

CONTENTS

9.0	TRAFFIC AND TRANSPORT	9-1
9.1	Introduction	9-1
9.2	Legislation and Planning Policy Context.....	9-1
9.3	Assessment Methodology and Significance Criteria	9-3
9.4	Baseline Conditions	9-11
9.5	Development Design and Impact Avoidance	9-15
9.6	Likely Impacts and Effects.....	9-16
9.7	Mitigation and Enhancement Measures	9-23
9.8	Limitations or Difficulties.....	9-23
9.9	Residual Effects and Conclusions	9-23
9.10	References.....	9-24

TABLES

Table 9.1: Sensitivity of Receptors	9-4
Table 9.2: Traffic and Transport Assessment Framework	9-7
Table 9.3: Consultation Summary.....	9-8
Table 9.4: 2018 Baseline Traffic Flows	9-12
Table 9.5: Summary of Recorded Accidents 1 January 2013 to December 2017	9-13
Table 9.6: TEMPRO Traffic Growth Factors (Average Day).....	9-13
Table 9.7: Future Baseline Traffic Flows (24 Hour AADT).....	9-14
Table 9.8: Committed Development Flows (24 hour AADT).....	9-14
Table 9.9: Future Baseline Traffic Flows including Committed Development (24 Hour AADT)	9-15
Table 9.10: Daily Construction Vehicle Profile (Peak of Construction).....	9-17
Table 9.11: 2020 Base + Committed + Peak Construction Traffic.....	9-17
Table 9.12: Daily Operational Vehicle Profile	9-20
Table 9.13: 2022 Base + Committed + Operational Traffic	9-21

9.0 TRAFFIC AND TRANSPORT

9.1 Introduction

9.1.1 This chapter of the Environmental Statement (ES) addresses the potential effects of the Proposed Development on traffic and transport during construction, operation (including maintenance) and decommissioning.

9.1.2 This chapter is supported by a Transport Assessment (TA) presented within Appendix 9A in ES Volume III. A TA scoping exercise was undertaken with North East Lincolnshire Council (NELC) and Highways England (HE) to agree the parameters of the Transport Assessment. A copy of the scoping correspondence received from NELC and HE officers is included in Annex 1 of the TA in Appendix 9A.

9.2 Legislation and Planning Policy Context

National Planning Policy Framework (July 2018)

9.2.1 The National Planning Policy Framework (NPPF) was updated in July 2018 (Ministry of Housing, Communities and Local Government, 2018). The NPPF sets out the Government's planning policies for England.

9.2.2 The NPPF states that the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how to travel. The policy states that local authorities should support a pattern of development, which, where reasonable to do so, facilitates the use of sustainable modes of transport. Plans and decisions should ensure that developments that generate significant movements are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.

9.2.3 The NPPF recommends that a Transport Statement (TS) or TA should support all developments that generate significant amounts of movement and that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Local Planning Policy

North East Lincolnshire Local Plan 2013 to 2032 (adopted 2018)

9.2.4 The Local Plan was adopted by NELC in March 2018 and sets out the vision and objectives for the authority, allocates sites for housing, employment and other forms of development and sets out policies.

9.2.5 Key transport related policies relevant to the Proposed Development that form part of the Local Plan are summarised below.

Policy 36: Promoting Sustainable Transport

9.2.6 Policy 36 states that *"to reduce congestion, improve environmental quality and encourage more active and healthy lifestyles, the Council will support measures that promote more sustainable transport choices."* The policy states that where appropriate, policies should seek to:

- focus development which generates significant movements in locations where the need to travel will be minimised;
- prioritise pedestrian and cycle access to and within the site;
- make appropriate provision for access to public transport and other alternative means of transport to the car, adopting a 400 m walk to bus stop standard;

- make suitable provision to accommodate the efficient delivery of goods and supplies; and
- make suitable provision for electric vehicle charging, car clubs and car sharing when considering car park provision.

9.2.7 The policy goes on to state that “*planning permission will be granted where any development that is expected to have significant transport implications delivers necessary and cost effective mitigation measures to ensure that development has an acceptable impact on the network’s functioning and safety.*”

9.2.8 The policy also states that “*where appropriate, Transport Statements, Transport Assessments and/or Travel Plans should be submitted with applications with the precise form being dependent on the scale and nature of development and agreed through early discussion with the Council*”.

Policy 38: Parking

9.2.9 Policy 38 states that “*Development proposals that generate additional parking demand should ensure that appropriate vehicle, powered two-wheeler and cycle parking provision is made. The form and scale of off-street parking required will be assessed against the following:*

- The accessibility of the development;
- The type, mix and use of the development;
- The availability and frequency of public transport services; and
- Local car ownership levels.”

9.2.10 The policy states that developers should consider and incorporate measures to minimise parking provision without causing a detrimental impact to the functioning of the local highway network.

9.2.11 The policy goes on to state that at least 5% of parking bays should be allocated for people with mobility impairments.

North East Lincolnshire Local Transport Plan (2016 – 2032)

9.2.12 North East Lincolnshire’s Local Transport Plan sets out a programme for a wide range of improvements to local transport over the period 2016 to 2032 (NELC, 2016). The objectives of the plan include:

- 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

- ensure that transport contributes to environmental excellence, including managing air quality and reducing transport-related greenhouse gas emissions.

9.2.13 Major local highways and transport improvement schemes within the immediate area to the Site include the South Humber Bank Link Road which received planning permission in September 2018.

Other Guidance

Planning Practice Guidance

9.2.14 Planning Practice Guidance titled 'Travel plans, transport assessments and statements in decision taking' was published in March 2014 on the Government planning guidance planning portal (DCLG, 2014) and has been used to inform the TA.

Guidelines for Environmental Assessment of Road Traffic

9.2.15 The 'Guidelines for the Environmental Assessment of Road Traffic' were published in 1993 by the Institute of Environmental Assessment (IEA). The guidelines provide a basis for a comprehensive and consistent approach to the appraisal of traffic and transport impacts. Extensive reference has been made to these Guidelines throughout the preparation of this chapter.

Department for Transport Circular 02/2013: The Strategic Road Network and the Delivery of Sustainable Development

9.2.16 Circular 02/2013 was published in September 2013 by the Department for Transport which sets out the way in which Highways England will engage with the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network and has been used to inform the transport assessment.

The Strategic Road Network: Planning for the Future

9.2.17 The Strategic Road Network: Planning for the Future 'A guide to working with Highways England on Planning Matters' published by Highways England in September 2015 offers advice and information regarding the information it expects to see within a planning proposal and has been used to inform the transport assessment.

9.3 Assessment Methodology and Significance Criteria

9.3.1 The environmental impact of the Proposed Development generated traffic has been assessed with reference to the 'Guidelines for the Environmental Assessment of Road Traffic' published by the IEA (1993). In accordance with guidance noted in Section 9.2 above, issues including severance, driver delay, pedestrian amenity and delay, accidents and safety associated with the Proposed Development have been investigated and are reported below.

9.3.2 Any likely significant environmental effects relating to noise and vibration and air pollution, generated by traffic from the Proposed Development are considered in Chapter 7: Air Quality and Chapter 8: Noise and Vibration of this ES.

Extent of Study Area

9.3.3 The Study Area scope of this assessment has been defined by reference to the 'Guidelines for the Environmental Assessment of Road Traffic' (IEA, 1993). The guidelines set out two rules as follows:

- Rule 1 – include highway links where traffic flows are predicted to increase by more than 30% (or where the number of Heavy Goods Vehicles (HGVs) is predicted to increase by more than 30%); and

- Rule 2 – include any other specifically sensitive areas where the traffic flow (or HGV component) are predicted to increase by more than 10%.
- 9.3.4 The road links that have been considered in determining if the above rules are satisfied, and which form the Study Area, are listed below and shown on Figure 3.2 in Appendix 9A (ES Volume III):
- South Marsh Road (East of Hobson Way);
 - South Marsh Road (West of Hobson Way);
 - Hobson Way (North of South Marsh Road);
 - Kiln Lane;
 - A1173 (West of North Moss Lane); and
 - A1173 (North of A180).
- 9.3.5 The scope and methodology for the assessment of effects on traffic and transport within this Study Area has been discussed and agreed with NELC and HE.

Sensitivity of Receptors

- 9.3.6 The sensitivity of a road or the immediate area through which it passes can be defined by the type of user groups who may use them. Vulnerable users will include the elderly and children. It is also necessary to consider footpath and cycle route networks that cross the roads within the Study Area.
- 9.3.7 A desktop exercise has been undertaken to classify the sensitivity of the routes within the Study Area. Table 9.1 below identifies the links, the assigned sensitivity rating and the justification:

Table 9.1: Sensitivity of Receptors

LINK NO.	LINK DESCRIPTION	LINK SENSITIVITY	RATIONALE
1	South Marsh Road (East of Hobson Way)	Low	South Marsh Road is a 6.75 m wide single carriageway road which is street lit and is subject to a 40 mph speed limit. Any frontage development is industrial in nature. There are no pedestrian facilities along the road. The road is promoted as a leisure cycle route (known as Fishermen and Ships) by NELC.
2	South Marsh Road (West of Hobson Way)	Low	The road is a single lane carriageway for the majority of the route with passing places provided between Hobson Way and North Moss Lane. The road passes through open country. There are no pedestrian facilities along the road. The road is promoted as a leisure cycle route (known as Fishermen and Ships) by NELC.
3	Hobson Way (North of	Low	Hobson Way is a 7.3 m wide

LINK NO.	LINK DESCRIPTION	LINK SENSITIVITY	RATIONALE
	South Marsh Road)		single carriageway road which is street lit and is subject to a 40 mph speed limit. A pedestrian footway is provided along the western side of the carriageway between Hobson Way and Kiln Lane. Any frontage development is industrial in nature.
4	Kiln Lane	Low	Kiln Lane is a 7.3 m wide single carriageway road which is street lit and is subject to a 40 mph speed limit. Kiln Lane provides access to a number of industrial units which are located along its frontage. A pedestrian footway is provided along the southern side of the carriageway between Hobson Way and the railway level crossing.
5	A1173 (West of North Moss Lane)	Very Low	The A1173 is a 7.3 m wide single carriageway road which is street lit and is subject to a 40 mph speed limit. There are no pedestrian footways along the road. Any frontage development is industrial in nature.
6	A1173 (North of A180)	Very Low	The A1173 between the A180 and the first roundabout passes through open county. It is a 7.3 m wide single carriageway road and is subject to the 60 mph national speed limit for single carriageway roads. There are no pedestrian footways along the road.

9.3.8 The assessment of traffic impacts on the A180 have not been assessed due to development traffic representing a very low percentage of total traffic on the A180, which does not trigger the rule threshold guidelines. There are also no sensitive receptors along the A180 in the vicinity of the Study Area (i.e. between the A1173/ A180 Stallingborough Interchange junction and the A180/ Moody Lane/ Pyewipe Road (Westgate Roundabout)).

Assessment Methods

9.3.9 The assessment methodology adopted in this chapter as contained in the document 'Guidelines for Environmental Assessment of Road Traffic' (IEA, 1993), is recognised as the industry standard methodology for the assessment of traffic and highway impacts. The guidelines outline the issues and the respective changes in volume and composition of traffic regarded as necessary before each issue results in traffic and transport impacts.

9.3.10 Based on planning consent being granted, construction is programmed to start in 2019 and last approximately 36 months with the Proposed Development due to be operational in 2022. The assessment scenarios are therefore:

- Construction Phase (2019 – 2022); and
- Opening Year (2022).

9.3.11 As described in Chapter 4: The Proposed Development, there are a number of possible development scenarios – a single stream plant, a two stream plant built in a single phase, or a two stream plant built in two phases. For the purposes of this transport assessment the ‘worst case’ in terms of construction traffic would be the construction of the full development (two stream plant) in a single phase. If the Proposed Development is constructed in two phases, with the construction of the second phase concurrent with the operation of the first phase, the total traffic volume would be comparable to this scenario. If a single stream plant is built the traffic generated during its construction and operation would be less than the traffic generated by a two stream plant. A two stream plant constructed in a single phase is therefore the only scenario considered in this chapter and in the Transport Assessment in Appendix 9A.

9.3.12 The following aspects are likely to be susceptible to changes as a result of the Proposed Development:

Severance

9.3.13 Severance occurs in a community when a major road separates people from places and other people. Severance occurs from difficulty of crossing a road or where the road itself creates a physical barrier. Severance can be caused to pedestrians and motorists.

9.3.14 The Guidelines (IEA, 1993) suggest that changes in total traffic flow of 30%, 60% and 90% will result in slight, moderate and substantial changes in severance respectively.

Pedestrian Amenity

9.3.15 Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition, pavement width and separation between vehicles and pedestrians. The impact manifests itself in fear and intimidation, exposure to noise and exposure to vehicle emissions.

9.3.16 The Guidelines (IEA, 1993) suggest that a doubling or halving of total traffic flow or the HGV composition could lead to perceptible negative or positive impacts upon pedestrian amenity.

Fear and Intimidation

9.3.17 The volume of traffic and its HGV composition are the factors that contribute to fear and intimidation. In the absence of thresholds set out in the guidance, this ES considers that changes in total traffic flow of 30%, 60% and 90% are considered to result in slight, moderate or substantial impacts.

Highway Safety

9.3.18 Highway safety is assessed by the frequency and severity of injury accidents that are attended by the police and recorded in official accident statistics. Intensification of use or changes in the composition of traffic have the potential to have an effect on the collision rates.

9.3.19 The examination of recent collision statistics on routes within the Study Area will highlight any hotspots that need further examination.

Driver Delay

9.3.20 The use of industry standard junction capacity modelling programs provides a methodology to quantify junction delay. Driver delay is only likely to be significant where the existing Study Area highway network is at or close to capacity.

Significance Criteria

9.3.21 Using the information set out above, the magnitude of impacts is defined as set out in Table 9.2.

Table 9.2: Traffic and Transport Assessment Framework

TYPE OF IMPACT	MAGNITUDE OF IMPACT			
	Very Low	Low	Medium	High
Severance	Change in total traffic flow of <30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flow of >90%
Pedestrian Amenity	Change in traffic flow (or HGV component) <50%	Change in traffic flow (or HGV component) of 51% to 100%	Change in traffic flow (or HGV component) of 101% to 150%	Change in traffic flow (or HGV component) of >151%
Fear and Intimidation	Change in total traffic flow of <30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flow of >90%
Highway Safety	Magnitude of impact derived using professional judgement informed by the frequency and severity of collisions within the Study Area and the forecast increase in traffic			
Driver Delay	Magnitude of impact derived using professional judgement informed by the increase in vehicle delay and whether a junction is at, or close to capacity.			

9.3.22 The effects are classified by combining the receptor sensitivity with the magnitude of impact using the assessment matrix as outlined in Chapter 2: Assessment Methodology.

Sources of Information/ Data

9.3.23 As set out in further detail in the TA (Appendix 9A in ES Volume III), a series of 7-day automated traffic counts (ATCs) were undertaken in June 2018 and September 2018 at the following locations to provide a baseline for comparison on the following roads:

- South Marsh Road (East of Hobson Way);
- South Marsh Road (West of Hobson Way);
- Hobson Way (North of South Marsh Road);
- Kiln Lane (West of Hobson Way);
- A1173 (West of North Moss Lane); and
- A1173 (North of A180).

9.3.24 In addition to the ATC counts, the impact of the Proposed Development has been examined at the following junctions on the local highway network for the overall network morning (AM) and evening (PM) peak hours:

- South Marsh Road / Hobson Way;
- Hobson Way / Laporte Road / Kiln Lane;
- Kiln Lane / North Moss Lane / Trondheim Way;
- A1173 / Kiln Lane;
- A1173 / A180 Stallingborough Interchange; and
- A180 / Moody Lane / Pyewipe Road (Westgate Roundabout).

9.3.25 The counts were undertaken on Thursday 7th June 2018 apart from the A1173 / A180 Stallingborough Interchange which was undertaken on Wednesday 5th July 2017 and the Kiln Lane / North Moss Lane / Trondheim Way Roundabout and the Westgate Roundabout which were undertaken on Thursday 11th October 2018. The surveys were undertaken between 07:00 and 10:00 and 16:00 and 19:00 hours.

Consultation

9.3.26 A summary of the consultation responses specific to traffic and transport that have been received is provided in Table 9.3 below.

Table 9.3: Consultation Summary

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE / HOW COMMENTS HAVE BEEN ADDRESSED
Highways England	July 2018 (formal response to EIA Scoping Report)	<p>It is noted that no junctions on the SRN have been included within the Study Area, and as such, justification is required as to this omission.</p> <p>Given that the EIA identifies that the SRN needs to be considered during the construction and operation phases, the SRN should be considered within the Study Area.</p> <p>More precise information on construction traffic and operational traffic will be required within the TA.</p> <p>The TA should pay due cognisance to the requirements of</p>	<p>A historic count has been obtained for the A180 Stallingborough Interchange dated July 2017.</p> <p>This is noted. Full details provided within the TA (Appendix 9A in ES Volume III).</p> <p>This is noted. Full details provided within the TA (Appendix 9A in ES Volume III).</p> <p>This is noted.</p>

CONSULTEE	DATE (METHOD OF CONSULTATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE / HOW COMMENTS HAVE BEEN ADDRESSED
		<p>Circular 02/2013.</p> <p>It is considered that the proposed link road – Planning application reference: DM/0094/18/FUL – from Hobson Way to Moody Lane should be considered within the Study Area as the link road will impact upon the distribution of trips to and from the development proposals.</p>	<p>The South Humber Bank Link Road TA prepared by Atkins in January 2018 states that the Link Road will result in a redistribution of trips to/ from the areas at either end of the proposed Link Road. The effect of the proposed Link Road would be additional road capacity at the A180 / A1173 interchange and therefore it is not considered that any assessment with the proposed Link Road in place is considered necessary. A sensitivity test with the Link Road open is included in the TA (Appendix 9A in ES Volume III).</p>
Highways England	September 2018 (email response to TA scoping report)	<p>A 2028 assessment year should be provided for completeness.</p> <p>Committed development information should be provided through liaison with the local planning authority.</p>	<p>The 2028 future operation scenario is included within the TA (Appendix 9A in ES Volume III) but not in the Transport Chapter as the 2022 opening year scenario is the worst case for EIA. This is due to lower baseline flows in 2022 when compared to 2028 so the Proposed Development traffic represents a higher percentage impact in 2022 compared to 2028.</p> <p>This is noted.</p>
North East Lincolnshire Council	September 2018 (email response to TA scoping report)	<p>We would expect the Transport Assessment to be structured in the following way: Executive Summary; Introduction; Policy Context; Baseline Data; Details of Construction; Trip Generation;</p>	<p>This is noted. Full details provided within the TA (presented within Appendix 9A in ES Volume III).</p>

CONSULTEE	DATE (METHOD OF CONSUL- TATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE / HOW COMMENTS HAVE BEEN ADDRESSED
		<p>Impacts; Proposed Mitigation; Summary and Conclusions</p> <p>Junction capacity analysis is also required at Kiln Lane / North Moss Lane / Trondheim Way roundabout and A180 / Moody Lane / Pyewipe Road roundabout.</p> <p>A Travel Plan will be required to be submitted as part of the planning application.</p> <p>Due to the number of construction workers required at the site, we would also request a Construction Travel Plan to deal with how staff are going to travel to site during the construction phases.</p> <p>A Construction Management Plan will be required to detail how traffic will be managed during the construction phase. A draft should be submitted as part of the planning application submission.</p> <p>A Delivery and Servicing Plan will be required to demonstrate how deliveries and servicing will be</p>	<p>Additional counts have been commissioned at these junctions. Analysis is provided within the TA (Appendix 9A in ES Volume III).</p> <p>A Framework Operational Travel Plan has been prepared and included (see Annex 6 of the TA in Appendix 9A, ES Volume III).</p> <p>A Framework Construction Travel Plan has been prepared and included (see Annex 25 of the TA in Appendix 9A, ES Volume III).</p> <p>A Framework Construction Traffic Management Plan has been prepared and included (see Annex 26 of the TA in Appendix 9A, ES Volume III).</p> <p>A Delivery and Servicing Plan has been prepared and included (see Annex 24 of the TA in Appendix 9A, ES Volume III).</p>

CONSULTEE	DATE (METHOD OF CONSUL- TATION)	SUMMARY OF CONSULTEE COMMENTS	SUMMARY OF RESPONSE / HOW COMMENTS HAVE BEEN ADDRESSED
		managed. This should include (but not be limited to) details of banksmen requirements, scheduling to ensure that vehicles are not left waiting on the highway, time restrictions etc. A Draft should be submitted as part of the planning application submission.	

9.4 Baseline Conditions

Site Location

- 9.4.1 The Proposed Development is located approximately 3 km north-east of the A180 Stallingborough Interchange which connects to the A1173.
- 9.4.2 The A1173 runs north-south linking to the A180 Stallingborough Interchange to the south at a grade separated roundabout and the A1173 / Kiln Lane roundabout to the north. The A1173 is a 7.3 m wide single carriageway road and is subject to the national speed limit.
- 9.4.3 At the A1173 / Kiln Lane roundabout, the A1173 heads north towards Immingham and Kiln Lane continues east. Kiln Lane is a 7.3 m wide single carriageway road which is street lit and is subject to a 40 mph speed limit and provides access to a number of industrial units.
- 9.4.4 Continuing approximately 1.8 km east along Kiln Lane, the road connects with Hobson Way and Laporte Road at a four arm standard roundabout. Continuing south along Hobson Way, the single carriageway road is subject to a 40 mph speed limit. The road is street lit and a pedestrian footway is provided along the western side of the carriageway.
- 9.4.5 Continuing south along Hobson Way, the road connects with South Marsh Road approximately 1.2 km south of Kiln Lane at a three arm priority T-junction. Access to the Proposed Development is proposed from South Marsh Road which also provides highway access to the existing South Humber Bank Power Station, Synthomer (UK) Limited and the NEWLINCS Integrated Waste Management Facility. South Marsh Road is a 6.75 m wide single carriageway road which is street lit and is subject to a 40 mph speed limit.

Existing Traffic Flows

9.4.6 As described in Section 9.3, the following highway links form the highway network of interest (the Study Area) for this assessment:

- South Marsh Road (East of Hobson Way);
- South Marsh Road (West of Hobson Way);
- Hobson Way (North of South Marsh Road);
- Kiln Lane (West of Hobson Way);
- A1173 (West of North Moss Lane); and
- A1173 (North of A180).

9.4.7 Baseline 24 hour annual average daily traffic (AADT) two-way link flows for the Study Area are provided in Table 9.4. Further details of the baseline traffic data are provided in the TA at Appendix 9A in ES Volume III.

Table 9.4: 2018 Baseline Traffic Flows

LINK NO.	LOCATION	TOTAL VEHICLES	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	790	208
2	South Marsh Road (West of Hobson Way)	781	56
3	Hobson Way (North of South Marsh Road)	1,220	256
4	Kiln Lane (West of Hobson Way)	2,854	1,005
5	A1173 (West of North Moss Lane)	8,997	2,537
6	A1173 (North of A180)	14,197	2,644

Baseline Accident Record

9.4.8 Personal Injury Accident (PIA) data has been obtained from the Crashmap website for the period 1st January 2013 to 31st December 2017 for the Study Area, which includes A180/A1173 interchange, A1173, Kiln Lane, Hobson Way and South Marsh Road and the A180 Westgate Roundabout.

9.4.9 In total, 14 accidents were recorded between the A180/A1173 Interchange and South Marsh Road of which ten were recorded as 'Slight' and four as 'Serious'. Table 9.5 summarises the accidents that have occurred over the specific period.

Table 9.5: Summary of Recorded Accidents 1 January 2013 to December 2017

LOCATION	ACCIDENT SEVERITY			
	Slight	Serious	Fatal	Total
A180 / A1173 Stallingborough Interchange	5	1	0	6
A1173 Corridor	1	1	0	2
A1173 / Kiln Lane Roundabout	1	0	0	1
Kiln Lane Corridor	2	1	0	3
Kiln Lane / Hobson Way / Laporte Road Roundabout	1	0	0	1
Hobson Way Corridor	0	1	0	1

9.4.10 In total, 35 accidents were recorded at the A180 Westgate Roundabout of which 34 were recorded as 'Slight' and one as 'Serious'.

9.4.11 As can be seen in Table 9.5, the local highway network in the vicinity of the Site has a low accident record.

9.4.12 In summary the cause of the majority of accidents within the Study Area was driver error due to lack of awareness or loss of control as opposed to any physical alignments on the highway infrastructure.

Future Baseline

9.4.13 Future year baseline traffic flows for the assessment years of 2020 (for the peak of construction) and 2022 (year of opening) have been derived by applying the standard Trip End Model Presentation Program (TEMPRO) to the above flows and are indicated in Table 9.6. These growth factors have been applied to the baseline to derive future baseline flows.

9.4.14 Future year baseline traffic flows for the assessment years 2020 peak of construction and 2022 opening year are presented in Table 9.7.

Table 9.6: TEMPRO Traffic Growth Factors (Average Day)

YEAR	ROAD TYPE	GROWTH FACTOR
2018 – 2020 (Peak of Construction)	Principal	1.0269
2018 – 2022 (Opening Year)	Principal	1.0543

Table 9.7: Future Baseline Traffic Flows (24 Hour AADT)

LINK NO.	LOCATION	2020 BASELINE		2022 BASELINE	
		TOTAL VEHICLE	TOTAL HGVS	TOTAL VEHICLE	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	812	213	833	219
2	South Marsh Road (West of Hobson Way)	802	58	823	59
3	Hobson Way (North of South Marsh Road)	1,253	264	1,286	271
4	Kiln Lane (West of Hobson Way)	2,931	1,032	3,009	1,060
5	A1173 (West of North Moss Lane)	9,239	2,606	9,485	2,675
6	A1173 (North of A180)	14,579	2,715	14,968	2,788

9.4.15 The assessment has had regard to the traffic generated by the following committed developments within the Study Area:

- North Beck Energy Centre (Planning Ref: DM/0026/18/FUL) ;
- Stallingborough Employment Site (Planning Ref: DM/0105/18/FUL);
- End of Life Tyre Pyrolysis Plant (Planning Ref: DM/0333/17/FUL);
- Paragon / Kia Development (Planning Ref: DM/0147/16/FUL); and
- Renewable Power Facility (Planning Ref: DM/0848/14/FUL).

9.4.16 The total committed two-way flows for each link road within the Study Area for the years 2020 and 2022 are shown in Table 9.8. The difference in committed development flows between 2020 and 2022 is due to the Stallingborough Employment Site being built out over a number of phases.

Table 9.8: Committed Development Flows (24 hour AADT)

LINK NO.	LOCATION	2020		2022	
		TOTAL VEHICLE	TOTAL HGVS	TOTAL VEHICLE	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	0	0	0	0
2	South Marsh Road (West of Hobson Way)	0	0	0	0
3	Hobson Way (North of South Marsh Road)	0	0	0	0
4	Kiln Lane (West of Hobson Way)	737	80	909	252
5	A1173 (West of North Moss Lane)	467	183	730	406
6	A1173 (North of A180)	1,630	266	2,339	707

9.4.17 Table 9.9 summarises the future year baseline (i.e. existing baseline traffic, plus growth factor, plus committed development traffic flows) for the assessment years 2020 peak of construction and 2022 year of opening.

Table 9.9: Future Baseline Traffic Flows including Committed Development (24 Hour AADT)

LINK NO.	LOCATION	2020 BASELINE PLUS COMMITTED		2022 BASELINE PLUS COMMITTED	
		TOTAL VEHICLE	TOTAL HGVS	TOTAL VEHICLE	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	812	213	833	219
2	South Marsh Road (West of Hobson Way)	802	58	823	59
3	Hobson Way (North of South Marsh Road)	1,253	264	1,286	271
4	Kiln Lane (West of Hobson Way)	3,668	1,112	3,918	1,312
5	A1173 (West of North Moss Lane)	9,706	2,789	10,215	3,081
6	A1173 (North of A180)	16,209	2,981	17,307	3,495

9.5 Development Design and Impact Avoidance

9.5.1 It is recognised that the Proposed Development represents a major construction project in the area and that it is essential to minimise the temporary impact of construction traffic over the 36 month construction period. During the construction phase, the Applicant will apply the following mitigation measures in respect of the local highways:

- Implementation of a Construction Worker Travel Plan (CWTP) aimed at identifying measures and establishing procedures to encourage workers to ensure that vehicle occupancy rates used in the Transport Assessment as a basis for analysis are achieved (a Framework CWTP is provided in Annex 23 of the TA in Appendix 9A ES Volume III). Measures could include:
 - managing the number and use of parking spaces on-site to ensure that the number of vehicles arriving at the Site is controlled;
 - encouraging contractors to provide minibuses for transporting their workers from key points of construction worker origin to the Site;
 - implementing a construction worker car share scheme; and
 - providing secure parking for bicycles.
- Implementation of a Construction Traffic Management Plan (CTMP) identifying measures to control the routing and impact that construction HGVs will have on the local road network during construction (a Framework CTMP is provided in Annex 24 of the TA in Appendix 9A ES Volume III). Measures could include:
 - HGV routing plan communicated to all drivers during their induction;
 - local signage strategy;
 - limiting construction delivery hours to 07:00 – 19:00;

- management of abnormal load deliveries; and
- 24 hour contact name and number for members of the public should there be any issues relating to construction traffic.

9.5.2 During operation, an Operational Travel Plan will be implemented, aimed at identifying measures and establishing procedures to encourage operational staff to adopt modes of transport which reduce reliance on single occupancy private car use. A Framework Operational Travel Plan is provided in Annex 6 of the TA in Appendix 9A, ES Volume III.

9.5.3 In addition, at the request of NELC Highways, a Delivery and Servicing Plan will be implemented demonstrating how deliveries and servicing will be managed. A draft is provided in Annex 22 of the TA in Appendix 9A, ES Volume III.

9.6 Likely Impacts and Effects

Construction

9.6.1 It is proposed that all construction worker vehicles and HGVs will access the Site from South Marsh Road via the existing gate entrance on South Marsh Road to the east of South Humber Bank Power Station (in the north-west of the Main Development Area) and via a newly constructed access for the Proposed Development in the north-east of the Main Development Area (see Annex 5 of the TA in Appendix 9A, ES Volume III).

9.6.2 The construction period for the Proposed Development is temporary in nature and estimated to be approximately 36 months starting in 2019, reaching a peak in 2020.

9.6.3 The profile of the anticipated daily workforce each month through the construction period is provided in the TA presented within Appendix 9A in ES Volume III. The standard construction working hours for the Proposed Development will be 07:00 to 19:00 Monday to Saturday. Key exceptions to these working hours could include activities that must continue beyond these hours and non-noisy activities.

9.6.4 Based on the methodology contained within the TA (Appendix 9A in ES Volume III), the weekday construction worker shift is likely to generate 375 vehicular trips (one-way) during the AM arrival and PM departure periods at the peak of construction (estimated to be at the beginning of the second year of construction, around Quarter 3 (Q3) 2020).

9.6.5 The volume of construction HGVs on the network is predicted to be at its maximum of 412 two-way daily vehicle movements (206 in and 206 out) during part of the first year of construction (around Q3 2019), associated with the potential cut and fill of the top layer of ground within the Main Development Area to improve the geotechnical condition of the ground. During the remainder of the construction period HGV movements will vary between 18 and 116 two-way movements per day.

9.6.6 Combining construction workforce vehicle movements with construction HGV movements over the entire construction programme shows the overall peak of construction to occur in the second year of construction (around Q3 2020) when 116 two-way HGV movements per day (58 in and 58 out) are anticipated. Deliveries will be made between 07:00 and 19:00 hours.

9.6.7 A number of Abnormal Indivisible Load (AIL) movements are expected during the construction programme associated with the delivery of large items of plant and equipment.

9.6.8 The ports of Immingham, Hull and Goole are situated near to the Proposed Development. Detailed consideration will be given to the appropriate port and AIL routes during detailed design when details of the size of loads and timing of deliveries are known. However, it is a reasonable expectation that major ports are able to

accommodate abnormal loads and that adequate access to the strategic network is achievable.

- 9.6.9 Table 9.10 below summarises the expected daily profile of construction phase peak traffic levels.

Table 9.10: Daily Construction Vehicle Profile (Peak of Construction)

HOUR BEGINNING	CONSTRUCTION WORKER VEHICLES		CONSTRUCTION HGVS	
	ARRIVALS	DEPARTURES	ARRIVALS	DEPARTURES
06:00	158	0	0	0
07:00	138	0	5	5
08:00	45	0	5	5
09:00	34	0	5	5
10:00	0	0	5	5
11:00	0	0	5	5
12:00	0	0	5	5
13:00	0	0	5	5
14:00	0	0	5	5
15:00	0	0	5	5
16:00	0	82	5	5
17:00	0	98	5	5
18:00	0	176	3	3
19:00	0	19	0	0
Total	375	375	58	58

- 9.6.10 Based on the vehicle assignment contained within the TA in Appendix 9A, ES Volume III, Table 9.11 summarises the likely changes in link flows within the Study Area for the assessment year 2020 peak of construction. HGV traffic has been assigned to the most direct route to the strategic network which is the A180 Stallingborough Interchange via Hobson Way, Kiln Lane and the A1173. The construction workers assignment has been based on the geographic split of population within a 45 minute drive-time of the Site.

Table 9.11: 2020 Base + Committed + Peak Construction Traffic

LINK	LOCATION	BASELINE FLOW (INC. COM DEV)		CONSTRUCTION TRAFFIC		PERCENTAGE INCREASE	
		TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	812	213	866	116	106.7%	54.5%
2	South Marsh Road (West of Hobson Way)	802	58	75	0	9.4%	0.0%
3	Hobson Way (North of South Marsh Road)	1,253	264	791	116	63.1%	43.9%

LINK	LOCATION	BASELINE FLOW (INC. COM DEV)		CONSTRUCTION TRAFFIC		PERCENTAGE INCREASE	
		TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS
4	Kiln Lane (West of Hobson Way)	3,668	1,112	791	116	21.6%	10.4%
5	A1173 (West of North Moss Lane)	9,654	2,769	791	116	8.2%	4.2%
6	A1173 (North of A180)	16,209	2,981	784	116	4.8%	3.9%

9.6.11 As described in Section 9.3 above, the IEA Guidelines for the Environmental Assessment of Road Traffic (IEA, 1993) suggests two broad rules of thumb should be used as a screening process to delimit the scale and extent of assessment:

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

9.6.12 Table 9.11 demonstrates that the proposed construction traffic will result in a greater than 30% increase in traffic on South Marsh Road (East of Hobson Way) with a 106.7% increase and Hobson Way (North of South Marsh Road) with a 63.1% increase. This is primarily due to the low number of existing vehicles using South Marsh Road and Hobson Way.

9.6.13 For all other links within the Study Area no further assessment has been undertaken with increases in traffic at negligible levels. As such, the environmental effects associated with construction traffic would be negligible adverse (not significant) on all links except for South Marsh Road (East of Hobson Way) and Hobson Way (North of South Marsh Road). Effects on these two links are assessed below.

Severance

9.6.14 It is evident that the change in total traffic associated with construction is greater than 90% (high impact) on South Marsh Road (East of Hobson Way) due to low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).

9.6.15 The change in total traffic associated with construction is greater than 60% (medium impact) on Hobson Way (North of South Marsh Road) due to the low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).

Pedestrian Amenity

9.6.16 It is identified in the IEA Guidelines for the Environmental Assessment of Road Traffic (IEA, 1993), that pedestrian amenity is affected where traffic flows are halved or doubled. It is evident that the change in total traffic (or HGV component) associated with construction is greater than 100% (medium impact) on South Marsh Road (East of Hobson Way) however given the link sensitivity is low with no pedestrian footways provided on this section of South Marsh Road, the overall effect is considered minor adverse (not significant).

- 9.6.17 The change in total traffic (or HGV component) associated with construction is 63.1% (low impact) on Hobson Way. The link sensitivity is considered low given a pedestrian footway is provided on the western side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

Fear and Intimidation

- 9.6.18 It is evident that the change in total traffic associated with construction is greater than 90% (high impact) on South Marsh Road (East of Hobson Way) due to low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).
- 9.6.19 The change in total traffic associated with construction is greater than 60% (medium impact) on Hobson Way (North of South Marsh Road) due to the low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).

Accidents and Safety

- 9.6.20 There have been zero PIAs on South Marsh Road (East of Hobson Way) in the last five years. As such increases in traffic associated with construction will result in a negligible adverse (not significant) effect.
- 9.6.21 There has only been a single PIA on Hobson Way (North of South Marsh Road) in the last five years. Considering the traffic flows over this period (1,220 AADT) and the length of the link (1.2 km) the calculated accident rate is 374 accidents per billion vehicle kilometres. Compared with the national average rate which in 2016 was 480 accidents per billion vehicle kilometres it is considered that Hobson Way has low sensitivity, which with low magnitude increases in traffic will result in a negligible adverse (not significant) effect.

Driver Delay

- 9.6.22 The performance of a junction is judged by the ratio of flow to capacity (RFC). As a general guide, a junction operating below a threshold of 0.85 is considered to operate within its design capacity. Junction modelling has been undertaken at key junctions within the Study Area (the results of which are provided in the TA in Appendix 9A, ES Volume III) for the AM and PM Peak hours (07:00 – 08:00 and 16:00 – 17:00) and demonstrates that each junction operates within its design capacity in terms of the future baseline and future baseline plus Proposed Development peak of construction scenarios apart from the A180 Westgate Roundabout. This shows the junction to be already operating above its theoretical capacity in 2018. However considering the small percentage that construction flows are adding to the junction, it is reasonable to consider that mitigation at this junction would be disproportionate to the marginal impact on the junction's performance. Junction modelling therefore leads to the conclusion that the driver delay effect of the Proposed Development during construction will be negligible adverse (not significant).

Opening and Operation

- 9.6.23 Once operational in 2022 the Proposed Development will employ up to 56 staff. Conservatively assuming a car occupancy of one staff member per vehicle, this equates to 56 cars per day (112 vehicle movements).
- 9.6.24 Given the 24 hour operation of the facility a staff shift system will be in operation and is likely to be undertaken via three 8 hour shifts (06:00 – 14:00, 14:00 – 22:00, 22:00 – 06:00). It is anticipated there will be a maximum of 14 staff per shift, with an additional 14 day / management staff being employed at the Proposed Development.

- 9.6.25 Deliveries (including fuel, all consumables, bottom ash, and APC residues) are proposed to occur between the hours of 06:00 and 18:00. It is anticipated that total HGV movements at the Proposed Development would be 312 in and 312 out per day. The calculation of anticipated fuel deliveries is set out in the TA (which is presented within Appendix 9A in ES Volume III).
- 9.6.26 It is expected that each year the facility will be taken offline for approximately three weeks to allow for invasive maintenance activities such as internal inspection of the boiler. Approximately every five to six years the facility will be taken offline for a major outage for substantial maintenance activities such as replacement sections of the boiler. Such a major outage is likely to last approximately five weeks where it could be expected that up to 200 staff could be on site on any one day.
- 9.6.27 Table 9.12 below summaries the expected daily profile of operational traffic levels.

Table 9.12: Daily Operational Vehicle Profile

HOUR BEGINNING	STAFF VEHICLES		OPERATIONAL HGVS	
	ARRIVALS	DEPARTURES	ARRIVALS	DEPARTURES
05:00	14	0	0	0
06:00	0	14	44	43
07:00	14	0	33	33
08:00	0	0	36	33
09:00	0	0	36	34
10:00	0	0	26	31
11:00	0	0	29	27
12:00	0	0	29	27
13:00	14	0	26	25
14:00	0	14	20	20
15:00	0	0	16	18
16:00	0	0	13	14
17:00	0	14	4	5
18:00	0	0	0	2
19:00	0	0	0	0
20:00	0	0	0	0
21:00	14	0	0	0
22:00	0	14	0	0
23:00	0	0	0	0
00:00	0	0	0	0
Total	56	56	312	312

- 9.6.28 Based on the staff and HGV vehicle assignments contained within the TA (Appendix 9A in ES Volume III). Table 9.13 summarises the likely changes in link flows within the agreed Study Area for the 2022 opening year. This assessment year represents the minimum likely future committed development traffic due to the fact that link change assessments typically demonstrate higher percentage change values when compared to a lower baseline, therefore representing the most robust approach to the assessment of development impact.

Table 9.13: 2022 Base + Committed + Operational Traffic

LINK	LOCATION	BASELINE FLOW (INC. COM DEV)		OPERATIONAL TRAFFIC		PERCENTAGE INCREASE	
		TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS	TOTAL VEH.	TOTAL HGVS
1	South Marsh Road (East of Hobson Way)	833	219	736	624	88.4%	284.9%
2	South Marsh Road (West of Hobson Way)	823	59	52	0	6.3%	0.0%
3	Hobson Way (North of South Marsh Road)	1,286	271	685	624	53.3%	230.3%
4	Kiln Lane (West of Hobson Way)	3,918	1,312	685	624	17.5%	47.6%
5	A1173 (West of North Moss Lane)	10,215	3,081	685	624	6.7%	20.3%
6	A1173 (North of A180)	17,307	3,495	682	624	3.9%	17.9%

9.6.29 The operational traffic assessment is based on the IEA as stated in Section 9.3.3 above, Rules 1 and 2 of the Guidelines for the Environmental Assessment of Road Traffic (IEA, 1993) rules of thumb as described in Section 9.3 and at paragraph 9.6.10 above.

9.6.30 Table 9.13 demonstrates that the operational traffic associated with the Proposed Development will result in a greater than 30% increase in traffic on South Marsh Road (East of Hobson Way) with an 88.4% increase in total traffic and a 284.9% increase in HGVs. Hobson Way (North of South Marsh Road) shows an increase in total traffic of 53.3% and an increase in HGV traffic of 230.3%. This is primarily due to the low number of existing vehicles using South Marsh Road and Hobson Way. In addition, Kiln Lane (West of Hobson Way) shows an increase in total traffic of 17.5% and an increase in HGV traffic of 47.6%.

9.6.31 For all other links within the Study Area no further assessment has been undertaken with increases in traffic at negligible levels. As such, the environmental effects associated with operational traffic would be negligible adverse (not significant) on all links except for South Marsh Road (East of Hobson Way), Hobson Way (North of South Marsh Road) and Kiln Lane. Effects on these three links are assessed below.

Severance

9.6.32 It is evident that the change in total traffic associated with operation of the Proposed Development is between 60% and 90% (medium impact) on South Marsh Road (East of Hobson Way) due to low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).

9.6.33 The change in total traffic associated with operation of the Proposed Development is between 30% and 60% (low impact) on Hobson Way (North of South Marsh Road) due to the low current usage of that road. The link sensitivity is considered low given a pedestrian footway is provided on the western side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

9.6.34 The change in total traffic associated with operation of the Proposed Development is less than 30% (very low impact) on Kiln Lane (West of Hobson Way). The link sensitivity is considered low given a pedestrian footway is provided on the southern side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

Pedestrian Amenity

9.6.35 It is identified in the IEA Guidelines for the Environmental Assessment of Road Traffic (IEA, 1993) that pedestrian amenity is affected where traffic flows are halved or doubled. It is evident that the change in total traffic (or HGV component) associated with operation is greater than 151% (high impact) on South Marsh Road (East of Hobson Way) however given the link sensitivity is low with no pedestrian footways provided on this section of South Marsh Road, the overall effect is considered minor adverse (not significant).

9.6.36 The change in total traffic (or HGV component) associated with operation of the Proposed Development is greater than 151% (high impact) on Hobson Way due to the low HGV usage of that road. The link sensitivity is considered low given a pedestrian footway is provided on the western side of the carriageway. However given the low current HGV usage of this road, the overall effect is considered minor adverse (not significant).

9.6.37 The change in total traffic (or HGV component) associated with the Proposed Development is less than 50% (very low impact) on Kiln Lane. The link sensitivity is considered low given a pedestrian footway is provided on the southern side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

Fear and Intimidation

9.6.38 It is evident that the change in total traffic associated with operation of the Proposed Development is between 60% and 90% (medium impact) on South Marsh Road (East of Hobson Way) due to low current usage of that road, however given the link sensitivity is low, the overall effect is considered minor adverse (not significant).

9.6.39 The change in total traffic associated with operation is between 30% and 60% (low impact) on Hobson Way (North of South Marsh Road) due to the low current usage of that road. The link sensitivity is considered low given a pedestrian footway is provided on the western side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

9.6.40 The change in total traffic associated with operation of the Proposed Development is less than 30% (very low impact) on Kiln Lane (West of Hobson Way). The link sensitivity is considered low given a pedestrian footway is provided on the southern side of the carriageway. The overall effect is therefore considered negligible adverse (not significant).

Accidents and Safety

9.6.41 There have been zero PIAs on South Marsh Road (East of Hobson Way) in the last five years. As such increases in traffic associated with operation will result in a negligible adverse (not significant) effect.

- 9.6.42 There has only been a single PIA on Hobson Way (North of South Marsh Road) in the last five years. Considering the traffic flows over this period (1,220 AADT) and the length of the link (1.2 km) the calculated accident rate is 374 accidents per billion vehicle kilometres. Compared with the national average rate which in 2016 was 480 accidents per billion vehicle kilometres it is considered that Hobson Way has low sensitivity, which with low magnitude increases in traffic will result in a negligible adverse (not significant) effect.
- 9.6.43 There have been three PIAs on Kiln Lane (West of Hobson Way) in the last five years. Considering the traffic flows over this period (2,854 AADT) and the length of the link (1.8 km) the calculated accident rate is 319 accidents per billion vehicle kilometres. Compared to the national average rate which in 2016 was 480 accidents per billion vehicle kilometres it is considered that Kiln Lane has low sensitivity, which with low magnitude increase in traffic will result in a negligible adverse (not significant) effect.

Driver Delay

- 9.6.44 Junction modelling has been undertaken at key junctions within the Study Area (the results of which are provided in the TA in Appendix 9A, ES Volume III) for the AM and PM Peak hours (07:00 – 08:00 and 16:00 – 17:00). This demonstrates that each junction operates within its design capacity in terms of the future baseline and future baseline plus Proposed Development scenarios apart from the A180 Westgate Roundabout. This shows the junction to be already operating above its theoretical capacity in 2018. However considering the small percentage that Proposed Development flows will add to the junction, it is reasonable to consider that mitigation at this junction would be disproportionate to the marginal impact on the junction's performance. Junction modelling therefore leads to the conclusion that the driver delay effect of the Proposed Development will be negligible adverse (not significant).

Decommissioning

- 9.6.45 The activities involved in the decommissioning process for the Proposed Development are not yet known in detail, as it has a design life of approximately 30 years. There would be expected to be some traffic movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and re-instatement. However, vehicle numbers are expected to be much lower than those experienced during the construction or operation.
- 9.6.46 Current baseline data collected for the purposes of this assessment will not be valid at the year of decommissioning. However, as it is unlikely that baseline traffic figures on local roads will reduce appreciably over the next thirty years, it is considered that the percentage increase in traffic due to decommissioning would be negligible adverse (not significant).

9.7 Mitigation and Enhancement Measures

- 9.7.1 No additional mitigation measures or enhancement measures other than those presumed in Section 9.5 are considered necessary.

9.8 Limitations or Difficulties

- 9.8.1 The assessment undertaken in this chapter is based on data and design information available at the time of assessment. No limitations or difficulties have been identified.

9.9 Residual Effects and Conclusions

- 9.9.1 Residual effects are those predicted following consideration of any proposed mitigation measures. All effects for both the construction and operational phases are predicted to be minor/ negligible adverse (not significant).

- 9.9.2 Traffic increases associated with the construction of the Proposed Development have been assessed to be minor/ negligible adverse (not significant). The additional traffic due to the Proposed Development construction activities will result in small, temporary, increases of traffic flows, including HGVs, on the roads leading to the Site. In line with the significance criteria presented earlier in this chapter and in the TA (Appendix 9A in ES Volume III), the impacts of construction traffic on all road sections and junctions are considered to be minor/ negligible adverse and not considered to be significant.
- 9.9.3 In line with the significance criteria presented earlier in this chapter and in the TA presented within Appendix 9A in ES Volume III the impacts of operational traffic on all road sections and junctions are considered to be minor/ negligible adverse and not considered to be significant.

9.10 References

- Crashmap (www.crashmap.co.uk);
- Department for Communities and Local Government (2018) National Planning Policy Framework;
- Department for Transport (2013) Circular 02/2013 – The Strategic Road Network and the Delivery of Sustainable Development;
- Highways England (2015) The Strategic Road Network: Planning for the Future – A guide to working with Highways England on Planning Matters;
- Institution of Environmental Assessment (1993) Guidelines for the Environmental Assessment of Road Traffic;
- North East Lincolnshire Council (2016) North East Lincolnshire local Transport Plan 2016 – 2032;
- North East Lincolnshire Council (2018) Local Plan North East Lincolnshire 2013 to 2032; and
- Planning Practice Guidance (2014) Travel Plans, Transport Assessment and Statements in decision-taking.