;
- Central Compound - located near Welbeck Hill to the east of Barton Street (A18), approximately 17,100 m^2 in area. This would be used as a construction compound and would act as the main pipe / material storage area. It would be able to hold 2,000 pipe sections (12 m lengths). Access is proposed to be from the A18; and
- Southern Compound - located at the car park on the former TGT site, approximately 13,000 m^2 in area. This would be used predominantly as a pipe storage area and is expected to hold up to 1,000 sections of pipe (12 m length).

4.1.21 To support construction works and the larger construction compounds discussed above, temporary facilities and laydown areas would be required. Temporary facilities would be provided at the following locations:

- The Immingham Facility and Theddlethorpe Facility;
- Adjacent to the Block Valve Stations;
- Temporary Laydown, Welfare and Parking Areas at a number of access points (small and large laydown facilities) with 23 in total, named below:
  - RDX05P - Humber Road;
  - RDX08P - A1173 Road;
  - RDX10P - Roxton Road;
  - RDX11P - Keelby Road;
  - RDX12P - A1173 Riby Road;
  - RDX15P - Washingdale Lane & BV Stn 1;
  - RDX16P - A46 Road;
  - RDX17P - Old Main Road;

- RDX20P - Waltham Road (Beelsby Road);
- RDX23P - Grainsby Lane;
- RDX25P - Bond Croft Lane;
- RDX28P - A16;
- RDX30P - Station Road;
- RDX33P - Westfield Road/ Little Grimsby Lane;
- RDX35P - Alvingham Road/ BV Stn 3;
- RDX37P - Louth Road;
- RDX40P - Marsh Lane;
- RDX42P - B1200 Manby Middlegate Road (North Side);
- RDX454P - ~~Grove Road~~Mill Road;
- RDX46P - A1031 Mablethorpe Road;
- RDX008P - B1210 Habrough Road; and
- RDX043P - Thacker Bank Road.

Temporary access points during construction.

4.1.22 Temporary access points will be established for all of the elements above during construction, with a small number associated with above ground installations remaining permanently during operation.

4.1.23 Access points to and from a public road to the construction site(s) will be subject to a Road Safety Audit (RSA) which will identify what measures are needed to ensure the safety of the access point, in agreement with the ~~local highways authority~~LHA

4.1.24 At site access points from the public highway, security fencing will be installed along with signage restricting access to construction traffic and construction teams only. Where necessary, additional security measures will be provided including 24hr security guards, CCTV, etc.

~~4.1.4~~4.1.25 Further details of each element of the Proposed Development are set out in *ES Volume II Chapter 3: Description of the Proposed Development (Application Document 6.2.3).*

5 Construction Traffic Distribution

5.1.1 With reference to **Section 12.13** of *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12),* this chaptersection provides an overview of the trip distribution and vehicle routing methodology associated with each aspect of the Proposed Development; this includes:

- Construction workers;
- Construction vehicles; and
- Compound setup and delivery.

Construction Worker Distribution

5.1.2 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 used. This model is based on distance to, and populations of nearby population centres, includingthis includes Grimsby and Cleethorpes, Louth, Hull, Lincoln and Scunthorpe, as these are the main areas of population.

5.1.3 **Table 5-1Table 5-1Table 5-1** sets out the gravity model and subsequent distribution of workers from each population centre.

Table 5-1245-15-15-1: Weighted Worker Distribution

Town	Distribution	Daily Worker Trips One Way	Daily Worker Trips Two-Way
Grimsby + Cleethorpes	64%	551478	1,102955
Louth	22%	189163	377327
Hull	7%	5649	11297
Lincoln	4%	3732	7464
Scunthorpe	3%	2521	5043
Total	**100%**	**858743**	**1,7161,486**

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

5.1.4

Construction HGV Distribution

5.1.5 As the exact location of construction materials is currently unknown, it has been assumed that construction HGVs associated with each access point has been individually distributed from the A180 into the north, to each access point.

Compound Set Up and Delivery Distribution

5.1.6 The traffic distribution in relation to the setup of each Compound is outlined in **Table 5-2Table 5-2Table 5-2.** below.

Table 5-2255-25-25-2: Compound Set Up and Delivery Distribution from Immingham

Northern Compound	Central Compound	Southern Compound
A180; and A160Killingholme Road	A180; A1173; and A18.	A180; A1173; A18; A46 Grimsby Road; A46 Laceby Road; A1243 Weelsby Road; and A1031

5.1.7 In terms of the location of the compounds they have been split distributed across along the length of the route to serve as a point for accepting deliveries of and storage of pipe and other materials/equipment, and from which pipe sections would later be transported directly on to the pipeline spreadworking width when required.

5.1.8 With pipe having been delivered to one of the three compounds By having three locations, with the pipe already delivered this allows for the pipe to be transported to the required access point using the nearest compound and therefore avoiding the need for longer unnecessary trips on the network during the main construction period. All the compounds will be designed to relevant DMRB standards to allow for safe access/egress without the frequent need for banksmen however this will be used wherever necessary with any larger vehicles.

5.1.9 The northern compound is situated off Killingholme Road near Immingham with access taken off Killingholme Road via the creation of a new access point. Vehicles will access via the adjacent roundabout (A160/Ulceby Road Roundabout) which provides direct access to the A160 and then onto the A180 to the south. The compound is approximately 21,500 m^2 in area and would be used as a main construction compound and pipe storage area. This is expected to hold around 3,000 sections of pipe (12m lengths). **Figure 5-2**: Central Compound Indicative Layout

5.1.10 **Figure 2** shows the indicative layout of the northern compound.

5.1.11 The central compound is located off the A18 to the west of Waltham. This compound will be accessed via the creation of a new access point off the A18. In terms of the assessment, it has been assumed that all HGV traffic accessing this compound will travel via the A180 to the north, before heading south on the A1173 and then onto the A18. This would be used as a construction compound and would act as the main pipe / material storage area. It would be able to hold 2,000 pipe sections (12 m lengths). Access is proposed to be from the A18. **Figure 5-2** below shows the indicative layout of the the central compound.

5.1.12 As stated earlier the southern compound located at the car park on the former TGT site, approximately 13,000 m2 in area. This would be used predominantly as a pipe storage area and is expected to hold up to 1,000 sections of pipe (12 m length). In terms of the assessment vehicles have been distributed from the A180 to the north, onto the A1173 then the A18, A46 before travelling onto the A1031. **Figure 5-3** below shows the indicative layout of the southern compound.

Figure 5-1: Northern Compound Indicative Layout

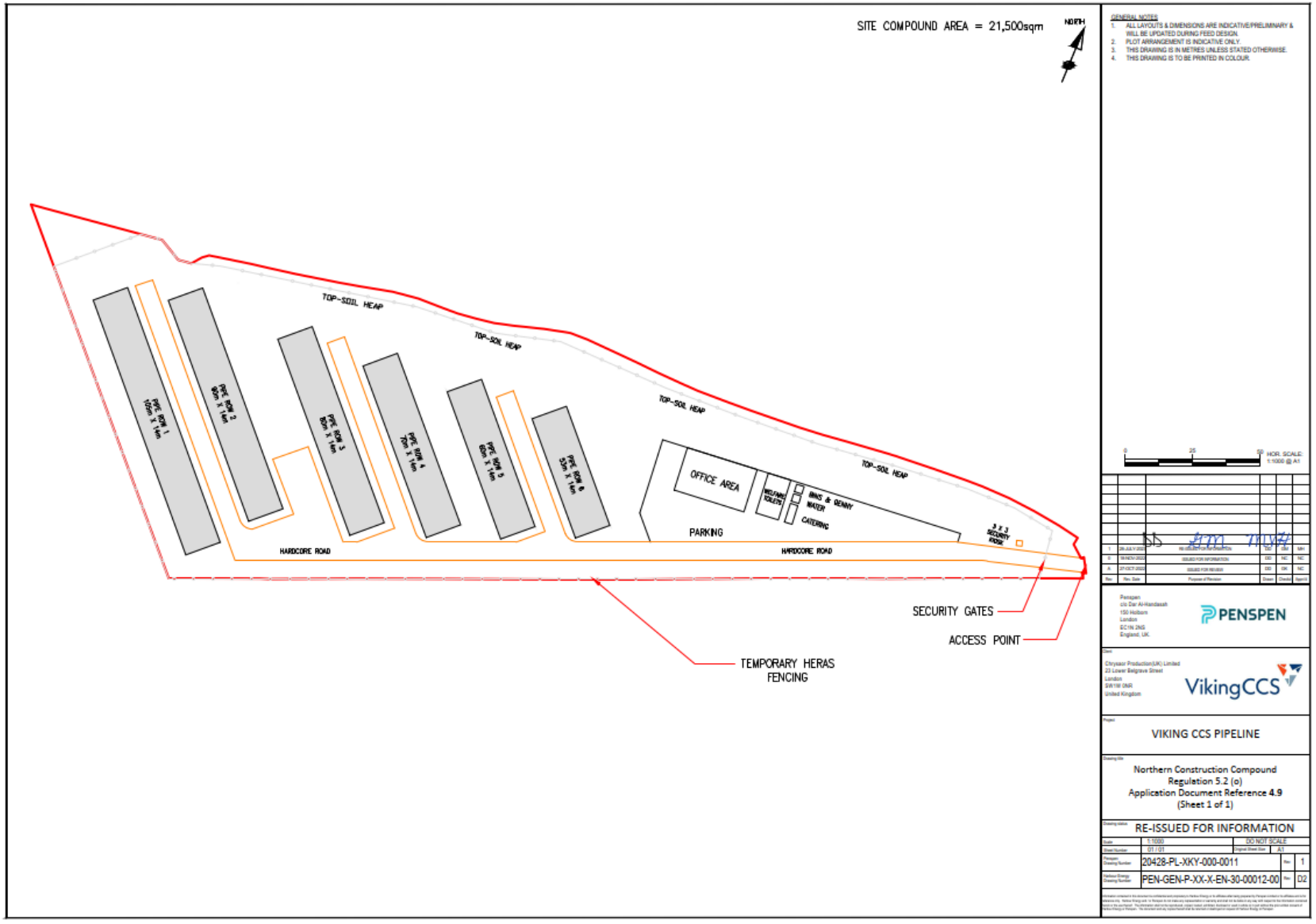
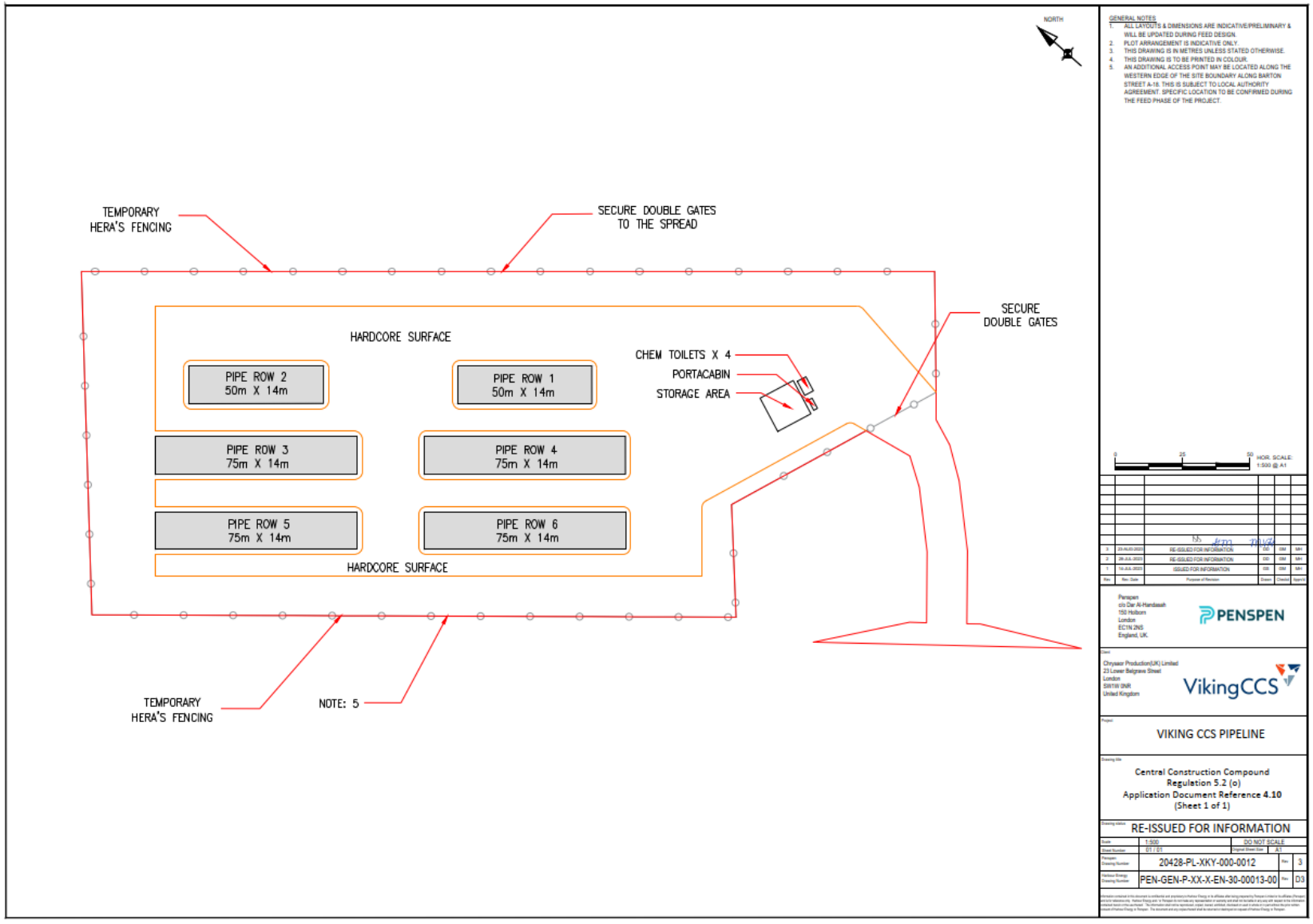

SITE COMPOUND AREA = 21,500sqm
NORTH
TOP-SOIL HEAP
TOP-SOIL HEAP
TOP-SOIL HEAP
TOP-SOIL HEAP
PIPE ROW 1 100m x 14m
PIPE ROW 2 80m x 14m
PIPE ROW 5 80m x 14m
PIPE ROW 4 70m x 14m
PIPE ROW 3 60m x 14m
PIPE ROW 6 53m x 14m
OFFICE AREA
WELFARE/ TOILETS
BINS & BENNY
WATER
CATERING
PARKING
SECURITY HOUSE
HARDCORE ROAD
HARDCORE ROAD
SECURITY GATES
ACCESS POINT
TEMPORARY HERAS FENCING
GENERAL NOTES
1. ALL LAYOUTS & DIMENSIONS ARE INDICATIVE/PRELIMINARY & WILL BE UPDATED DURING FEED DESIGN.
2. PLOT ARRANGEMENT IS INDICATIVE ONLY.
3. THIS DRAWING IS IN METRES UNLESS STATED OTHERWISE.
4. THIS DRAWING IS TO BE PRINTED IN COLOUR.
HOR. SCALE 1:1000 @ A1
PENSPEN
VikingCCS
VIKING CCS PIPELINE
Northern Construction Compound
Regulation 5.2 (o)
Application Document Reference 4.9
(Sheet 1 of 1)
RE-ISSUED FOR INFORMATION
1:1000
DO NOT SCALE
01 / 01
A3
20428-PL-XKY-000-0011
PEN-GEN-P-XX-X-EN-30-00012-00
D2

Figure 5-~~22~~1: Central Compound Indicative Layout

~~Figure . Northern Compound Indicative Layout~~

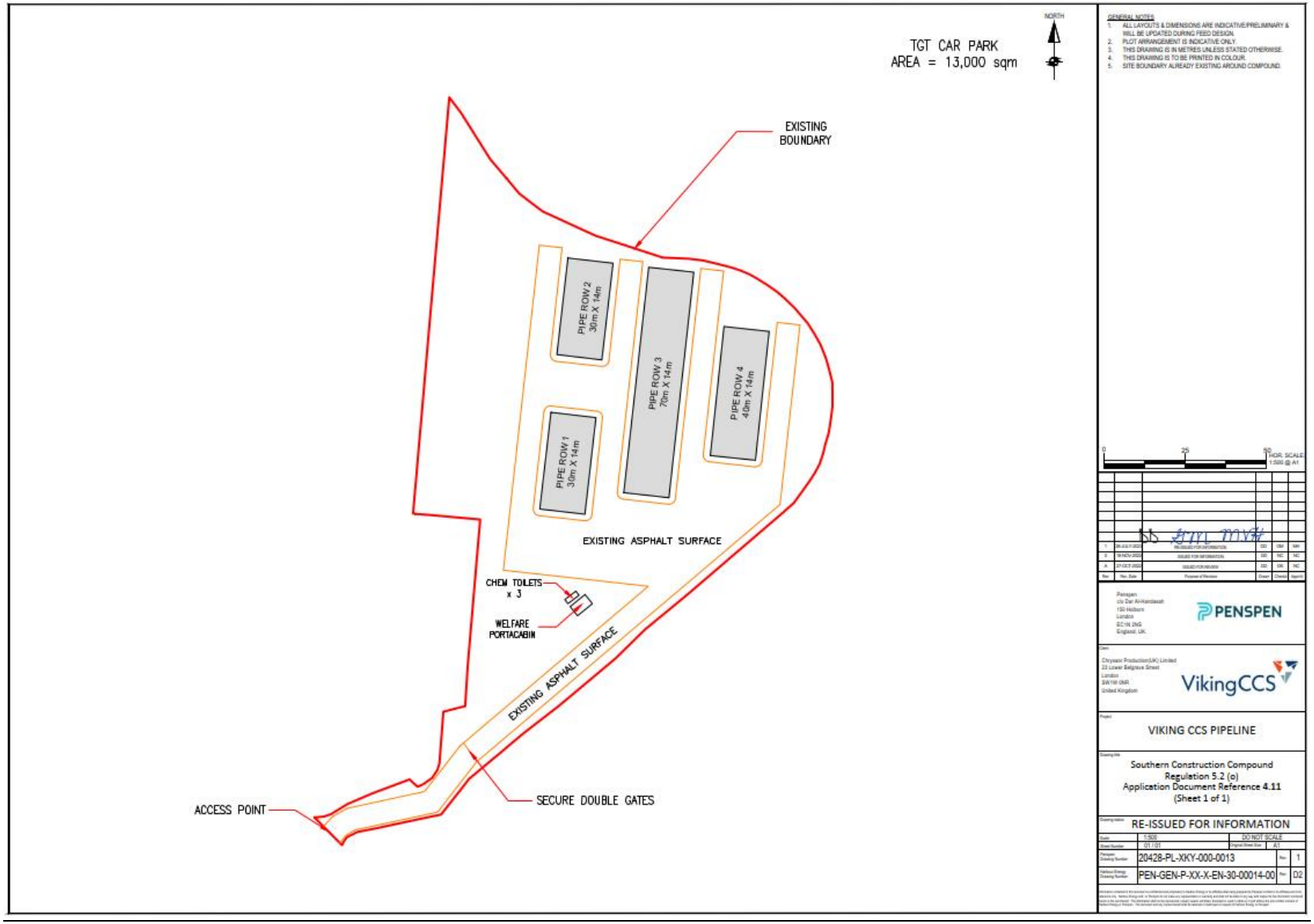
~~The central compound is located off the A18 to the west of Waltham. This compound will be accessed via the creation of a new access point off the A18. In terms of the assessment, it has been assumed that all HGV traffic accessing this compound will travel via the A180 to the north, before heading south on the A1173 and then onto the A18. This would be used as a construction compound and would act as the main pipe / material storage area. It would be able to hold 2,000 pipe sections (12 m lengths). Access is proposed to be from the A18. below shows the indicative layout of the the central compound.~~



~~Figure . Central Compound Indicate Layout~~

Figure 5-~~32~~: Southern Compound Indicative Layout

~~As stated earlier the southern compound located at the car park on the former TGT site, approximately 13,000 m2 in area. This would be used predominantly as a pipe storage area and is expected to hold up to 1,000 sections of pipe (12 m length). In terms of the assessment vehicles have been distributed from the A180 to the north, onto the A1173 then the A18, A46 before travelling onto the A1031. below shows the indicative layout of the southern compound.~~



~~Figure . Southern Compound Indicative Layout~~

6 ~~Construction~~ Trip Generation

6.1 Introduction

6.1.1 The ~~C~~construction period ~~is proposed to~~will generate the highest number of ~~of~~ trips for the phases of construction, operation and decommissioning. Due to this, the construction generated trips have been assessed further to demonstrate a worst-case impact of the scheme. Operational numbers are set out in section 6.3, and decommissioning traffic numbers cannot be predicted at this stage, though for a worst case indication as to the level of traffic, the construction stage can be used as a proxy.

~~6.1.1~~6.1.2 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 P~~p~~ipeline; and
- Pipeline deliveries from the port of Immingham to the Northern, Central and Southern compounds.

~~6.1.2~~6.1.3 The construction trip generation in line with the above is set out within the ~~following Appendices to the~~ main *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12):*

- ~~**Appendix 12-2 Construction Traffic Flows**, and~~
- ~~**Appendix 12-3 Construction Traffic Profiles**.~~

~~6.1.3~~6.1.4 For the purposes of this TA, the main consideration is the capacity of the highway network rather than any associated environmental effects as these are set out in the *ES Chapter 12 Traffic and Transport (Application Document 6.2.12).*

~~6.1.4~~6.1.5 The forecast~~proposed~~ volume~~s~~ of traffic anticipated within the operational phase of the ~~expected once the~~ Proposed Development is ~~operational are~~ also included.

6.2 Construction Daily Trip Generation

6.2.1 This section summarises the construction vehicle trip generation (workers and delivery vehicles)~~, with full details being included in **Appendices 12-2 and 12-3** to the main *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*~~.

6.2.2 The main pipeline construction duration is expected to last 15 months, however the period from compound setup to commissioning will last from the end of 2025 through to early 2027. Most construction work will be undertaken in Summer 2026. Note that these are indicative construction years; the assessment remains relevant should the construction years change.

6.2.3 **Table 6-1** shows the expected number of workers within each month within the construction programme. As can be seen the winter months in 2025 and 2026 have significantly less number of workers than Summer 2026 in which the workers will start to rise from April 2026 with 575 workers on site per day before peaking in June 2026 with 858 workers~~.~~. ~~I~~it starts to fall again towards September 2026 before falling even further for the remainder of the construction programme. ~~This shows that there will be significantly less traffic within the winter months in which workers may have to start later however this is mitigated by the number of workers being significantly less.~~

Table 6-~~12~~66-~~1~~. Total Workforce by Month

Month	Workers Generating Daily Trips – One Way	Workers Generating Daily Trips – 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	54~~0~~	108~~0~~
Feb-27	54~~0~~	108~~0~~
Mar-27	54~~0~~	108~~0~~

6.2.4 **Table 6-2** below then shows the monthly traffic (two-way) for the LGVs and HGVs associated with the construction of the VCCS Pipeline. As above this shows that the vast majority of trips will be generated in Summer 2026 starting to rise significantly in May 2026 through to June 2026 where it peaks before traffic starts to fall for the remainder of the project.

Table 6-2276-2. HGV and LGV Monthly Traffic Profile – Total Traffic (Two Way)

Monthly Two Way	LGVS	HGV	Total
Sep-25	888	248	1,135
Oct-25	1,419	609	2,028
Nov-25	1,488	1,120	2,608
Dec-25	1,600	1,547	3,147
Jan-26	2,722	2,413	5,135
Feb-26	2,804	2,153	4,956
Mar-26	1,254	944	2,199
Apr-26	4,242	3,608	7,849
May-26	5,688	4,396	10,084
Jun-26	**9,731**	**6,321**	**16,052**
Jul-26	7,850	5,562	13,412
Aug-26	6,289	4,395	10,684
Sep-26	3,039	2,150	5,189
Oct-26	1,386	1,498	2,884
Nov-26	860	295	1,155
Dec-26	48	33	81
Jan-27	126	84	210
Feb-27	162	108	270
Mar-27	96	64	160

6.2.5 **Table 6-3** shows the daily profile for LGVs and HGVs can then be set out based upon the number of working days per month which has a slight variation each month due to differing factors. This shows that again the peak month is predicted to be within Summer 2026 with a June 2026 predicted to generate 803 daily trips with the number being lowest within the 2025/2026/2027 winter period.

6.2.6 This shows there will be significant temporal difference in terms of the number of construction vehicles on the network with June showing significantly higher flows than any other month.

Table 6-3286-3. Total Average Daily HGV and LGV Daily Traffic Profile by Month (Two Way)

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

6.2.7 **Table 6-4** then shows the combined average daily traffic combined the construction vehicles and workers within each month as derived from the tables above.

Table 6-4296-4. Combined Worker and Construction Traffic by Month

Daily Two Way	One Way	Two-Way
Sep-25	81	162
Oct-25	194	388
Nov-25	232	464
Dec-25	254	507
Jan-26	420	839
Feb-26	470	940
Mar-26	285	570
Apr-26	762	1,524
May-26	953	1,906
Jun-26	**1,260**	**2,519**
Jul-26	914	1,827
Aug-26	913	1,825
Sep-26	624	1,247
Oct-26	285	569
Nov-26	167	333
Dec-26	125	250
Jan-27	5	10
Feb-27	7	13
Mar-27	27	54

6.2.8 As shown in **Table 6-4** the peak month of traffic is predicted to be June 2026 with the figure rising significantly from April 2026 onwards before a cessation after September 2026. ~~which~~ This aligns with a typical pipeline construction season, ~~shows that the vast~~ with the majority of the works ~~will be~~ being undertaken in the drier ~~undertaken in~~ Summer ~~2026~~ months.~~with a drop in the number of vehicles within the winter periods because of the lack of light and unfavourable ground conditions~~.

6.2.9 A normal working schedule of 12 hours (07:00 to 19:00) Monday to ~~Saturday~~Friday and 6.5 hours on Saturday (07:00 to 13:30), is expected, with no Sunday or Bank Holiday working anticipated as being typical. Exceptions may be required for extended hours (including Sunday or Bank Holiday working where necessary) for activities such as:

- The pull back phase for a major crossing using HDD, where works once started need to be completed in one phase;
- Where daytime working would be excessively disruptive to normal traffic operation;
- Cleaning/testing of the pipeline;
- Overnight traffic management measures; or
- Emergency works.

~~6.2.1~~

~~6.2.2~~6.2.10 With reference to **Table 12-34** from *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*~~**Table 18 from Appendix 12-3 Construction Traffic Profile**~~,

the daily profile of construction traffic can be given as follows, with workers arriving and departing the hour before and after the working day between 07:00 and 19:00hrs, and HGVs being distributed evenly throughout the day.

Table 6-5306-56-16-1: Combined Worker and Construction Vehicle Arrival and Departure Profile

Hour Beginning	Arrivals	Departures	Two Way
06:00	858858	00	858858
07:00	4025	3623	7648
08:00	3625	3623	7248
09:00	3625	3623	7248
10:00	3625	3623	7248
11:00	3625	3223	6848
12:00	3625	3223	6848
13:00	3625	3223	6848
14:00	3625	3223	6848
15:00	3625	3223	6848
16:00	3625	3223	6848
17:00	3625	3223	6848
18:00	00	3223	3223
19:00	00	858858	858858
20:00	00	00	00
21:00	00	00	00
TOTALS	**1,2591,133**	**1,2591,133**	**2,5192,267**

6.2.36.2.11 As can be seen the workers will travel outside of the traditional weekday network AM and PM peak hours of 08:00 to 09:00hrs and 17:00 to 18:00hrs respectively, with construction HGVs split evenly throughout the day.

6.2.46.2.12 The number of construction HGVs is not considered to represent a severe impact upon the highway network, given that it is only around oneone1 additional HGV vehicle per minute between 07:00 to 18:00 spread over the entire network from Immingham to Theddlethorpe.

6.2.56.2.13 As the construction workers will be travelling outside of the network peak hours any impact upon the capacity of the road network will be greatly reduced due to the lowerreduced levels of Bbaseline traffic at these times.

6.2.14 It is therefore proposed that no capacity assessments on the local highway network will be requiredundertaken, and during the consultation with all relevant Hhighway Aauthorities no concerns regarding the capacity of the highway network at particular junctions was raised.

6.2.6 Construction Traffic Generation

6.2.15 From **Table 12-21** of *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*, the construction traffic distributed onto the network can behas been assigned to each ATC included within the assessment. then be given as follows, and it must be noted that as Tthis is a daily traffic profile over the entire network, therefore then there is an

element of double counting whereby a construction vehicle will appear on more than one of the road links shown in the following Ttable.

6.2.16 As noted *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)* 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.

~~6.2.7~~

Table 6-~~6316-66-26-2~~: Total Construction Daily Trip Generation by Link – Construction and Workers, 2026

Survey Link	Road Name	All Vehicles	Access HGVS	HGV %
1	B1210	275~~237~~	38~~38~~	14%~~16%~~
2	A1173	1,420~~1,098~~	304~~295~~	21%~~27%~~
3	A160	366~~252~~	114~~114~~	31%~~45%~~
6	A18	636~~523~~	104~~101~~	16%~~10%~~
7	Waltham Road 1	263~~172~~92	91~~91~~	34%~~100 53%~~
9	A16	798~~743~~	55~~55~~	7%~~7%~~
10	Thoroughfare	115~~97~~	17~~17~~	15%~~18%~~
11	White Road	332~~264~~	67~~67~~	20%~~26%~~
12	A18	616~~503~~	104~~101~~	17%~~20%~~
13	A16	565~~527~~	38~~38~~	7%~~7%~~
14	A46	229~~201~~	27~~27~~	12%~~14%~~
15	A46 - Grimsby Road	383~~320~~	62~~62~~	16%~~19%~~
16	Washingdales lane	197~~170~~	27~~27~~	14%~~16%~~
18	A1173	1,092~~813~~	260~~252~~	24%~~31%~~
19	A18 - Barton Street North	985~~740~~	218~~210~~	22%~~28%~~
20	A18 - Barton Street South	799~~647~~	138~~138~~	17%~~21%~~

Survey Link	Road Name	All Vehicles	Access HGVS	HGV %
21	A16 Peaks Parkway	798~~743~~	55~~55~~	7%~~7%~~
22	Pear Tree Lane	129~~910~~	38~~038~~	30%~~0%~~ 42%
23	Ings Lane	20~~20~~	0~~0~~	0%~~0%~~
24	Alvingham Road	262~~212~~	50~~50~~	19%~~23%~~
25	Yarburgh Road	99~~50~~	50~~50~~	50%~~100%~~
26	Westfield Road	20~~20~~	0~~0~~	0%~~0%~~
27	A18	503~~426~~	50~~38~~	10%~~9%~~
28	A16	873~~796~~	50~~38~~	6%~~5%~~
29	Louth Bypass	489~~418~~	61~~56~~	12%~~13%~~
30	B1200 Manby Middlegate	489~~518~~	61~~56~~	12%~~13%~~
33	Saltfleet Road	256~~237~~	40~~52~~	16%~~22%~~
35	Thacker Bank	228~~182~~	46~~46~~	20%~~25%~~
36	Thacker Bank	127~~98~~	16~~0~~	12%~~0%~~
38	Three Bridge Lane	327~~267~~	50~~46~~	15%~~17%~~
39	Mill Road	49~~20~~	16~~0~~	32%~~0%~~
41	Habrough Road	223~~175~~	47~~47~~	21%~~27%~~
42	A1173	71~~71~~	0~~0~~	0%~~0%~~
44	A160	378~~264~~	114~~114~~	30%~~43%~~
45	Killingholme Road	161~~113~~	47~~47~~	29%~~42%~~
49	A180 - Westgate	541~~501~~	63~~71~~	12%~~14%~~
50	Grimsby Road	286~~240~~	69~~84~~	24%~~35%~~
51	A1031	286~~240~~	69~~84~~	24%~~35%~~
52	Thoresby Road	286~~240~~	69~~84~~	24%~~35%~~
53	A1031 Main Road	286~~240~~	69~~84~~	24%~~35%~~

Survey Link	Road Name	All Vehicles	Access HGVS	HGV %
54	Warren Road	272224	6675	24%33%
56	A1173	7171	00	0%0%
57	Roxton Road	11577	3838	33%49%
59	Little Grimsby Lane	8787	00	0%0%
60	Brackenborough Road	3939	00	0%0%
61	Brackenborough Road 2	3939	00	0%0%
62	North Holme Road	297297	00	0%0%
63	Keddington Road	346346	00	0%0%
64	Louth Road 1	229229	00	0%0%
65	Mill Hill Way	146137	99	6%6%
66	Red Leas Lane	20200	00	0%0%
67	Pick Hill Lane	20200	00	0%0%
68	Marsh Lane	146137	99	6%6%
69	Louth Road 2	8743	4343	50%100%
70	Main Road	2323	00	0%0%
71	Kings Street	9950	5050	50%100%
72	Weelsby Road	366293	7272	20%25%
73	A46 Laceby Road	366293	7272	20%25%
74	A16	1,1131,073	6371	6%7%
75	A1173 Manby Road	239184	5555	23%30%
76	Keelby Road	180157	2323	13%15%
77	A180 - East of A1173	504474	6371	13%15%
78	A180 - Between A1173 and A160	1,216904	312312	26%34%
79	Mablethorpe Road	224205	4052	18%25%
80	Rosper Road	366252	114114	31%45%

6.2.86.2.17 The~~It should also be noted that the~~ traffic flows presented are two-way, meaning that for the A16 (link 74) for example, the 1,1107~~3~~ daily movements, equate to 315-326 HGVs

and 501 57 cars on the network. None of these vehicles are anticipated to be on the road network during the network peak hours and as such on the A16 within Grimsby, whilst there are 1,073 daily movements, 71 are HGVs leaving 1,002 two-way light vehicle trips, equating to 501 trips travelling outside of the peak hours. However, this is an extremely robust assessment due to the assumption that 64% of worker trips will originateing within Grimsby, whereas in reality these trips will and in reality, these would dissipate over the wider network rather than all stay on the A16.

6.2.96.2.18 It is therefore considered that given that the construction workers will travel outside of the network weekday AM and PM peak hours and that HGVs will be spread evenly throughout the day, that the addition of the construction traffic will not be severe. Construction related traffic will be temporary and any impact can be managed to minimise its affecteffect and will only be a temporary impact which can be managed to minimise any impact as far as is possible.

6.2.106.2.19 Based on this, no further assessment of the peak hours has been conducted, as there would be no real limited construction impact during the network peak hours of the day. Additional 24 hr AADT traffic reflecting local committed developments are discussed in Section 7.

6.3 Operational Trip Generation

6.3.1 Operational traffic following completion of the Proposed Development (12+ months of construction) will be mostly associated with maintenance. The pipeline has a minimum operational life of 25 years. Table 6-3 sets out the trip generation for the operational stages.

Table 6-7: Total Operational Trip Generation

Infrastructure	Maintenance / Inspection Activity	Indicative Frequency	Vehicles Types and Numbers Required
Immingham Facility	Maintenance with low volume venting to de-pressure equipment	Every two years	4x HGV once & 4 x LGV daily during maintenance works
Pipeline	Aerial surveillance survey	Initially fortnightly	1 x LGV to get to airfield
Pipeline	Walkover of pipeline easement	Annual	2 x LGV
Pipeline	In-line inspection (using PIG)	Every five years	
Pipeline	Cathodic Protection System – Transformer Rectifiers at Immingham/Theddlethorpe	Monthly	1 x LGV
Pipeline	Cathodic Protection System - monitored via test posts located on public highway	Every six months	1 x LGV
Pipeline	Closed Interval Potential Survey (CIPS) line walk	Every five years	2 x LGV
Block Valve Stations	Inspection	Weekly visits	1 x LGV

Infrastructure	Maintenance / Inspection Activity	Indicative Frequency	Vehicles Types and Numbers Required
Block Valve Stations	Maintenance visit	Every six months (over one-two days)	2 x LGV
Theddlethorpe Facility	Maintenance with low volume venting to de-pressure equipment	Every two years	4 x HGV & 4 x LGV daily during maintenance works
Dune Isolation Valve	Visual survey of valve surface works	Monthly	1 x LGV

6.3.2 The above Operational schedule confirms that volumes of opertational traffic will be insignificant.

6.4 Decommissioning Trip Generation

6.4.1 The Proposed Development has a minimum operational life of 25 years, which may be extended further. At the end of the Proposed Development's operations, the pipeline and associated infrastructure would be decommissioned. The decommissioning programme would be developed in line with all applicable legislation and best practice in place at the time and would include engagement with relevant stakeholders and consultees as appropriate, to understand any possible re-use options for the pipeline and associated infrastructure.

6.4.2 Removal of the infrastructure at Immingham and Theddlethorpe plus the block valve station removal could take between 6-12 months dependent on sequencing of the works.

6.4.3 A detailed decommissioning strategy would be developed prior to the commencement of any decommissioning activities, and a decommissioning environmental management plan would be prepared for agreement with the LHAs.

7 Committed Developments / Schemes

7.1 Introduction

7.1.1 The Proposed Development covers a wide area across North Lincolnshire, North East Lincolnshire and East Lindsey, within which there are a number of planned future developments. A list of sites have been reviewed and the impact of these developments is set out in the following Table, for the peak month of construction in 2026. The years 2025, 2026 and 2027 have all been taken into consideration to account for changes of planned construction programmes for both Viking CCS, and other schemes.

7.1.2 The methodology and included sites in the assessment are set out in the document: *Quantified Cumulative Assessment of Traffic– Technical Note (May 2024)* **[document reference 9.22]**. The 24-hour AADT flows, which have been added to the Future Baseline are shown in **Table 7-1** at each road link.

7.1.3 However, for ease the relevant committed developments have been analysed using the relevant planning documentation including TAs and Environmental Statements to output the predicted flows on links that are analogous to this assessment. This traffic data has then been added to the baseline flow to create a revised baseline flow which includes both TEMPro growth and the relevant future committed developments.

~~*6.2.11*~~*7.1.4* For the purposes of the TA, the percentage increase of the additional construction traffic compared with the 2026 Future Baseline + Committed Development traffic has been used to indicate the impacts of the Proposed Development. Within the Quantified Cumulative Traffic Assessment Technical Note **[document reference 9.22]**, the combined committed development traffic and Proposed Development Traffic has been compared to the 2026 Future Baseline to give a percentage increase.

Table 7-1 Committed Developments Across Road Links, 2026

Survey Link	Road Name	2026 Baseline All Vehicles	2026 Baseline Access HGVS	Committed Dev All Vehicles	Committed Dev HGVs	2026 Base + Committed Dev All Vehicles	2026 Base + Committed Dev HGVs	Base + Committed Dev HGV %
1	B1210	9,737	637	861	74	10,598	711	7%
2	A1173	6,092	668	983	86	7,075	754	11%
3	A160	11,260	4,538	4,122	1,235	15,382	5,773	38%
6	A18	6,323	980	75	0	6,398	980	15%
7	Waltham Road 1	5,056	402	427	0	5,483	402	7%
9	A16	11,429	1,362	1,427	0	12,856	1,362	11%
10	Thoroughfare	242	19	0	0	242	19	8%
11	White Road	1,786	278	137	0	1,923	278	14%
12	A18	5,567	947	0	0	5,567	947	17%
13	A16	12,051	1,504	0	0	12,051	1,504	12%
14	A46	7,652	865	75	0	7,727	865	11%
15	A46 - Grimsby Road	15,757	1,534	5	2	15,762	1,536	10%
16	Washingdales lane	118	5	0	0	118	5	4%
18	A1173	3,485	562	110	0	3,595	562	16%
19	A18 - Barton Street North	13,039	1,846	75	0	13,114	1,846	14%
20	A18 - Barton Street South	10,471	1,380	150	0	10,621	1,380	13%

Survey Link	Road Name	2026 Baseline All Vehicles	2026 Baseline Access HGVS	Committed Dev All Vehicles	Committed Dev HGVs	2026 Base + Committed Dev All Vehicles	2026 Base + Committed Dev HGVs	Base + Committed Dev HGV %
21	A16 Peaks Parkway	16,392	1,478	902	0	17,294	1,478	9%
22	Pear Tree Lane	2,221	263	0	0	2,221	263	12%
23	Ings Lane	290	32	0	0	290	32	11%
24	Alvingham Road	837	67	0	0	837	67	8%
25	Yarburgh Road	611	71	0	0	611	71	12%
26	Westfield Road	567	47	0	0	567	47	8%
27	A18	3,881	677	0	0	3,881	677	17%
28	A16	16,102	1,916	39	0	16,141	1,916	12%
29	Louth Bypass	14,621	848	22	0	14,643	848	6%
30	B1200 Manby Middlegate	4,082	435	0	0	4,082	435	11%
33	Saltfleet Road	3,344	346	0	0	3,344	346	10%
35	Thacker Bank	192	24	0	0	192	24	13%
36	Thacker Bank	2,164	174	0	0	2,164	174	8%
38	Three Bridge Lane	2,003	1,041	0	0	2,003	1,041	52%
39	Mill Road	2,256	210	0	0	2,256	210	9%
41	Habrough Road	4,291	326	0	0	4,291	326	8%
42	A1173	7,439	1,954	1,969	1,678	9,408	3,632	39%
44	A160	15,037	6,244	4,132	1,429	19,169	7,673	40%
45	Killingholme Road	4,350	394	13	0	4,363	394	9%

Survey Link	Road Name	2026 Baseline All Vehicles	2026 Baseline Access HGVS	Committed Dev All Vehicles	Committed Dev HGVs	2026 Base + Committed Dev All Vehicles	2026 Base + Committed Dev HGVs	Base + Committed Dev HGV %
49	A180 - Westgate	30,420	1,521	0	0	30,420	1,521	5%
50	Grimsby Road	13,512	188	1,132	0	14,644	188	1%
51	A1031	4,565	59	10	0	4,575	59	1%
52	Thoresby Road	2,959	37	0	0	2,959	37	1%
53	A1031 Main Road	2,757	61	0	0	2,757	61	2%
54	Warren Road	3,211	62	0	0	3,211	62	2%
56	A1173	6,847	1,345	1,204	222	8,051	1,567	19%
57	Roxton Road	167	5	0	0	167	5	3%
59	Little Grimsby Lane	372	39	0	0	372	39	10%
60	Brackenborough Road	598	38	0	0	598	38	6%
61	Brackenborough Road 2	1,150	72	0	0	1,150	72	6%
62	North Holme Road	14,650	1,008	15	0	14,665	1,008	7%
63	Keddington Road	3,049	213	0	0	3,049	213	7%
64	Louth Road 1	2,209	151	0	0	2,209	151	7%
65	Mill Hill Way	2,418	202	0	0	2,418	202	8%
66	Red Leas Lane	87	8	0	0	87	8	9%
67	Pick Hill Lane	189	18	0	0	189	18	10%

Survey Link	Road Name	2026 Baseline All Vehicles	2026 Baseline Access HGVS	Committed Dev All Vehicles	Committed Dev HGVs	2026 Base + Committed Dev All Vehicles	2026 Base + Committed Dev HGVs	Base + Committed Dev HGV %
68	Marsh Lane	1,688	206	0	0	1,688	206	12%
69	Louth Road 2	1,332	102	0	0	1,332	102	8%
70	Main Road	1,024	88	0	0	1,024	88	9%
71	Kings Street	718	51	0	0	718	51	7%
72	Weelsby Road	21,576	1,170	407	0	21,983	1,170	5%
73	A46 Laceby Road	18,295	1,151	399	2	18,694	1,153	6%
74	A16	15,801	1,315	163	2	15,964	1,317	8%
75	A1173 Manby Road	4,964	1,317	2,239	259	7,203	1,576	22%
76	Keelby Road	2,272	129	0	0	2,272	129	6%
77	A180 - East of A1173	27,982	4,476	1,004	91	28,986	4,567	16%
78	A180 - Between A1173 and A160	22,715	2,176	774	717	23,489	2,893	12%
79	Mablethorpe Road	3,211	62	0	0	3,211	62	2%
80	Rosper Road	4,023	1,676	353	292	4,376	1,968	4376

7.1.5 The committed developments have been used to inform a Future Year 2026 Baseline alongside that of TEMPro growth, from which the impact of the additional construction traffic has been assessed.

~~7~~8 Construction Impact

~~7.1.1~~ The impact from the addition of the construction traffic as a percentage increase of the Future Year B~~b~~aseline traffic flows has been set out as follows. A separate assessment of the magnitude which takes account of the duration of any effect and impact along each road link, can be found in *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12).* ~~this has been broken down by the five route sections.~~

~~7.1.2 The magnitude of impact has been based upon the following criteria, and takes account of the duration of any effect, with a very low, low, medium or high magnitude being used to provide a consistency with *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*.~~

~~Table 7-1: Magnitude Criteria~~

~~Impact~~	~~Very Low~~	~~Low~~	~~Medium~~	~~High~~
~~Construction Traffic~~	~~Occasional construction vehicles using roads over a short period of time.~~ ~~• Less than 5% Increase for more than 6 months; or~~ ~~• Between 6-30% increase for 3- 6 months; or~~ ~~• Between 31-40% for less than 3 months.~~	~~Small number of construction vehicles using roads over a short period of time.~~ ~~• 6-15% increase for more than 6 months;~~ ~~• 31-39% for 3-6 months; or~~ ~~• >40% increase for less than 3 months.~~	~~Moderate number of construction vehicles using roads over a protracted time period.~~ ~~• 16-39% increase for more than 6 months; or~~ ~~• More than 40% increase for 3-6 months.~~	~~High number of construction vehicles using roads over a protracted period of time.~~ ~~• More than a 40% increase for more than 6 months.~~

~~7.1.3 Note that where percentage increases are substantially greater than 40% professional judgement has been applied to adjust the final magnitude.~~

~~7.1.4 The assessment of the five route sections is set out below.~~

~~7.1.5~~

~~7.1.6~~8.1.1 The assessment of the five route S~~s~~ections is included in the following paragraphs~~set out below.~~.

Route Section 1

~~7.1.7~~8.1.2 The increase in traffic flow as a percentage ~~impact~~ of the Future B~~b~~aseline traffic flows within route S~~s~~ection 1 is presented in **Table 8-1**.~~given below~~.

Table 7-2: Section 1 - Construction Daily Impact

Survey Link	Road Name	Baseline		Construction		Impact		Magnitude of impact
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase	
3	A160	11260	4538	237	127	2%	3%	Very Low
41	Habrough Road	4291	326	100	32	2%	10%	Low
42	A1173	7439	1954	97	0	1%	0%	Very Low
43	Mill Lane	108	3	10	0	9%	0%	Low
44	A160	13751	5542	245	127	2%	2%	Very Low
45	Killingholme Road	4350	394	60	32	1%	8%	Low
56	A1173	6847	1345	97	0	1%	0%	Very Low
75	A1173 Manby Road	4964	1317	97	0	2%	0%	Very Low

Table 8-1338-18-18-1: Section 1 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
3	A160	15,382	5,773	366	114	15,748	5,887	2%	2%
41	Habrough Road	4,291	326	223	47	4,514	373	5%	14%
42	A1173	9,408	3,632	71	0-0	9,479	3,632	1%	0%
44	A160	19,169	7,673	378	114	19,547	7,787	2%	1%
45	Killingholme Road	4,363	394	161	47	4,524	441	4%	12%
56	A1173	8,051	1,567	71	0-0	8,122	1,567	1%	0%
75	A1173 Manby Road	7,203	1,576	239	55	7,442	1,631	3%	3%
80	Rosper Road	4,376	1,968	366	114	4,742	2,082	8%	6%

8.1.3 With reference to **Table 8-1**~~the above table~~, it can be seen that the percentage increase of all vehicles is generally low (maximum of 14~~6~~%) within route S~~s~~ection 1, and therefore this is not considered to result in any severe impact upon daily traffic flows.

8.1.4 The impact across the peak hours has also been assessed along key strategic road links to ensure no serious impact occurs. The peak hours assessed are 06:00-09:00 in the AM, and 16:00-19:00 in the PM.

8.1.5 Construction workers are anticipated to travel outside of the traditional peak hours of 08:00-09:00, instead getting to site for 07:00 and therefore travelling between 06:00-07:00. HGV journeys are anticipated to travel across the working day, distributed evenly between 07:00-18:00. –These journeys are reflected in the table and percentage change below.

Table 8-2: Section 1 - 2026 Construction Peak Hours Impact

Survey Link	Time Period	2026 Base All Vehicles	2026 Base HGVs	Construction HGV Traffic	Construction Worker Traffic	2026 Base + Construction Traffic	2026 Baseline HGV + Construction HGV Traffic	All trafficPercentage change	HGV Traffic Percentage Change
3 - A160	06:00-07:00	739	296	0	138	877	296	19%	0%
	07:00-08:00	842	337	10	0	852	347	1%	3%
	08:00-09:00	747	299	10	0	757	309	1%	3%
	16:00-17:00	868	347	10	0	878	357	1%	3%
	17:00-18:00	807	323	10	0	817	333	1%	3%
	18:00-19:00	496	198	10	0	506	209	2%	5%
44 - A160	06:00-07:00	955	330	0	150	1,105	330	16%	0%
	07:00-08:00	1,209	371	10	0	1,220	381	1%	3%
	08:00-09:00	808	341	10	0	818	351	1%	3%
	16:00-17:00	938	333	10	0	949	343	1%	3%

Survey Link	Time Period	2026 Base All Vehicles	2026 Base HGVs	Construction HGV Traffic	Construction Worker Traffic	2026 Base + Construction Traffic	2026 Baseline HGV + Construction HGV Traffic	All trafficPercentage change	HGV Traffic Percentage Change
	17:00-18:00	884	295	10	0	894	305	1%	4%
	18:00-19:00	648	218	10	0	658	228	2%	5%

~~7.1.8~~8.1.6 ~~INSERT THE PEAK HOUR TABLES~~The results show that the construction traffic does not have a severe impact on the SRN during the peak hours, with the highest percentage increase for all traffic being 19% at ATC 3 and 16% at ATC 44 during the hours of 06:00-07:00, due to construction workers driving to work. The ~~increase in~~ traffic during this hour~~s~~ is still similar to the highest recorded peak hour~~s~~ along the A160 (868 vehicles at 16:00-17:00 along link 3, and 1,209 between 07:00-08:00 along link 44) and therefore should not negatively impact the SRN.

Route Section 2

~~7.1.9~~8.1.7 The increase in traffic flow as a percentage ~~impact~~ of Future B~~b~~aseline traffic flows within route S~~s~~ection 2 is set out in **Table 8-2**~~given below~~.

Table 7-3: Section 2 - Construction Daily Impact

Survey Link	Road Name	Baseline		Construction		Impact		Magnitude of impact
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase	
1	B1210	9737	637	167	30	2%	5%	Very Low
2	A1173	6092	668	1155	471	19%	71%	High
4	Healing Road	5871	469	0	0	0%	0%	Very Low
5	Wells Road	860	97	0	0	0%	0%	Very Low
14	A46	7652	865	191	52	2%	6%	Low
16	Washingdales Lane	118	5	84	33	71%	660%	High
17	Nooking Lane	1426	134	0	0	0%	0%	Very Low
18	A1173	3485	562	880	367	25%	65%	High
19	A18 - Barton Street North	13039	1846	773	319	6%	17%	Medium
49	A180 - Westgate	30420	1521	471	91	2%	6%	Low
57	Roxton Road	167	5	0	0	0%	0%	Very Low
76	Keelby Road	2272	129	108	32	5%	25%	Medium
78	A180 - Between A1173 and A160	33888	3247	1073	549	3%	17%	Medium

Table 8-3: Section 2 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
1	B1210	10,598	711	275	38	10,873	749	3%	5%
2	A1173	7,075	754	1,420	304	8,495	1,058	20%	40%
14	A46	15,762	1,536	229	27	15,991	1,563	1%	2%
16	Washingdales Lane	118	5	197	27	315	32	167%	542%
18	A1173	3,595	562	1,092	260	4,687	822	30%	46%
19	A18 - Barton Street North	13,114	1,846	985	218	14,099	2,064	8%	12%
49	A180 - Westgate	30,420	1,521	541	63	30,961	1,584	2%	4%
57	Roxton Road	167	5	115	38	282	43	69%	756%
76	Keelby Road	2,272	129	180	23	2,452	152	8%	18%
78	A180 - Between A1173 and A160	23,489	2,893	1,216	312	24,705	3,205	5%	11%

~~7.1.10~~8.1.8 With reference to the above T~~t~~able, it can be seen that the largest percentage impact in terms of daily traffic is on Roxton Road, which is located near to the A180. ~~-~~This route only carries five HGVs in the Baseline and the ~~, and from the baseline only sees 5 HGVs per day, with the~~ construction phase add~~s~~~~ing~~ 38 HGVs per day (around three~~3~~ per hour) and as such is not considered to reflect a severe impact.

~~7.1.11~~8.1.9 Washingdales Lane, ~~also has a high percentage increase,~~ which is located to the west of the A18 at Laceby, also has a high percentage increase ~~and~~ because~~-~~ ~~from~~ the B~~b~~aseline only has five~~5~~ HGVs per day, with the construction phase adding 27 HGVs per day which is only around 2-3 HGVs per hour throughout the day, and as such is not considered to be severe.

~~7.1.12~~8.1.10 Other links with high percentage impacts are the A1173 adjacent to the junction with the A180 (L~~l~~ink 2) and the A1173 to the east of Keelby (Link 18) with a 40~~39~~% and 4~~6~~5% increase in HGVs respectively. The actual increase in HGVs per day is ~~295~~ 304 and 260~~52~~ which equates to around 2~~3~~5 and 22~~1~~ HGVs per hour on L~~l~~inks 2 and 18 respectively. However, the A1173 is a strategic route within the local area and as such around one~~1~~ additional HGV every two~~2~~ minutes is again not considered to be ~~severe, and~~severe and would only occur during the construction phase and will~~ould~~ be further managed through the Construction Traffic Management Plan (CTMP).

8.1.11 The impact across the peak hours has also been assessed along key strategic road links to ensure no serious impact occurs. The peak hours assessed are 06:00-09:00 in the AM, and 16:00-19:00 in the PM. These journeys are reflected in the table and percentage change below.

Table 8-4: Section 2 - 2026 Construction Peak Hours Impact

Survey Link	Time Period	2026 Baseline All Vehicles	2026 Baseline HGVs	HGV Construction Traffic	Construction Worker Traffic	2026 Base + Construction Traffic	2026 Baseline HGV + Construction HGV Traffic	All trafficPercentage change	HGV Traffic Percentage Change
78 - A180 - Between A1173 and A160	06:00-07:00	1,302	159	0	592	1,894	159	45%	0%
	07:00-08:00	2,081	182	28	0	2,110	210	1%	16%
	08:00-09:00	1,904	188	28	0	1,933	216	1%	15%
	16:00-17:00	2,227	138	28	0	2,255	167	1%	21%
	17:00-18:00	2,087	116	28	0	2,116	144	1%	25%
	18:00-19:00	1,445	87	28	0	1,473	115	2%	33%

8.1.12 The results show that the construction traffic does not have a severe impact on the SRN during the peak hours, with the highest percentage increase for all traffic being 4545% at ATC 78 during the hours of 06:00-07:00, due to construction workers driving to work. The ~~increase in~~ total traffic during this hour~~s~~ is lower than the highest recorded peak hour~~s~~ along the A180 (2,227 vehicles at 16:00-17:00 along link 78) and therefore should not negatively impact the SRN.

Route Section 3

~~7.1.13~~8.1.13 The increase in traffic flow as a percentage impact of Future B~~b~~aseline traffic flows within route S~~s~~ection 3 is contained in **Table 8-3**~~given below~~.

Table 7-4: Section 3 - Construction Daily Impact

Survey Link	Road Name	Baseline		Construction		Impact		Magnitude of Impact
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase	
6	A18	6323	980	593	140	9%	14%	Low
7	Waltham Road 1	5056	402	0	0	0%	0%	Very Low
8	Waltham Road 2	2723	215	0	0	0%	0%	Very Low
9	A16	11429	1362	816	56	7%	4%	Low
10	Thoroughfare	242	19	102	12	42%	63%	High
11	White Road	1786	278	162	36	9%	13%	Low
12	A18	5567	947	536	140	10%	15%	Low
13	A16	12051	1504	631	43	5%	3%	Very Low
15	A46 - Grimsby Road	15757	1534	304	97	2%	6%	Low
20	A18 - Barton Street South	10471	1380	736	185	7%	13%	Low
21	A16 Peaks Parkway	16392	1478	816	56	5%	4%	Very Low
22	Pear Tree Lane	2221	263	122	43	5%	16%	Medium
27	A18	3881	677	487	97	13%	14%	Low
48	B1219 - Station Road	13074	767	0	0	0%	0%	Very Low
50	Grimsby Road	13512	188	212	132	2%	70%	High

Survey Link	Road Name	Baseline		Construction		Impact		Magnitude of Impact
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase	
51	A1031	4565	59	212	132	5%	224%	High
52	Thoresby Road	2959	37	212	132	7%	357%	High
55	Walk Lane	29	2	0	0	0%	0%	Very Low
58	Old Man Road	158	14	58	0	36%	0%	Medium
72	Weelsby Road	21576	1170	279	82	1%	7%	Low
73	A46 Laceby Road	18295	1151	281	82	2%	7%	Low
74	A16	15801	1315	1116	91	7%	7%	Low

Table 8-5: Section 3 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
6	A18	6,398	980	636	104	7,034	1,084	10%	11%
7	Waltham Road 1	5,483	402	263	91	5,746	493	5%	23%
9	A16	12,856	1,362	798	55	13,654	1,417	6%	4%
10	Thoroughfare	242	19	115	17	357	36	47%	90%
11	White Road	1,923	278	332	67	2,255	345	17%	24%
12	A18	5,567	947	616	104	6,183	1,051	11%	11%

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
13	A16	12,051	1,504	565	38	12,616	1,542	5%	3%
15	A46 - Grimsby Road	15,762	1,536	383	62	16,145	1,598	2%	4%
20	A18 - Barton Street South	10,621	1,380	799	138	11,420	1,518	8%	10%
21	A16 Peaks Parkway	17,294	1,478	798	55	18,092	1,533	5%	4%
22	Pear Tree Lane	2,221	263	129	38	2,350	301	6%	15%
27	A18	3,881	677	503	50	4,384	727	13%	7%
50	Grimsby Road	14,644	188	286	69	14,930	257	2%	37%
51	A1031	4,575	59	286	69	4,861	128	6%	117%
52	Thoresby Road	2,959	37	286	69	3,245	106	10%	187%
72	Weelsby Road	21,983	1,170	366	72	22,349	1,242	2%	6%
73	A46 Laceby Road	18,694	1,153	366	72	19,060	1,225	2%	6%
74	A16	15,964	1,317	1,113	63	17,077	1,380	7%	5%
77	A180 - East of A1173	28,986	4,567	504	63	29,490	4,630	2%	1%

~~7.1.14~~8.1.14 With reference to Table 8-3~~the above table~~, the largest percentage increases in daily traffic are on the A1031 around Tetney (Links 51 and 52) with increases of 11743% on L~~l~~ink 51 and 187~~228~~% on L~~l~~ink 52) and the A1031 at Humberstone (Link 50) with an increase of 37~~45~~%.

~~7.1.15~~8.1.15 F~~However, f~~or Links 51 and 52, the percentage increase is due to the relatively low B~~b~~aseline number of HGVs with 59 on link 51 and 37 on link 52. During the construction phase, there is forecast~~predicted~~ to be 69~~84~~ HGVS per day along all of these links, which equates to around seven~~ix7~~ per hour (~~, which is~~ approximately one~~1~~ additional HGV every ten~~eight~~ minutes)~~8 minutes~~, which is not considered to be severe, and is only a temporary impact during the construction phase and will~~ould~~ be managed through the CTMP.

8.1.16 Thoroughfare (Link 10) also sees a high percentage increase due to a relatively low B~~b~~aseline. The percentage increase of HGVs by 90% is due to a B~~b~~aseline of only 19 ~~initial~~ HGVs, with the addition of 17 HGVs added to the network. This equates to an increase of 1-2 HGVs an hour. The 40% increase in all traffic on Link 10, can also be explained by a relatively low baseline of 242 vehicles a day (averaging at around 10 per hour). The addition of 97 construction vehicles explains the increase, though in reality would mean a maximum increase of 40 vehicles when construction workers are travelling to and from work, outside of the network peak hours.

~~7.1.16~~

Table 8-6: Section 3 - 2026 Construction Peak Hours Impact

Survey Link	Time Period	2026 Baseline All Vehicles	2026 Baseline HGVs	HGV Construction Traffic	Construction Worker Traffic	2026 Base + Construction Traffic	2026 Baseline HGV + Construction HGV Traffic	All trafficPercentage change	HGV Traffic Percentage Change
77 A180 - East of A1173	06:00-07:00	1827	101	0	403	2230	101	22%	0%
	07:00-08:00	2693	126	6	0	2699	131	0%	5%
	08:00-09:00	2462	138	6	0	2467	143	0%	4%
	16:00-17:00	3012	85	6	0	3018	91	0%	7%
	17:00-18:00	2852	71	6	0	2857	77	0%	8%
	18:00-19:00	1989	58	6	0	1995	64	0%	10%

8.1.1 The results show that the construction traffic does not have a severe impact on the SRN during the peak hours, with the highest percentage increase for all traffic being 22% at ATC 77 during the hours of 06:00-07:00, due to construction workers driving to work. The ~~increase in~~ traffic during this hour~~s~~r is significantly lower than the highest recorded peak hour~~s~~ along the A180 (3,012 vehicles at 16:00-17:00 along link 77) and therefore should not negatively impact the SRN.

Route Section 4

~~7.1.17~~8.1.2 The increase in traffic flow as a percentage impact of Future B~~b~~aseline traffic flows within route S~~s~~ection 4 is set out in Table 8-4~~given below~~.

Table 7-5: Section 4 - Construction Daily Impact

Survey Link	Road Name	Baseline		Construction		Impact		Magnitude of Impact
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase	
23	Ings Lane	290	32	0	0	0%	0%	Very Low
24	Alvingham Road	837	67	120	38	14%	57%	High
25	Yarburgh Road	611	71	38	38	6%	54%	High
26	Westfield Road	567	47	0	0	0%	0%	Very Low
28	A16	16102	1916	863	96	5%	5%	Very Low
29	Louth Bypass	14621	848	383	88	3%	10%	Low
46	Lock Road	694	86	0	0	0%	0%	Very Low
53	A1031 Main Road	2757	61	212	132	8%	216%	High
54	Warren Road	3211	62	174	94	5%	152%	High
59	Little Grimsby Lane	372	39	96	8	26%	21%	Medium
60	Brackenborough Road	598	38	56	0	9%	0%	Low
61	Brackenborough Road 2	1150	72	27	0	2%	0%	Very Low
62	North Holme Road	14650	1008	273	0	2%	0%	Very Low
63	Keddington Road	3049	213	291	0	10%	0%	Low
64	Louth Road 1	2209	151	195	0	9%	0%	Low
65	Mill Hill Way	2418	202	123	36	5%	18%	Medium
66	Red Leas Lane	87	8	30	0	34%	0%	Medium
67	Pick Hill Lane	189	18	58	0	30%	0%	Medium
68	Marsh Lane	1688	206	123	36	7%	17%	Medium
69	Louth Road 2	1332	102	44	44	3%	43%	High
70	Main Road	1024	88	14	0	1%	0%	Very Low
71	Kings Street	718	51	38	38	5%	75%	High

Table 8-7: Section 4 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
23	Ings Lane	290	32	20	0	310	32	7%	0%
24	Alvingham Road	837	67	262	50	1,099	117	31%	74%
25	Yarburgh Road	611	71	99	50	710	121	16%	70%
26	Westfield Road	567	47	20	0	587	47	4%	0%
28	A16	16,141	1,916	873	50	17,014	1,966	5%	3%
29	Louth Bypass	14,643	848	489	61	15,132	909	3%	7%
53	A1031 Main Road	2,757	61	286	69	3,043	130	10%	113%
54	Warren Road	3,211	62	272	66	3,483	128	8%	107%
59	Little Grimsby Lane	372	39	87	0	459	39	23%	0%
60	Brackenborough Road	598	38	39	0	637	38	7%	0%
61	Brackenborough Road 2	1,150	72	39	0	1,189	72	3%	0%
62	North Holme Road	14,665	1,008	297	0	14,962	1,008	2%	0%
63	Keddington Road	3,049	213	346	0	3,395	213	11%	0%
64	Louth Road 1	2,209	151	229	0	2,438	151	10%	0%
65	Mill Hill Way	2,418	202	146	9	2,564	211	6%	4%
66	Red Leas Lane	87	8	20	0	107	8	23%	0%
67	Pick Hill Lane	189	18	20	0	209	18	11%	0%
68	Marsh Lane	1,688	206	146	9	1,834	215	9%	4%
69	Louth Road 2	1,332	102	87	43	1,419	145	7%	42%

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
70	Main Road	1,024	88	23	0	1,047	88	2%	0%
71	Kings Street	718	51	99	50	817	101	14%	97%

~~7.1.18 With reference to the above table, the largest percentage increases are on the A1013 Main Road (Link 53) at Grainthorpe and Warren Road (Link 54) which is the A1031 at North Somercotes with an increase of 216% and 152% respectively. However, the increase in actual HGVs per day is 132 and 94 on links 53 and 54 respectively, which equates to approximately 11 additional HGVs per hour on Link 53 and 8 additional HGVs per hour HGVs on Link 54, which is not considered to be severe.~~

8.1.3 With reference to the above Table, the largest HGV percentage increases are on the A1013 Main Road (Link 53) at Grainthorpe and Warren Road (Link 54) which is the A1031 at North Somercotes with an increase of 113~~8~~% and 12~~0~~7% respectively. However, the absolute change in ~~-~~HGVs per day is 69~~84~~ and 66~~75~~ on Links 53 and 54 respectively, which equates to approximately ~~seven~~six additional HGVs per hour on Link 53 and six additional HGVs per hour HGVs on Link 54, which is not considered to be severe, particularly given the temporary nature of the increase.

8.1.4 Alvingham Road and Yarburgh Road (Links 24, 25) see high HGV percentage increases, of 74% and 70% respectively. This is attributed to low HGV Baseline traffic of 67 and 71 HGVs for each route, with the addition of 50 HGVs at both locations. This equates to four HGVs an hour during construction.

8.1.5 Kings Street (Link 71) experiences an HGV percentage increase of 97% which again can be attributed to a low Baseline of only 51 HGVs a day along the route. The addition of 50 HGVs (four per hour) explains the high percentage increase.

Route Section 5

~~7.1.19~~8.1.6 The increase in traffic flow as a percentage impact of Future B~~b~~aseline traffic flows within route S~~s~~ection 5 is documented in Table 8-5~~given below~~:

Table 8-8: Section 5 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
30	B1200 Manby Middlegate	4,082	435	489	61	4,571	496	12%	14%
33	Saltfleet Road	4,082	435	256	40	4,338	475	6%	9%
35	Thacker Bank	192	24	228	46	420	70	119%	190%
36	Thacker Bank	2,164	174	127	16	2,291	190	6%	9%
38	Three Bridge Lane	2,003	1,041	327	50	2,330	1,091	16%	5%
39	Mill Road	2,256	210	49	16	2,305	226	2%	7%
79	Mablethorpe Road	3,211	62	224	40	3,435	102	7%	64%

Table 1-3: Section 5 – 2026 Construction Daily Impact

Survey Link	Road Name	2026 Baseline		Construction		2026 Baseline + Construction		Percentage Impact	
		All Vehicles	HGVs	All Vehicles	HGVs	All Vehicles	HGVs	All Vehicle increase	HGV increase
30	B1200 Manby Middlegate	4,082	435	489	61	4,571	496	12%	14%
33	Saltfleet Road	4,082	435	256	40	4,338	475	6%	9%
35	Thacker Bank	192	24	228	46	420	70	119%	190%
36	Thacker Bank	2,164	174	127	16	2,291	190	6%	9%
38	Three Bridge Lane	2,003	1,041	327	50	2,330	1,091	16%	5%
39	Mill Road	2,256	210	49	16	2,305	226	2%	7%
79	Mablethorpe Road	3,211	62	224	40	3,435	102	7%	64%

8.1.7 With reference to the above Table it can be seen that the impact from the additional, temporary, construction traffic is only considered to be high on Thacker Bank (Link 35) and Mablethorpe Road (Link 79) with an increase of 190% and ~~83~~64% respectively. However, the number of additional HGV movements is only 46 per day on Thacker Bank and 40~~52~~ per day on Mablethorpe Road, which is not considered to be a severe impact, given that these journeys will be spread throughout the day.

8.1.8 The large percentage increases being attributed to the relatively low baseline flows on Thacker Bank (Link 35) which only have TEMPro growth applied to it, as well as Mablethorpe Road (Link 79), as based on the assessment of the committed development no traffic flows were predicted to use these either of these links.

~~7.1.20 With reference to the above table it can be seen that the impact from the additional, temporary, construction traffic is only considered to be high on Thacker Bank (Link 35) and Mablethorpe Road (Link 79) with an increase of 154% and 84% respectively. However, the number of additional HGV movements is only 37 per day on Thacker Bank and 50 per day on Mablethorpe Road, which is not considered to be a severe impact, with the percentage increase being due to the relatively low baseline flows.~~

~~8~~9 Mitigation

~~8.1.1~~9.1.1 As set out in **Section 12.16** of *ES Volume II Chapter 12: Traffic and Transport (Application Document 6.2.12)*, a Draft Construction Traffic Management Plan (CTMP) has been provided as included as **Appendix 12.5** and includes the following items:

- Relevant legislation;~~.~~
- The construction methodology and outline of the local road network and the key roads to be used during the construction phase, including traffic s~~S~~ignage requirements and working hours;~~,~~
- Details of the P~~p~~ipeline transportation, and storage including the location of the three ~~pipe dumps~~compounds and how the construction phase will progress;~~.~~
- Details of the works vehicles including personnel transport for the workforce, LGVs, HGVs, light plant and heavy plant;~~,~~ and
- Traffic movements and details around the methodology for calculating the construction traffic.

9.1.2 The aim of the CTMP will be to manage the construction traffic as far as is possible so as to minimise any impact, and it should be restated that the assessments within this Transport Assessment provide a worst case as no allowance has been made for either car sharing, public transport or the use of ~~mini buses~~minibuses by construction workers. It is also noted that it has been assumed all construction vehicle trips travel through the network from the north whereas in reality there may be more dispersion / and many shorter distance trips.

~~8.1.2~~9.1.3 The CWTP (document reference 9.23) [**REP2-034**] will aim to encourage staff to travel to work via alternative modes and car sharing to help minimise this impact, as set out in section 3.3, there is generally limited alternative transport modes available along the extent of the site, though where possible the CWTP will promote workers utilising available alternative methods.

~~8.1.3~~9.1.4 A CTMP is an industry standard method of managing the construction impact and a final version of the document will be prepared by the Contractor and agreed with all relevant Highways Authorities prior to the start of construction.

~~9~~10 Summary

10.1.1 This (TA) has been prepared by AECOM on behalf of the Applicant to assess the impact on traffic and transport generated by the onshore Viking CCS Pipeline which forms part of the Viking CCS Project.

10.1.2 The pipeline runs for approximately 55.5 km commencing at the Immingham Facility and ending at the Theddlethorpe Facility across through the local authorities of ~~North East~~Northeast Lincolnshire, North Lincolnshire and East L~~yiv~~ndsey.

10.1.3 The scheme will comprise of the construction, operation and decommissioning of the Viking CCS Pipeline. The main pipeline construction phase will last approximately 15 months, the operational phase will last a minimum of 25 years, and the decommissioning phase will follow this. The estimated construction and operational trip generation has been set out in section 6; the impact of decommissioning is not currently known.

10.1.4 Transport issues have been considered from an early stage and initial pre-application discussions with local authorities, and National Highways.

10.1.5 An Environmental Statement (ES) has also been prepared which includes a chapter on traffic and transport. It is therefore considered that the transport implications of the Scheme have been duly considered with the refinement and agreement of several aspects including the proposed access points and routing strategy throughout this process.

10.1.6 This TA accords with various policies and guidance including, National Policy Statements, the NPPF, the DfT Circular, National Highways Guidance, the Lincolnshire Local Transport Plan, the North East Lincolnshire Local Transport Plan, North Lincolnshire Local Transport Plan, and the Central Lincolnshire Local Plan. The proposed development is both tailored to local circumstances whilst reflecting the size and scope of the Scheme.

~~9.1.1~~10.1.7 Overall, the impact of the construction traffic is not anticipated to be severe within the network AM and PM peak and across the working day which is considered to be within normal daily traffic variation and, as such, no highway capacity traffic modelling is required to further understand the impact. A Contractor's CTMP will be implemented on site, based on the OCTMP included as Appendix 12.5 (*Application Document 6.4.12.5*), to limit vehicles to certain routes and to minimise any such impact of the construction traffic on the highway network as far as is possible.