Tritax Symmetry (Hinckley) Limited

HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE

The Hinckley National Rail Freight Interchange Development Consent Order

Project reference TR050007

Environmental Statement
Volume 2: Appendices

Appendix 6.1: EIA Scoping Report - 2020

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Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 Regulation 14

This document forms a part of the Environmental Statement for the Hinckley National Rail Freight Interchange project.

Tritax Symmetry (Hinckley) Limited (TSH) has applied to the Secretary of State for Transport for a Development Consent Order (DCO) for the Hinckley National Rail Freight Interchange (HNRFI).

To help inform the determination of the DCO application, TSH has undertaken an environmental impact assessment (EIA) of its proposals. EIA is a process that aims to improve the environmental design of a development proposal, and to provide the decision maker with sufficient information about the environmental effects of the project to make a decision.

The findings of an EIA are described in a written report known as an Environmental Statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to ameliorate any adverse effects.

Further details about the proposed Hinckley National Rail Freight Interchange are available on the project website:

[redacted]

The DCO application and documents relating to the examination of the proposed development can be viewed on the Planning Inspectorate's National Infrastructure Planning website:

https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/hinckley-national-rail-freight-interchange/

HINCKLEY NATIONAL
RAIL FREIGHT INTERCHANGE

Hinckley National Rail Freight Interchange:

application for an EIA scoping opinion

Application by Tritax Symmetry (Hinckley) Limited under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

November 2020

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RAIL FREIGHT INTERCHANGE

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Background

S1. Commercial property development company Tritax Symmetry (Hinckley) Limited ('TSH') is promoting proposals for a new strategic rail freight interchange on land east of Hinckley, in Blaby District in Leicestershire. A strategic rail freight interchange (SRFI) is a large multi-purpose freight interchange and distribution centre linked into both the rail and trunk road systems. SRFIs reduce the cost of moving freight by rail and encourage the transfer of freight from road to rail.

S2. Under the Planning Act 2008, the proposals qualify as a Nationally Significant Infrastructure Project (NSIP). To secure permission to build and operate the project, TSH must make an application for a Development Consent Order (DCO) to the Planning Inspectorate (PINS), which will examine the DCO application on behalf of the Secretary of State for Transport.

S3. Before making a DCO application, TSH will undertake an Environmental Impact Assessment (EIA) of its proposals. EIA is a process that aims to improve the environmental design of a development proposal and to provide the decision maker with sufficient information about the environmental effects of the project. The findings of the EIA will be reported in an Environmental Statement (ES) that will be submitted with the DCO application.

S4. The purpose of this EIA scoping report is to request that the Secretary of State confirms in writing his opinion as to the scope, and level of detail, of the information to be provided in the ES.

The applicant

S5. Tritax Big Box REIT plc, a FTSE 250 company purchased an 87% stake in db symmetry in February 2019. The purchase price of £370 million is part-funded by a £250 million placement of new shares. The senior management of db symmetry retain a 13% stake in the new business. The business was re-branded as Tritax Symmetry in September 2019. db symmetry Ltd was originally formed in 2014 as a UK joint venture through the purchase of a 60% holding in Barwood Developments Limited (founded in 1996) by clients advised by Delancey; a specialist real estate investment, development and advisory company. To confirm, due to Tritax Big Box REIT's recent acquisition of db symmetry ltd the applicant changed its name at Companies House through a

formal 'Notice of Change of Name by Resolution' dated 17/12/19 from db symmetry (Hinckley) ltd to Tritax Symmetry (Hinckley) Ltd. Tritax Symmetry (Hinckley) Ltd is a subsidiary of Tritax Symmetry.

S6 The company has a land portfolio comprising 3,900 acres; capable of accommodating 42 million sq ft of logistics space. The portfolio is extremely well located, concentrated around the main motorway arteries of the UK and primarily around the 'Golden Triangle' of the M1 and M40 and the North West's prime M6 and M62 corridors.

The site

S7. The project draft Order Limits are shown in Figure 1.1 and comprise two site areas; **1) the 'main site' and the eastern and western link roads; and 2) an area encompassing M1 junction 21.** References in this report to '**the site'** or the '**main site' relate to site area 1**) stated above. The proposed development are described in chapter two of this scoping report. The 'Main Site' lies 3 km to the north-east of Hinckley, in a level area of mixed farmland to the north-west of M69 Junction 2. The Nuneaton to Felixstowe railway forms the north-western boundary of the site, with the M69 motorway defining the south-eastern boundary. To the south-west of the site are blocks of deciduous woodland, including Burbage Wood, Aston Firs and Freeholt Wood, a gypsy and traveller community site and a mobile home site. Beyond the north-eastern site boundary lies the village of Elmesthorpe, a linear settlement on the B581 Station Road. Subject to assessment and agreement 'Off-Site' highway improvements are also proposed to provide direct access to the Main Site from Junction 2 of the M69; a link road through the site to the B4668 including potential works at the A47 junction and a two-lane bypass linking the B4669 and Coventry Road to the south of Sapcote; and various highway improvements to local roads and the Strategic Road Network at other off site junctions. An Order Limit around M1 Junction 21 is included in anticipation of works being required in this area.

The draft proposals

S8. The project is known as the **Hinckley National Rail Freight Interchange** (HNRFI) and includes the following main elements.

The Main Site

i) Railway sidings and freight transfer area alongside the two-track railway between Hinckley and Leicester. This line forms a part of Network Rail's 'F2N' freight route between Felixstowe and

Nuneaton, lengths of which have been the subject of upgrades, and is also well-placed in the national rail network to provide direct links to and from major cargo terminals at Southampton, Liverpool and the Humber estuary.

ii) The total area of land within the DCO Order Limits boundary (site area 1) that comprises the **main site** is 335.7ha. Of this up to 185.43 hectares (ha) of level land is proposed for the construction of a rail port for the loading and unloading of freight trains, and for a total area of up to 850,000 square metres gross internal area (GIA), of which 200,000 square metres is of mezzanine floorspace. This will comprise high-bay storage and logistics buildings in a single land parcel bounded by the railway to the north-west and the M69 to the south-east. The storage and logistics buildings will be up to a maximum height of 36 metres.

Off-Site Highway Works

iii) A dedicated road access directly from Junction 2 of the M69 motorway, which connects the M6 near Coventry to the M1 near Leicester and links to the A5 in between. As a part of the proposals, a northbound off-slip and a southbound on-slip would be added to this Junction, which currently caters only for motorway traffic heading to and from the north.

iv) A Link road through the main site from M69 Junction 2 to the B4668

v) Potentially, a road connecting the B4669 to Coventry Road, bypassing the village of Sapcote, subject to assessment and agreement.

vi) Potentially improvement works at M69 Junction 3/Junction 21 of the M1, subject to assessment and agreement

vii) Potential improvement works at a number of other junctions in the AOI that are subject to assessment and agreement

viii) Potential traffic management measures through Sapcote and Stoney Stanton which are subject to assessment and agreement

Other Works

viiii). Land for landscape and planting works, ecological mitigation, drainage balancing ponds, heavy goods vehicle parking area, an energy centre, and footpath, cycleway and bridleway/equestrian links.

Need

S9. Chapter two of this report explains the need for, and objectives of, the proposed HNRFI and provides the description of development on which the EIA scoping exercise has been based. It also identifies the indicative project programme between EIA scoping and the submission of a DCO application for the proposed development.

S10. The national need for new strategic rail freight interchange facilities is identified in the *National Policy Statement* (NPS) *for National Networks*, published by the government in December 2014. This identifies a clear need for an expanded network of SRFIs and notes that it is important for SRFIs to be located near the business markets they will serve – major urban centres or groups of centres – and linked to key supply chain routes. The NPS recognises that given the locational requirements and need for both rail and road connection, the number of suitable locations for SRFIs will be limited.

S11. The *NPS for Ports*, published by the government in January 2012, recognises that the balance of modes for goods to enter and leave ports can have a variety of traffic and transport impacts on surrounding infrastructure. It recognises that the most significant impact, in the case of unitised traffic, is likely to be on the surrounding road infrastructure. To mitigate such impacts, The *NPS for Ports* states that rail and coastal or inland shipping should be encouraged over road transport, where cost effective. Such an objective can be achieved through the delivery of SRFIs.

S12. 45% of British rail freight goes through the Midlands. The recently published *UK Industrial Strategy* emphasises the importance of investment in infrastructure to drive growth across the UK. The HNRFI is considered to be aligned with these strategies that seek to promote substantial economic growth.

Alternatives

S13. Chapter three of this report describes the main alternatives to the proposed HNRFI that have been considered by TSH. This chapter addresses factors including location, design and technology, size and scale and the considerations that informed the selection of the preferred scheme, including market considerations.

S14. The general area of search comprised a corridor running from the north-east to the south-west of Leicester along the Nuneaton to Felixstowe

railway, which afforded a range of operational advantages including train movement capacity and connections to the wider rail network.

S15. The preferred site east of Hinckley appeared to offer an optimum balance of advantages, including:

i). an ample area of open level land;
ii). a long at-grade rail frontage;
iii). the potential for direct road access to the strategic highway network from M69 Junction 2, with scope to add southbound slips to the Junction;
iv). suitable separation from existing residential settlements.

S16. TSH is testing options for the layout of the proposed HNRFI, including different configurations of railway sidings, roads, buildings, drainage, landscape and planting and other environmental mitigation. Draft development layouts will be tested and refined in the light of detailed EIA studies and pre-application consultations.

Consultations

S17. Pre-application consultation is a statutory requirement for applications for Development Consent Orders relating to nationally significant infrastructure projects such as this Project. The Applicant will undertake pre-application consultation in accordance with the Planning Act 2008 with the local authorities; consultees, and other stakeholders including the public. An informal public consultation took place in mid-2018 and 2019 with local communities.

S18. Since the 2019 revisions to the scheme have been undertaken as set out in the revised timetable. Additional statutory consultation will therefore follow in winter / spring 2020-2021 and will include a fully reasoned response to the informal public consultation exercise.

Environmental impact assessment: general approach

S19. The environmental effects of the proposal will be considered during the construction and operational phases. The findings of the EIA will be presented in a series of volumes consisting of a main written statement, a non-technical summary, figures and appendices.

S20. The EIA for TSH's project will be undertaken in accordance with what are known as 'Rochdale Envelope' principles. This means that the EIA will assess the physical and operational parameters of the project as opposed to a detailed design. This flexibility is essential to ensure that the development can respond to occupier demand and the evolving

requirements of the freight logistics industry.

S21. The EIA will embrace the following considerations:

- ***Habitat Regulations Assessment*** **-** chapter five of this report explains how the potential effects of the project on protected habitats will accord with the Conservation of Habitats and Species Regulations 2010 (the Habitat Regulations).

- ***Health Impact Assessment*** **-** the ES chapters on air quality, noise and vibration, flood risk, hydrogeology and contamination will assess the potential impact of the construction and operational phases of the development on human health. Mitigation will be proposed to address any identified risk to human health in accordance with appropriate industry standards.

- ***Sustainability*** **-** the DCO submission will be supported by a sustainability strategy that will include relevant details of the methods to be used to minimise energy consumption and improve efficiency.

Environmental impact assessment: approach for individual topics

S22. Chapters six to seventeen consider the scope of the technical assessments that will be undertaken under individual EIA topic headings, as follows:

Chapter 6	Land use and socio-economic effects
Chapter 7	Transport and traffic
Chapter 8	Air quality
Chapter 9	Noise and vibration
Chapter 10	Landscape and visual effects
Chapter 11	Ecology and biodiversity
Chapter 12	Cultural heritage
Chapter 13	Surface water and flood risk
Chapter 14	Hydrogeology
Chapter 15	Geology, soils and contaminated land
Chapter 16	Materials and waste
Chapter 17	Energy and climate change

S23. In accordance with paragraphs 11.2-11.3 of Planning Inspectorate Advice Note Seven: *Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping* (version 5, March 2015), each chapter includes the following information, where available at this early stage in the EIA process:

- results of desktop and baseline studies where available;

- referenced plans presented at an appropriate scale to convey clearly the information and known aspects associated with the proposal;
- guidance and best practice to be relied upon,
- methods used or proposed to be used to predict impacts and the significance criteria framework used;
- any mitigation proposed at this stage and predicted residual impacts;
- impacts from consequential or cumulative development;
- an indication of any European designated nature conservation sites that are likely to be significantly affected by the proposed development and the nature of the likely significant impacts on these sites.

Cumulative and transboundary effects

S24. Chapter eighteen of the scoping report sets out how it is intended to approach the cumulative effects assessment (CEA). The chapter explains how TSH proposes to identify and assess the combined effects of the proposed development with other existing and/or approved development in an agreed area of influence.

Conclusions on scope

S25. This EIA scoping report sets out the Applicant's existing knowledge of the environment in the Order Limit Areas and its surroundings, provides a description of the proposed HNRFI development and identifies the anticipated likely significant environmental effects of the project during construction and operation. On the basis of existing knowledge, it is concluded that no environmental topics should be 'scoped out' of the EIA at this stage.

Request for a scoping opinion

S26. This report comprises TSH's formal request under Regulation 10(1) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 for an opinion as to the scope and level of detail, of the information to be provided in the environmental statement for the HNRFI project.

S27. The applicant considers that it has complied with the requirements of Regulation 10(3) of the same Regulations concerning the information to

be supplied with an EIA scoping opinion request.

◆

One ◆ Introduction

BACKGROUND

1.1 Commercial property development company Tritax Symmetry (Hinckley) Limited ("TSH" or "the applicant") is promoting proposals for a new strategic rail freight interchange (SRFI) on land east of Hinckley, in Blaby District in Leicestershire. A strategic rail freight interchange (SRFI) is a large multi-purpose freight interchange and distribution centre linked into both the rail and trunk road systems. SRFIs reduce the cost of moving freight by rail and encourage the transfer of freight from road to rail.

1.2 Under the Planning Act 2008, the proposals qualify as a Nationally Significant Infrastructure Project (NSIP). Accordingly, an application for a Development Consent Order (DCO) is to be made to the Planning Inspectorate (PINS), which will examine the DCO application on behalf of the Secretary of State.

1.3 Before making a DCO application, TSH will undertake an environmental impact assessment (EIA) of its proposals in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'). EIA is a process that aims to improve the environmental design of a development proposal and to provide the decision maker with sufficient information about the environmental effects of the project.

1.4 The findings of an EIA are described in a written report known as an environmental statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to ameliorate any adverse effects. TSH will submit an ES as part of its DCO application.

1.5 To ensure that its EIA takes into account relevant considerations and, equally, avoids matters considered irrelevant to the determination of the DCO application, TSH wishes at the outset to establish the scope of its EIA. Regulation 10 of the EIA Regulations enables a person who proposes to make a DCO application to ask the Secretary of State to confirm in writing their opinion as to the scope, and level of detail, of the information to be provided in the ES.

1.6 In March 2018 a Scoping Report was submitted to the Secretary of State.

A Scoping Opinion was received in response in April 2018. This considered the information provided in the Scoping Report and in accordance with the EIA Regulations 2017 provided comments on what should be included in the Environmental Statement submitted with the DCO application. Where applicable, these have been addressed in this updated Scoping Report and will taken into account in the ES for the proposed development.

1.7 The current report is TSH's request for a scoping opinion under Reg. 10 of the EIA Regulations.

PROJECT OVERVIEW

1.8 The proposed development is described in chapter two of this report and is known as the Hinckley National Rail Freight Interchange (HNRFI or 'the project'). Chapter two also outlines the need for the project. The generic purpose of the proposed development is explained in paragraph 2.44 of the Department for Transport's *National Policy Statement for National Networks* (December 2014, page 20):

The aim of a strategic rail freight interchange (SRFI) is to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road, through co-location of other distribution and freight activities. SRFIs are a key element in reducing the cost to users of moving freight by rail and are important in facilitating the transfer of freight from road to rail, thereby reducing trip mileage of freight movements on both the national and local road networks.

1.9 The essential components of an SRFI development include direct rail connections to ports at which freight is imported and exported and high quality strategic road connections to the region or regions that the interchange will serve. An SRFI also requires a substantial area of broadly level and free-draining land for storage and logistics buildings and associated haulage yards.

1.10 With these requirements in mind, the HNRFI project includes the following main elements.

The Main Site

i) Railway sidings and freight transfer area alongside the two-track railway between Hinckley and Leicester. This line forms a part of Network Rail's 'F2N' freight route between Felixstowe and Nuneaton, lengths of which have been the subject of upgrades. It is

therefore ideally located in terms of connections to the ports of Felixstowe and London Gateway, and is also well-placed in the national rail network to provide direct links to and from major cargo terminals at Southampton, Liverpool and the Humber estuary.

ii) Up to 185.43 hectares (ha) of level land bounded by the railway to the north-west and the M69 to the south-east, for the development of a total area of up to 850,000 square metres gross internal area (GIA) of which 200,000 square metres is of mezzanine floorspace of high-bay use class B8 storage and logistics sheds. The height of the units will be up to 36 metres. Of the land comprising the Main Site, 100% is owned or is the subject of option agreements between the landowners and TSH.

Off-Site Highway Works

iii) A dedicated road access directly from Junction 2 of the M69 motorway, which connects the M6 near Coventry to the M1 near Leicester and links to the A5 in between. As a part of the proposals, a northbound off-slip and a southbound on-slip would be added to this junction, which currently caters only for motorway traffic heading to and from the north.

iv) A Link road through the site from M69 Junction 2,over the railway line to the B4668, including the demolition of an existing railway bridge and construction of a replacement bridge to provide a new highway.

v) Potentially, a new two lane road connecting the B4669 to Coventry Road, bypassing the village of Sapcote, subject to assessment and agreement, including junction improvements at the north and south ends of the bypass where the new road would join the existing highway.

vi) Potential improvement works at M69 Junction 3/Junction 21 of the M1, subject to assessment and agreement with Highways England and Leicestershire County Council

vii) Potential improvement works at a number of other junctions in the AOI that are subject to assessment and agreement with the relevant Local Highway Authorities and Highways England

viii) Potential traffic management measures through Sapcote and Stoney Stanton which are subject to assessment and agreement A Link road through the site from M69 Junction 2 to the B4668 subject to agreement with Leicestershire County Council

Other Works

vi) Land for landscape and planting works, ecological mitigation, drainage balancing ponds, heavy goods vehicle parking area, an energy centre, and footpath, cycleway and bridleway/equestrian links.

LOCATION

Strategic

1.11 The site is located in what the UK logistics industry regards as the 'Golden Triangle', which extends from Northamptonshire up the M1 to East Midlands Airport, and westward as far as Birmingham. The application site is at a central location in the Golden Triangle. The West Midlands conurbation, Coventry, Leicester, Nottingham, Derby and Northampton all lie within 50 km of the proposed site, and there are direct road connections to the north-west and London beyond.

Local

1.12 The site lies 3 km to the north-east of Hinckley town centre, in a level area of mixed farmland to the north-west of M69 Junction 2. The Nuneaton to Felixstowe railway forms the north-western boundary of the site, with the M69 motorway defining the south-eastern boundary. To the south-west of the site are blocks of deciduous woodland, including Burbage Wood, Aston Firs and Freeholt Wood, a gypsy and traveller community sites and a mobile home site Beyond the north-eastern site boundary lies the village of Elmesthorpe, a linear settlement on the B581 Station Road.

1.13 Other settlements in the locality include the small towns of Barwell and Earl Shilton 1 km to the north beyond the A47, the smaller settlements of Stoney Stanton and Sapcote lying respectively 2km to the east and south east, the village of Aston Flamville 1 km to the south beyond M69 Junction 2, and the larger settlement of Burbage, 1.5 km to the south-west.

1.14 Local rivers, roads and features of landscape, cultural and ecological interest in the locality are identified in corresponding thematic chapters of this report.

1.15 The main site is 185.43ha in area and largely comprises level farmland used for grazing and arable farming. Field boundaries are marked by a

combination of hedgerows – some interspersed with trees – and fences. The site is little developed, the exceptions being Woodhouse Farm, a large farmstead at the centre of the site comprising Old Woodhouse Farm and Woodfield, along with two properties on Burbage Common Road and smaller developments known as Hobbs Hayes and Freeholt Lodge adjacent to the motorway.

1.16 In order to ensure that the proposed development is deliverable, the preliminary DCO boundary also includes the following.

i) Junction 2 of the M69 – including corridors of land for the provision of the northbound off-slip and southbound on-slip that the Junction currently lacks, with allowance made for construction works and compounds.

ii) Land to the north of the railway line and the main site, to allow for a link road through the development from M69 Junction 2 of the B4668.

iii) Corridors of land west, south-east and south of Sapcote for the provision of highways works including a new bypass and junctions to the B4669 and Coventry Road and highway widening of Sharnford Road and the B4669, with allowance made for construction works and compounds.

iv) Land at junction 3 of the M69 / junction 21 of the M1 including corridors of land for highways improvements, with allowance made for construction works and compounds.

v) Land for potential landscape and ecology mitigation on the south-western site boundary, adjacent to Aston Firs and Burbage Wood.

vi) Land around the Burbage Common Road overbridge and two pedestrian crossings over the railway, all to allow for potential replacement/improvement works that might be required.

vii) The northern stretch of Burbage Common Road connecting the main body of the proposed site to the B581 Station Road in Elmesthorpe (for the avoidance of doubt, this road is included only in case it is required for emergency access and is not proposed for use in connection with the operation of the HNRFI).

1.17 The main site lies wholly within Blaby District in Leicestershire. The proposed eastern by-pass to the south of Sapcote is also located within Blaby District and the link road to the B4468 to the north-east of the main site is part within Hinckley and Bosworth Borough Council's

administrative area.

THE APPLICANT

1.18 Tritax Big Box REIT plc, a FTSE 250 company purchased an 87% stake in db symmetry in February 2019. The purchase price of £370 million is part-funded by a £250 million placement of new shares. The senior management of db symmetry retain a 13% stake in the new business. The business was re-branded as Tritax Symmetry in September 2019. db symmetry Ltd was originally formed in 2014 as a UK joint venture through the purchase of a 60% holding in Barwood Developments Limited (founded in 1996) by clients advised by Delancey; a specialist real estate investment, development and advisory company. Tritax Symmetry (Hinckley) Ltd is a subsidiary of Tritax Symmetry.

1.19 The company has a land portfolio comprising 3,900 acres; capable of accommodating 42 million sq ft of logistics space. The portfolio is extremely well located, concentrated around the main motorway arteries of the UK and primarily around the 'Golden Triangle' of the M1 and M40 and the North West's prime M6 and M62 corridors

THE PROJECT TEAM

1.20 Table 1.1 identifies the team that TSH has appointed to progress the HNRFI project. These consultants, and the sub-consultants and individuals that they assign to the current project, constitute 'competent experts' for the purpose of Regulation 14(4)(a) of the EIA Regulations.

Table 1.1: The consultant team appointed by Tritax Symmetry to progress the HNRFI project

Specialism	**Consultant**
Legal	**Eversheds Sutherland**, 115 Colmore Row, Birmingham B3 3AL
Planning	**Framptons**, Oriel House, 42 North Bar, Banbury Oxfordshire OX16 0TH
EIA coordination	**Savills**, 33 Margaret Street, London W1G 0JD
Socio-economic effects	
Land referencing	**Terraquest,** Quayside Tower, 252-260 Broad Street, Birmingham, B1 2HF
Transport and traffic	**BWB Consulting ('BWB')**, 5th Floor,

Air quality	Waterfront House, Station Street, Nottingham, NG2 3DQ
Noise and vibration	
Surface water and flood risk	
Hydrogeology	
Geology, soils and contaminated land	
Materials and waste	
Energy and climate change	
Landscape and visual effects	**The Environmental Dimension Partnership ('EDP')**, Tithe Barn, Barnsley Park Estate, Barnsley, Cirencester, Gloucestershire GL7 5EG
Ecology and biodiversity	
Cultural heritage	
Community engagement	**Lexington Communications**, 198 High Holborn, London WC1V 7BD
Architects	**AJA Architects**, Elliot Court, 1170 Herald Ave, Coventry CV5 6UB
Strategic rail advisor	**Baker Rose Consulting**, Lynton House, 7-12 Tavistock Square, London, London WC1H 9BQ
Railway engineers	**WSP Parsons Brinckerhoff**, 1 Queens Drive, Birmingham B5 4PJ
Utilities adviser	**RPS Planning and Development**, Sherwood House, Sherwood Avenue, Newark, Nottinghamshire NG24 1QQ
Quantity surveyor	**Feasibility Limited**, No. 5 Hagley Court North, The Waterfront, Level Street, Brierley Hill DY5 1XF

ENVIRONMENTAL IMPACT ASSESSMENT

1.21 Regulation 6 of the EIA Regulations determines development to be 'EIA development' if any of the following circumstances apply:

- the applicant notifies the Secretary of State in writing under regulation 6(2)(a) that it proposes to provide an ES in respect of proposed development; or
- the Secretary of State or an examining authority adopts a screening opinion to the effect that the development is EIA development; or
- the Secretary of State directs an accepted application to be EIA development.

1.22 Schedule 2 of the EIA Regulations identifies the types of development that might require EIA if likely to have significant effects on the environment by virtue of factors such as their nature, size or location. The proposed development is included in the following parts of Schedule 2 of the EIA Regulations:

- Part 10(a) 'Industrial estate development projects';
- Part 10(c) 'construction of intermodal transhipment facilities and of intermodal terminals';
- Part 10(d) 'construction of railways'
- Part 10(f) 'construction of roads'.

1.23 Following consideration of the characteristics of development, the location of development and the types and characteristics of the potential impact, TSH considers the Scheme is EIA development, requiring an ES to accompany the application for a DCO. TSH has notified the Secretary of State in writing under regulation 8(1)(b) that it proposes to provide an ES in respect of the HNRFI project.

1.24 PINS has published a series of advice notes to guide the preparation and examination of DCO applications. Advice Note Seven: *Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping* (version 7, June 2020) explains in paragraph 8.3 that the Planning Inspectorate considers that a good ES is one that:

- *provides a clear description of the Proposed Development through all phases of the development consistent with the DCO - i.e. in terms of construction, operation and decommissioning phases;*
- *clearly explains the processes followed to develop the ES including the established scope for the assessment;*
- *explains the reasonable alternatives considered and the reasons for the chosen option taking into account the effects of the Proposed Development on the environment;*
- *details the forecasting methods for the assessment and the limitations (as relevant);*
- *assesses in an open and robust way the assessment of likely significant effects explaining where results are uncertain;*
- *provides sufficient details of the measures envisaged to prevent,*

reduce and where possible offset any significant adverse effects, the likely efficacy of such measures and how they are secured;

- *details the need for any ongoing monitoring or remediation; and*
- *demonstrates that the information is sufficient to enable a reasoned conclusion to be reached.*

1.25 TSH took Advice Note 7 into account in the production of the current EIA scoping opinion request and will follow the guidance in Advice Note 7 as it relates to the production of Preliminary Environmental Information during the pre-application consultation process and the consultation process itself. The scoping responses from consultation bodies have been considered in the updated Scoping Report and will be addressed in the ES.

1.26 The EIA for the TSH project will be undertaken in accordance with what are known as 'Rochdale Envelope' principles in reflection of the fact that the DCO will need to retain flexibility around the internal layout and design of the HNRFI. This flexibility is essential to ensure that the development can respond to occupier demand and the evolving requirements of the freight logistics industry. PINS Advice Note 9: *Using the Rochdale Envelope* (version 2, April 2012) identifies the guiding principles that TSH will follow. In summary:

- an application should acknowledge the need for details to evolve over a number of years, within clearly defined parameters and the EIA must take account of this and reflect the likely significant effects of such a project;
- the permission given must create clearly defined parameters, with the DCO including Requirements (akin to conditions in a conventional planning permission) to ensure that the process of evolution remains within the parameters;
- the level of detail of the proposal, within the defined parameters, must be such as to enable a proper assessment of the likely environmental effects, and necessary mitigation;
- The assessment might conclude that a particular effect may fall within a fairly wide range. In assessing the 'likely' effects, it is entirely consistent with the objectives of the EIA Regulations to adopt a cautious 'worst case' approach: mitigation measures should be adequate to deal with the worst case so as to optimise the effects of the development on the environment;

- this flexibility is not to be abused and does not give developers an excuse to give inadequate descriptions of their projects;

- it is for the Secretary of State, guided by the Examining Authority, to determine what degree of flexibility can be permitted in the particular case having regard to the specific facts of an application. It will be prudent for developers and authorities to ensure they have assessed the range of possible effects implicit in the flexibility provided by the permission.

PURPOSE AND STRUCTURE OF THIS REPORT

1.27 Regulation 10(3) of the EIA Regulations identifies the essential information that must be provided in a request to the Secretary of State for an EIA scoping opinion:

(3) A request under paragraph (1) must include—

(a) a plan sufficient to identify the land;
(b) a description of the proposed development, including its location and technical capacity;
(c) an explanation of the likely significant effects of the development on the environment; and
(d) such other information or representations as the person making the request may wish to provide or make.

1.28 Insert 2 of PINS Advice Note Seven: *EIA: Process, Preliminary Environmental Information, and Environmental Statements* (version 7, June 2020) recommends, inter alia, that an EIA scoping opinion request should also include the following information:

- an explanation of the approach to addressing uncertainty where it remains in relation to elements of the Proposed Development e.g. design parameters;

- referenced plans presented to an appropriate scale to convey clearly the information and all known features associated with the Proposed Development

- an outline of the reasonable alternatives considered and the reasons for selecting the preferred option;

- a summary table depicting each of the aspects and matters proposed to be scoped out of further assessment with justification provided;

- results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters;

- a detailed description of the aspects and matters proposed to be scoped out of further assessment with justification provided;

- results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters;

- aspects and matters to be scoped in, the report should include details of the methods to be used to assess impacts and to determine significance of effect e.g. criteria for determining sensitivity and magnitude;

- any avoidance or mitigation measures proposed, how they may be secured and the anticipated residual effects;

- references to any guidance and best practice to be relied upon;

- evidence of agreements reached with consultation bodies (for example the statutory nature conservation bodies or local authorities); and,

- an outline of the structure of the proposed ES.

1.29 Where available, this information is included in the current report, which is structured as follows.

Chapter 2 explains the background to, need for and objectives of the project, and provides a project description and outline programme to the submission of a DCO application.

Chapter 3 outlines the alternatives sites and schemes that TSH considered before deciding to promote its preferred solution.

Chapter 4 explains the consultations undertaken to date, the further consultations that will be undertaken in support of the EIA process and the overall programme for stakeholder engagement during the pre-application stage of the DCO project.

Chapter 5 describes the overall approach that TSH proposes to adopt for EIA, including the relevant technical guidance for road and rail projects.

Chapters 6 – 17 provide a baseline assessment, an outline of potential environmental effects and the proposed scope of the assessment

under individual environmental topic headings, as follows:

Chapter 6	Land use and socio-economic effects
Chapter 7	Transport and traffic
Chapter 8	Air quality
Chapter 9	Noise and vibration
Chapter 10	Landscape and visual effects
Chapter 11	Ecology and biodiversity
Chapter 12	Cultural heritage
Chapter 13	Surface water and flood risk
Chapter 14	Hydrogeology
Chapter 15	Geology, soils and contaminated land
Chapter 16	Materials and waste
Chapter 17	Energy and climate change

Chapter 18 outlines the scope of the assessment of cumulative and transboundary effects.

Chapter 19 sets out the conclusions of this EIA scoping opinion request.

CONTACTS

1.30 For further information about the current project, please view the project website at [redacted] or to speak with a member of the project team, via a dedicated Community Information Line - telephone 0844 556 3002 (Monday – Friday, 9:00am – 5:30pm).

◆

Figure 1.1: Draft DCO Order Limits Overview

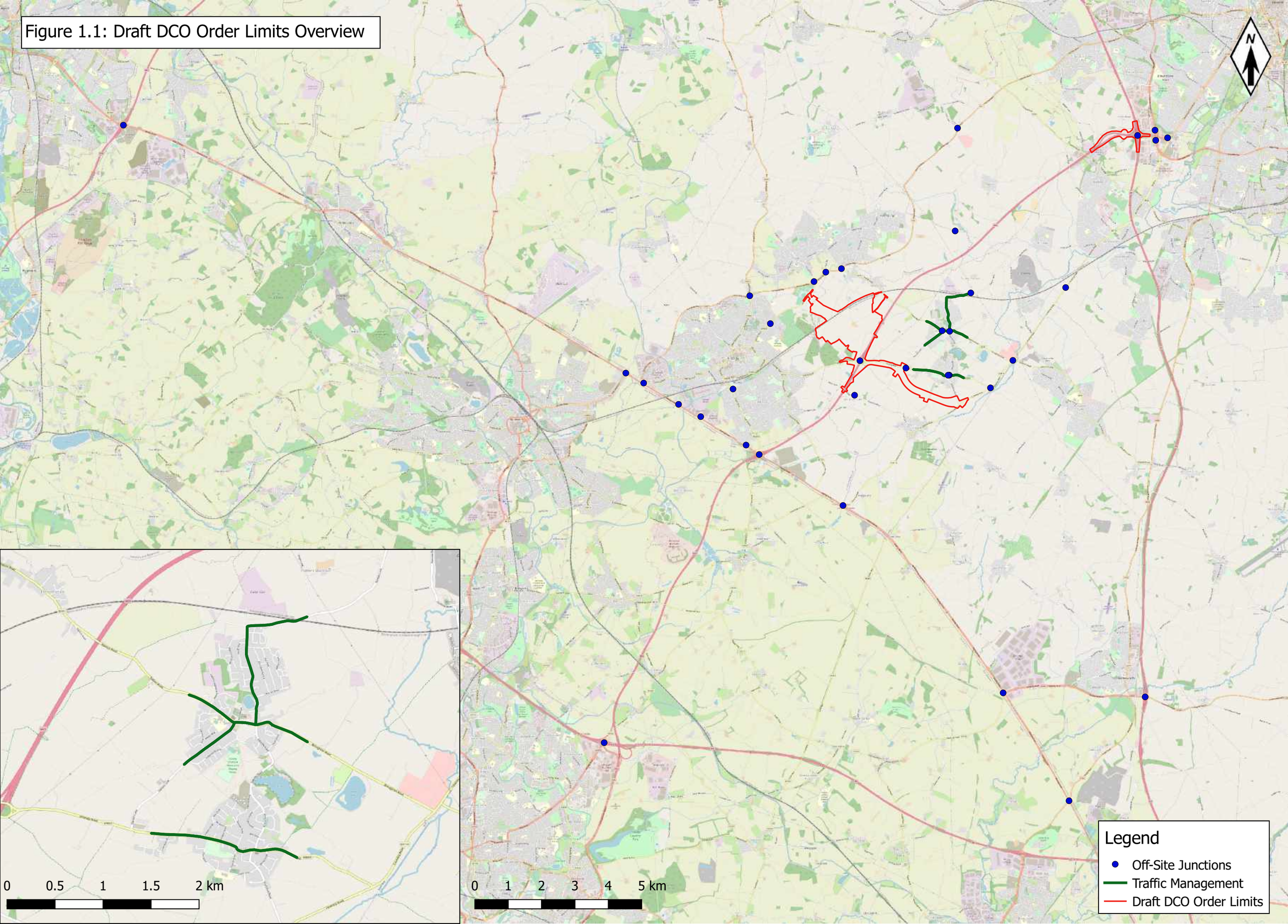

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Figure 1.2: Draft DCO Order Limits

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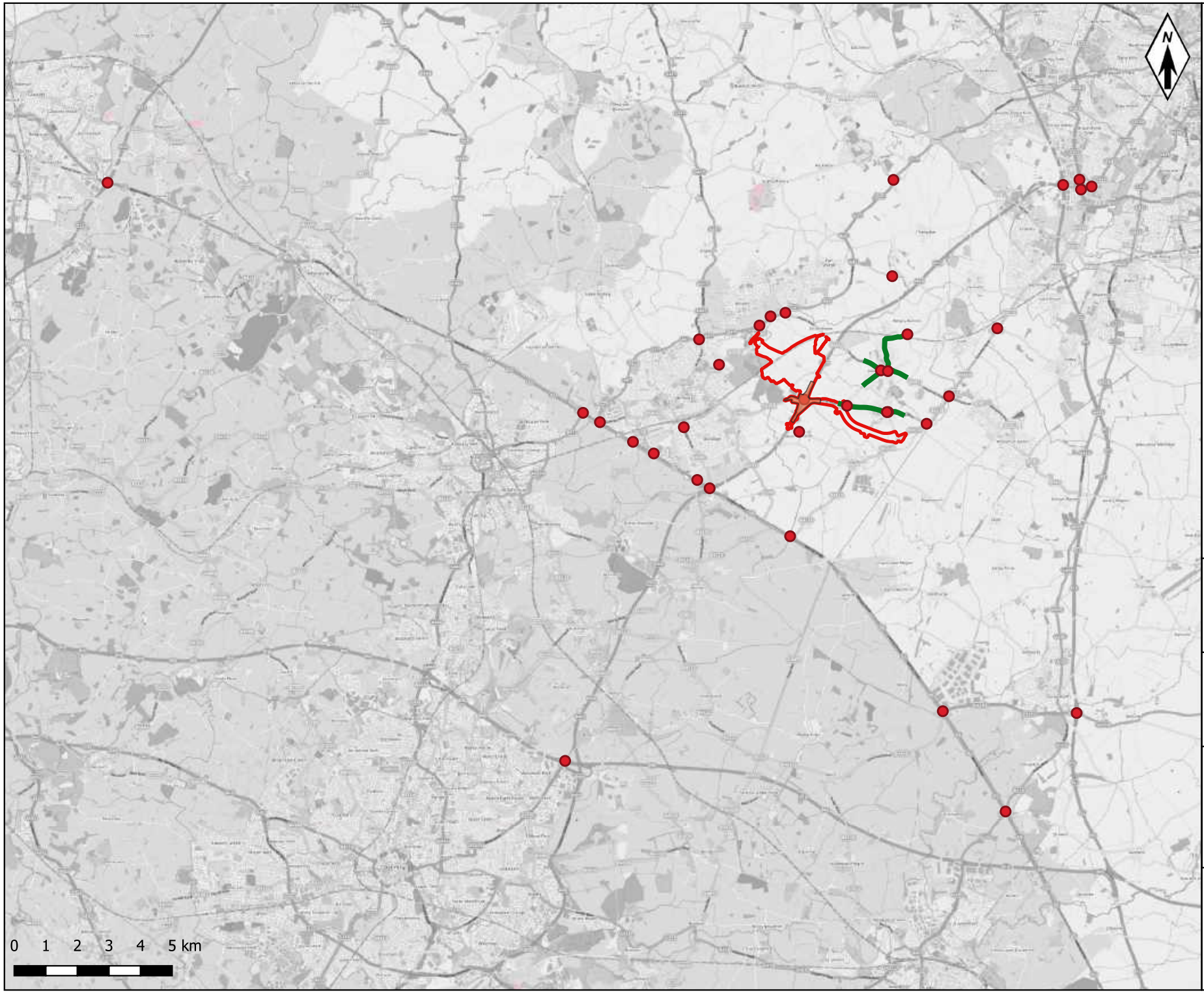

LEGEND

- Off-Site Junctions
- Traffic Management
- Draft DCO Order Limits

BWB

CLIENT

TRITAX SYMMETERY

PROJECT TITLE

HINCKLEY RAIL FREIGHT INTERCHANGE

Figure 1.3

DRAWING TITLE

DRAFT DCO ORDER LIMITS OVERVIEW

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Two ◆ The project

BACKGROUND

2.1 This chapter explains the need for and objectives of the proposed HNRFI and provides the description of development on which the EIA scoping exercise has been based. It also identifies the indicative project programme between EIA scoping and the submission of a DCO application for the proposed development.

2.2. The chapter explains how, by providing multi-modal transport options at a hub location on the national rail and road networks, the project is intended to meet the needs of the logistics industry, including port operators, in serving manufacturers, distributors and retailers

2.3 In December 2013 the Leicester and Leicestershire Housing, Planning and Infrastructure Group (HPIG) commissioned MDS Transmodal and Savills to undertake a study examining the strategic distribution sector in Leicestershire. The main objectives of the study were to enable a better understanding of the logistics sector and to determine future need objectively, whilst managing change and supporting sustainable economic growth.

2.4 The consultants produced the *Leicester and Leicestershire Strategic Distribution Sector Study (LLSDSS) Final Report* in November 2014. The report identified several significant challenges, which may be summarised as follows.

- The emergence of competing inland locations to the north and east of the 'golden triangle' and in ports; regions/locations which to date have not generally accommodated major national distribution facilities.

- Given a choice of sites, major distribution centre operators would be expected to locate at a rail-served site in the golden triangle as it continues to offer the most competitive location for national distribution.

- The key to addressing the emerging competition, and hence maintain and grow the established competitive advantage, is the continued development of new commercially attractive strategic sites in the East Midlands, a significant proportion of which will need

to be directly rail-served (in addition to the usual requirements for high quality connections to the strategic highway network).

- Functional obsolescence of the existing warehouse stock, changes in market trading conditions (particularly the growth in on-line shopping) and technological advances have resulted in a trend towards a requirement for fewer but larger warehouse units. As a result, many existing sites no longer have the plot sizes now required by the market, implying a need to bring forward new/additional sites.

2.5 As explained in chapter three of the report, four overarching conclusions were drawn from the study.

- A need to identify and allocate new land at commercially attractive strategic sites to maintain and enhance the established competitive advantage within the area, enabling the sector to grow in a sustainable manner.

- To deliver the identified need through long-term, strategic and collaborative planning across the county of Leicestershire and potentially with authorities in neighbouring areas.

- To commence the preparatory work immediately, with the preparation of local plan policies to commence now so that the right sites in the most competitive locations can come forward for development as and when they are required by the market.

- The strategy requires the implementation of a number of highway and railway enhancement schemes requiring liaison with the Highways Agency and Network Rail to ensure that the enhancement schemes are ultimately delivered.

2.6 The report identifies three 'best' key areas of opportunity and, three 'good' areas of opportunity for strategic distribution uses. TSH's proposed site is located centrally within Key Area A: Leicester to Hinckley corridor.

2.7 The report identified the expected forecast demand with the likely land supply at rail served sites to 2030, assuming that all rail served sites (SRFIs) which had been consented or submitted within the DCO process, together with smaller schemes are operational by 2036. The consultants identified a shortfall (high range) of 115 hectares.

2.8 The consultants expressed the opinion that one further SRFI will need to be brought forward within Leicestershire up to 2036 (and towards the

end of the planning period considered – Final Report, part 2.45). The genesis of this project has been in response to the level of need identified in the LLSSDS.

2.9 Supplements to and a partial update of the reports were completed in January 2017. The *Wider Market Developments: Implications for Leicester and Leicestershire* (Jan 2017), commissioned by Harborough District Council on behalf of the local authorities in Leicestershire, further supported the findings that the Golden Triangle has a distinct competitive advantage in the strategic distribution sector and that the main findings of the 2014 report remain relevant.

2.10 In March 2017 the Department of Communities and Local Government (DCLG) launched the *Midlands Engine Strategy* as a demonstration of the government's commitment to making the Midlands a powerful engine for economic growth. The Strategy identifies the Midlands as sitting at the very heart of the UK economy. With a fifth of the UK's total manufacturing capability the Midlands is seen as being essential to the national economic success.

2.11 45% of British rail freight goes through the Midlands. The recently published UK Industrial Strategy emphasises the importance of investment in infrastructure to drive growth across the UK. The HNRFI is considered to be aligned with these strategies that seek to promote substantial economic growth.

2.12 Leicester and Leicestershire Authorities have published 'Leicester and Leicestershire 2050: Our Vision For Growth' (September 2018) – the Strategic Growth Plan for the county. This focusses on four key matters, namely the delivery of new housing, supporting the economy, identification of essential infrastructure and protecting our environment and built heritage. The employment land needs have been identified and strategic B8 uses will be set out in a separate study recognising the evolving needs of the logistics centre in supporting manufacturing, and the growth in electronic retailing.

2.13 This is expected to build on the work undertaken by the Leicester and Leicestershire Economic Partnership in developing its *Strategic Economic Plan for 2014-2020*, which identified south-west Leicestershire as a Key Opportunity Area (Growth Area 5), with the potential for future growth utilising the improved freight capacity of the Nuneaton to Felixstowe rail line and better access to the M69.

2.14 The DCO submission will explain the relationship of the HNRFI with these strategies.

PROJECT NEED AND OBJECTIVES

2.15 As explained in the *National Networks National Policy Statement* (NPS), the government has concluded that there is a compelling need for an expanded network of SRFIs and that it is important that SRFIs are located near the business markets they will serve – major urban centres or groups of centres – and are linked to key supply chain routes. The NPS recognises that given the locational requirements and need for both rail and road connection, the number of suitable locations for SRFIs will be limited.

2.16 The *National Networks NPS* confirms that the compelling need for development of the national networks has been accepted by the government and it makes clear that the Examining Authority and the Secretary of State should start their assessment of applications on this basis.

2.17 The *NPS for Ports* recognises that the balance of modes for goods to enter and leave ports can have a variety of traffic and transport impacts on surrounding infrastructure. It acknowledges that the most significant impact, in the case of unitised traffic, is likely to be on the surrounding road infrastructure. To mitigate such impacts, The *NPS for Ports* states that rail and coastal or inland shipping should be encouraged over road transport, where cost effective. Such an objective can be achieved through the delivery of rail freight interchanges.

2.18 The ES that will accompany the DCO application will explain the need for the Project and the objectives of the development, taking into account:

- the background to and changing pattern of international and national logistics requirements, trade and the importance of key nodal points for agglomerating functions to serve specific markets and achieve appropriate modal shifts;

- relevant national transport and planning policy including the National Policy Statements on National Networks and Ports, the Office of Road and Rail's and Network Rail's Freight Policy and the National Rail Freight Network;

- local policy and objectives, particularly in relation to the Leicester and Leicestershire Economic Partnership's Economic Plan; the Leicester and Leicestershire Distribution Study November 2014 and January 2017 update; the Midlands Transport Studies – Midlands Connect Strategy: Powering The Midlands Engine March 2017; DCLG Midlands Engine Strategy March 2017 and the Leicester and Leicestershire

Strategic Growth Plan 2018.

- policies and objectives of adjoining local authorities of Warwickshire County Council, Northamptonshire County Council, Solihull Metropolitan Borough Council and Coventry City Council.

PROJECT DESCRIPTION

2.19 The location and site of the proposed development are described in chapter one of this EIA scoping opinion request. This section describes the proposed main physical features of the development and their general mode of operation. The draft Order Limits for the project is shown on Figure 1.1. **The project has two separate Order Limit areas which comprise**:

1) Main site, western link-road (A47) and potential eastern link-road (circa. 335.7ha); and

2) Area at M1 Junction 21 (circa. 41.5ha)

For clarity references in this report to '**the site'** or the '**main site'** relate to Order Limit area 1.

Railport

2.20 Branching from and parallel to the Nuneaton to Felixstowe railway will be a series of sidings. These will be long enough to allow container freight trains up to 775 metres in length to be brought to the site for unloading and loading. These trains will originate at UK container ports such as Felixstowe, London Gateway, Southampton, Liverpool and the Humber ports, as well as regional terminals in Scotland and elsewhere. The project would enable mitigation of traffic and transport impacts related with localised traffic and congestion at ports, as well as the national network, through enabling modal shift of unitised traffic to rail. Alongside the sidings will be a hard-surfaced area to provide for movements of the vehicles used to unload containers, articulated lorries and for temporary container storage. The railport will be open to non-resident logistics businesses to deliver and collect freight.

2.21 The site would operate on a 24 hours a day / seven days a week basis and would be lit throughout the night.

Access

2.22 Junction 2 of the M69 motorway would be reconfigured to enable the

addition of a dual carriageway access into the site.

2.23 A new highway including a bridge over the Nuneaton to Felixstowe Railway between junction 2 of the M69 and the B4668 (and subsequently linking to the A47) to form a new link road and associated highways improvements will enable traffic flow from the north of the HNRFI and provide access into the site. The existing railway bridge will be demolished and a new bridge constructed to provide for the new link road. It is anticipated that the Link Road will be in the form of a dual carriageway 7.3m wide in each direction to the junctions with the main internal development access roads and then form a 7.3m two way carriageway over the railway connecting with the B4668. A 2m footway will be provided on one side and a shared cycle footway will be provide on the other, which will be a minimum of 3m wide in line with LCC Highway Design Guide.

2.24 Other than for emergency access routes considered below these would be the only means of vehicular access into the HNRFI.

2.25 In addition, a northbound off-slip and a southbound on-slip will be added to junction 2, making it a flexible 'all-ways' junction and enabling the convenient flow of traffic on the M69 from the direction of Coventry, the M6 and the A5

2.26 Junction improvements at Hinckley Road and Sapcote Road over the M69 motorway will facilitate the junction 2 improvements. All freight and employees' vehicles would be allowed to enter and leave the site solely by the two vehicular access routes.

2.27 Potential highways improvements to the B4669 east of junction 2 of the M69 will widen the carriageway at the junction with Stanton Lane. A new dual-carriageway bypass to the south of Sapcote will connect Sharnford Road to the south-east of Sapcote with the B4669 to the west of that village. The junction of Sharnford Road and Coventry Road will be reconfigured, enabling access to the bypass and the convenient flow of traffic to the M69 and Junction 2.

2.28 Potential highway improvements at junction 3 of the M69 and junction 21 of the M1, will enable the flow of traffic to and from the HNRFI.

2.29 Potential traffic management works in Sapcote and Stoney Stanton.

2.30 Potential other offsite highway works to be determined through assessment, review and agreement with Local Highway Authorities and Highways England. Figures 1.1 and 1.3 show the potential highways mitigation proposed.

Warehouses and logistics buildings

2.31 The greater part of the HNRFI site would be dedicated to high-bay use class B8 storage and logistics sheds, with a total floor area of up to 850,000 square metres GIA of which 200,000 square metres is of mezzanine floorspace up to a height of 36 metres. It is in these buildings that the containerised loads arriving by train will be broken down and prepared for dispatch to their ultimate destinations by road. These buildings will incorporate freight loading bays in the external walls and will have associated areas for lorry manoeuvring and parking and staff car parks. Some buildings will have direct rail access. Around each building will be boundary land for landscape works, planting and surface water drainage features.

Access

2.32 It is proposed that the DCO will include provisions for the stopping up of the section of Burbage Common Road that crosses the site. Emergency access points to the HNRFI would be provided via Burbage Common Road (to the east) and from the new proposed link road. For the avoidance of doubt, normal access to and from the site by these routes would be restricted by security gates and would only be opened for the purpose of access by emergency service vehicles.

2.33 Pedestrian, cycle and horseback access across the site would be maintained. The proposed DCO boundary shown in figure 1.1 of this report includes land around the existing railway crossings, comprising two pedestrian crossings and an overbridge on Burbage Common Road, to allow for potential replacement/improvement works that may be require, including the demolition of the existing bridge.

2.34 A network of internal roads is proposed to provide access to the Railport and logistics buildings. Roads and junctions will be designed to promote the safe and efficient movement of goods vehicles and car traffic. Parallel footpaths and cycleways will be provided.

Landscape and habitats

2.35 The HNRFI site as a whole will be surrounded by a landscape buffer that will incorporate bunds, tree and shrub planting and water features. These will be designed with a view to providing biodiverse wildlife habitats. A larger area for landscape and habitat is included in the south-western part of the site to serve as a buffer between the development and the woodlands and Burbage Common beyond the site boundary, which include a SSSI and local wildlife sites.

Utilities

2.36 The development will include appropriate provision for water, electricity and gas supply and for the disposal of foul and surface water. New electricity sub-station provision is proposed within the site. No work will affect the high-voltage overhead transmission line located close to junction 2 of the M69 motorway.

2.37 The development will include appropriate provision for the supply of water, electricity and gas, interconnectivity for telecoms and the disposal of foul and surface water. Provision is included within the site boundary for new electricity sub-stations, gas metering kiosks etc. with connection to all existing off site utility infrastructure to be undertaken by the utility providers under their existing statutory powers. The points of connection will be determined by those undertakers at a future date.

Construction

2.38 The proposed DCO boundary shown in figure 1.1 includes land likely to be required to enable the construction of the development. The draft DCO boundary includes land around the Burbage Common Road overbridge and two pedestrian crossings over the railway, all to allow for potential replacement/improvement works that might be required. Land has also been identified in the south-west and south-east quarters of M69 junction 2 to serve as temporary construction laydown areas for the proposed northbound off-slip and a southbound on-slip at junction 2. Land has been identified to the west and south-east of Sapcote for temporary construction laydown areas for the proposed new bypass and at M69 Junction 3 / M1 Junction 21.

INDICATIVE PROJECT PROGRAMME

2.39 The major project milestones between the submission of this EIA scoping opinion request and the submission of a DCO application for the HNRFI are identified in table 2.1 (overleaf). This programme may be subject to change.

2.40 Based on TSH's current understanding of the site, it is considered that this timetable allows sufficient time for the completion and analysis of field surveys and the development of appropriate environmental mitigation strategies, and for design refinement in response to community engagement. Should field survey assessment or other considerations indicate that this is not the case, TSH reserves the right to vary the pre-application programme and will update PINS on any

changes. The project timetable set out below does not include work undertaken to date regarding consultation and scoping for the project.

Table 2.1: Proposed project timetable for the HNRFI

Activity	Date
Submission of updated EIA scoping opinion request	November 2020
Draft updated Statement of Community Consultation (SoCC)	November 2020
Secretary of State's EIA scoping opinion	December 2020
Publication of the updated SoCC	December 2020
Environmental surveys, outline scheme design, stakeholder dialogue	Ongoing
Preparation of a Preliminary Environmental Information Report (PEIR)	January-March 2021
Statutory consultations	March 2021
Review of consultation feedback; design refinement and mitigation	April-August 2021
Preparation of DCO application documents including the ES, an ES non-technical summary and a Consultation Report	July-September 2021
Submission of the DCO application	September 2021

Three ◆ Alternatives

INTRODUCTION

3.1 According to regulation 14(2)(d) of the EIA Regulations, the ES shall include:

'a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment'.

3.2 As noted in chapter one of this EIA screening opinion request, Insert 2 of PINS Advice Note Seven: *Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping* (version 7, June 2020) recommends that an EIA scoping opinion request should also include *'an outline of the reasonable alternatives considered and the reasons for selecting the preferred option'*.

3.3 This chapter describes the options for the proposed HNRFI considered by TSH in order to test the suitability of the site.

3.4 This chapter addresses considerations including location, design and technology, size and scale and the considerations that informed the selection of the proposed site, including market considerations.

LOCATION

3.5 TSH has extensive experience in developing logistics schemes and has one of the largest land portfolios in the UK. Working with strategic rail adviser Baker Rose and drawing upon evidence from the *Leicester and Leicestershire Distribution Sector Study* (November 2014) (as updated by the *Wider Market Developments: Implications for Leicester and Leicestershire* (January 2017) and the Leicester and Leicestershire Enterprise Partnership's *Strategic Economic Plan 2014-20* (March 2014), it was established that there remains a significant need for rail-related logistics development in addition to the consented East Midlands Gateway development close to East Midlands Airport and the M1

motorway. The brief for this project was to identify a suitable site that had rail and road connectivity to the major deep water ports of Felixstowe, London Gateway, Liverpool and Southampton.

3.6 The Leicester and Leicestershire Enterprise Partnership's Strategic Economic Plan (LLEP's SEP) identified Key Opportunity Areas as five priority Growth Areas, being:

- GROWTH AREA 1 (GA1). The Leicester Urban Area (based on the Waterside and Abbey Meadows Strategic Regeneration Area);
- GROWTH AREA 2 (GA2). East Midlands Enterprise Gateway (based on the East Midlands Gateway Strategic Rail Freight Terminal;
- GROWTH AREA 3 (GA3). Coalville (based on improving the A511 corridor to bring forward already planned developments) Growth Corridor;
- GROWTH AREA 4 (GA4). Loughborough (based on the Loughborough University Science and Enterprise Park for bio and pharmaceutical R&D);
- GROWTH AREA 5 (GA5). South West Leicestershire, in which the proposed Hinckley National Rail Freight interchange is situated.

3.7 The LLEP's SEP identified the South West Leicestershire Growth Area (GA5) as offering:

'a unique combination of key commercial and employment hubs. These provide the opportunity to harness major employment and housing opportunities for Leicester and Leicestershire. The M1 corridor (including the M69/M1 Junction 21 location) and A5 corridor are crucial economic areas in their own right, with established and expanding services, distribution, retail and leisure roles providing thousands of jobs for the sub-region.

The area is also the major gateway to the Leicester Urban Area. Major Sustainable Urban Extensions and Strategic Employment Sites can create 9,000 new homes and 21 hectares of commercial development at New Lubbesthorpe, Earl Shilton and Barwell SUEs.

The success of these significant opportunities depends largely on the delivery of supporting infrastructure. Such investment, alongside other key initiatives such as the major upgrading of the Nuneaton-Felixstowe freight line, will also open up longer term growth potential in this area'.

3.8 The importance of the Nuneaton to Felixstowe freight line improvements is recognised in both the Leicester and Leicestershire Distribution Study and the LLEP's SEP, with the latter commenting that:

'*Freight connectivity will be substantially enhanced by the upgrade of the Nuneaton-Felixstowe freight railway line which will significantly increase freight capacity through accommodating longer trains up to 750m and larger shipping containers. This route* ***passes through*** *the Growth Area*.'

3.9 The LLEP published a *Logistics and Distribution Sector Growth Action Plan* in May 2015, which states that:

'*The LLSDSS researched the baseline position, key challenges and plans for growth within the LLEP area and established that the development of new,* ***commercially-attractive sites directly served by rail is of upmost importance for Leicestershire*** *to remain one of the strategic locations for Logistics and Distribution'*. The bold type is as per the LLEP's Plan.

3.10 An SRFI on the Nuneaton to Felixstowe line, ideally within the south-west Leicestershire growth Area (GA5), with good access to the M69, M1, A5 corridors, would provide optimal multi-modal connectivity and a nodal point for the expressed need for future growth. The project would accord with the considerations of the NPSs for National Networks and Ports, reducing the pressure on the road network especially at ports.

3.11 Baker Rose examined locations on the rail network in Leicestershire that might present opportunities for the location of a SRFI on or readily connectable to the Nuneaton to Felixstowe freight line using a combination of professional knowledge of the network, local knowledge, rail network maps and *Google Earth*.

Site search criteria

3.12 Paragraph 2.45 of the *National Networks NPS* states that the logistics industry, providing warehousing and distribution networks for UK manufacturers, importers and retailers is predominantly a road based industry. The NPS recognises, however, that users and buys of such services are increasingly looking to integrate rail freight into their transport operations, requiring the industry to develop new facilities that are *'alongside the major rail routes, close to major trunk roads as well as near to the conurbations that consume the* goods'. The following criteria were employed for the search area.

Rail

- Access for W10 gauge intermodal container traffic. W10 is the mainstream gauge for intermodal freight in the UK and enables the transport of containers 2.9 metres high and 2.5 metres wide on wagons with a bogie spacing of 14.02 metres.
- Ability to receive 775 metre long freight trains.
- Ability for trains to reach to the SRFI site from more than one direction.
- Proximity to the main rail lines.
- Ability to gain ready access to rail lines.
- Availability of train paths that avoid conflicts with passenger services, with capacity for handling at least four freight trains per day.
- Rail connectivity to major deep water ports of Felixstowe, London Gateway, Liverpool and Southampton, enabling opportunities for modal shift from road to rail.

Road

- Access to the national motorway network.
- Access to the strategic highway network.
- Access at all times of the day and week without creating disturbance to neighbouring and nearby land uses.

Environmental

- Avoidance of housing.
- Avoidance of flood plain.
- A broadly level topography that minimises the need for excessive ground works.
- A tract of land largely free of built development, extending to a minimum of 60 hectares.

Commercial and economic

- Compatibility with the objectives of the Leicester and Leicestershire Economic Partnership's Economic Plan, particularly the Key Areas of Opportunity designated Growth Areas.
- Avoidance of conflicts with existing rail terminals.
- The demand profile for users and occupiers.
- Proximity to a labour force.

Appraisal

3.13 The appraisal of the locational criteria through Leicestershire led readily to the identification of land to the north-east of Hinckley as an optimum location for a SFRI that satisfied the locational requirements identified at paragraph 3.12 above.

3.14 In summary form this location affords the following operational advantages:

- the railway between Nuneaton and Felixstowe was upgraded in 2014 to the W10 gauge described above, enabling intermodal freight trains up to 775 metres in length from Felixstowe to serve the Midlands directly. This also means that intermodal trains can travel to the region from all the UK deep sea ports and every major city in Britain with standard wagons carrying 2.9 metre high containers;

- the preferred site is located on a main rail freight corridor identified by Network Rail (F2N Route). Locally this route carries only two passenger trains per hour, providing substantial capacity for freight. There is considered to be capacity on the section between Nuneaton and Leicester to be able to accommodate the Midland Engine's aspirations for significantly increased passenger services;

- the Nuneaton to Felixstowe railway aligns with a significant economic growth corridor identified by the Leicester and Leicestershire Economic Partnership, as set out above;

- The railway is topographically at grade with the land to the east with an extensive frontage to enable the installation of railway sidings;

- M69 junction 2 lies at the southern edge of the site and affords potential for direct access to the motorway network;

- M69 junction 2 currently provides limited access and has the potential for increased operational capacity through reformatting as an all-directions motorway junction. The installation of a south bound on-slip and northbound off-slip has the potential for greater connectivity from M69 to the West Midlands;

- Investigation into land interests revealed existence of extensive land holdings held by a few land owners.

3.15 TSH and its advisers studied the option of an SRFI being developed on land between the M69 and the Nuneaton to Felixstowe railway, and enlarged to include land to the east of the M69 (NE of J2).

3.16 Environmental consultant EDP was commissioned to undertake an environmental appraisal of the Hinckley/Burbage option, including landscape, biodiversity and heritage considerations. EDP suggested that development to the east of the M69 would have a greater effect on landscape character and visual amenity than the land contained by roads, the railway and woodland to the west.

3.17 On this basis, TSH concluded that the site for the SRFI should be focused upon land between the railway and the M69, which affords the best opportunity to bring forward a SRFI meeting the policy requirements of the *National Networks NPS*, and supporting the principles of the *NPS for Ports*, and the practical potential to deliver a site of the scale required.

DESIGN AND TECHNOLOGY

3.18 Railway facilities will be provided commensurate with the development's designation as a strategic rail freight interchange and the guidance for transport links and locational requirements as set out in the National Networks NPS:

- it will be capable of handling over four trains per day;
- it will include a rail network connection;
- it will include an intermodal terminal for rail handling and storage;
- it can include a number of rail connected or rail accessible buildings with all building users having access to the intermodal rail terminal;
- it will be able to accommodate 775 m long trains that can be handled with minimal shunting.

3.19 The main features of the project will be:

- the potential to provide rail connections in either direction – eastbound or westbound;
- reception sidings adjacent to the main line able to accommodate 775m long trains, with provision for future electrification;
- a parallel intermodal terminal with several unloading sidings and an area for storage or stacked containers;
- provision for direct access from a railway siding and two or more of the warehouses to be developed on the site.

3.20 The terminal and rail facilities will be on the developer's land and planned and constructed by the developer.

3.21 The connection to the rail network will require changes to Network Rail's track and signalling. Network Rail has established processes in place for such changes. The DCO application will include an explanation of these processes, the necessary stages and conclusions required to enable connection to the network.

3.22 The proposed development may require the diversion of two footpaths that cross the railway on at-grade pedestrian crossings. The policy background for the closure of the pedestrian level crossings along with the proposed remedy and its implications will be justified.

3.23 The project is currently at the conceptual stage and, in refining its proposals, TSH will have regard to the following requirements identified in chapter four of the National Networks NPS, including:

- criteria for 'good design' for national network infrastructure (NPS pp. 36-37);
- climate change adaptation (NPS pp. 37-39);
- pollution control and other environmental protection regimes (NPS pp. 39-41);
- the identification and mitigation f potential statutory nuisances (NPS p. 41);
- safety, security and health (NPS pp. 41-44).

SIZE AND SCALE

3.24 The Project will comprise up to 850,000 square metres GIA of which 200,000 square metres is of mezzanine floorspace of built logistics space to be served by an intermodal terminal, with rail-linked buildings provided according to demand. The proposals will be developed in accordance with paragraph 4.88 of the National Networks NPS:

'Applications for a proposed SRFI should provide for a number of rail connected or rail accessible buildings for initial take-up, plus rail infrastructure to allow more extensive rail connection within the site in the longer term. The initial stages of the development must provide an operational rail network connection and areas for intermodal handling

and container storage. It is not essential for all buildings on the site to be rail connected from the outset, but a significant element should be'.

3.25 It is recognised that size and scale are critical to the viability of SRFIs and as part of the project and assessment of alternatives, it will be demonstrated how the HNRFI can be developed in a phased manner with the timely delivery of associated rail and road infrastructure.

3.26 As noted, the Applicant will demonstrate how the scheme performs against the site locational requirements that are identified within the NPS for National Networks particularly in the context of:

- the rail freight interchange function (NPS para. 4.83);
- transport links and location requirements (NPS paras 4.84 – 4.87);
- Scale and design (NPS paras 4.88 – 4.89).

TRAFFIC AND HIGHWAYS

3.27 TSH carried out an information public consultation on the previous scheme in autumn 2018. A substantial amount of feedback concerned the effects of the proposals on the local road network. The HNRFI proposal always envisaged that HGV traffic would be directed the M69 unless making local deliveries to avoid lorries passing through nearby settlements. However, the proposed upgrading of M69 junction 2 to an all-ways junction will have a wider effect on the pattern of local traffic movements, creating attractive new routes for commuters and other traffic. Consultation feedback highlighted concern over the potential increase in road traffic on routes through local settlements, including Burbage and Hinckley to the west and Sapcote and Stoney Stanton to the east of the motorway junction.

3.28 In response and guided by further road traffic modelling, TSH undertook a further informal consultation in summer 2019 specifically on the issue of of-site highways effects.

A link from the HNRFI site westwards to the A47

3.29 The western link would provide a connection through the development site from M69 Junction 2 to the B4668 Leicester Road, before then connecting to the A47. It is envisaged that this option would comprise a 7.3m wide single carriageway road with grass verges and new hedgerow and fences on its boundaries with farmland.

3.30 The purpose of the link road would be to prevent traffic principally from Barwell and Earl Shilton to the north from travelling to and from the upgraded M69 junction 2 via existing roads through Hinckley, Burbage,

Elmesthorpe and Stoney Stanton. For the avoidance of doubt, HGV movements to and from the HNRFI would still be restricted to M69 junction 2 unless for local purposes.

3.31 In effect the western link would complete a 'Ring Road' around Hinckley (A5, A47, M69) reducing the need for traffic to route through the town centre and providing increased resilience along the A5, should there be any incidents of bridge strike by tall vehicles at the Dodwells roundabout on the southern side of Hinckley, for example.

Eastern villages option A: a by-pass around the southern side of Stoney Stanton

3.32 This would provide a connection between the B581 Broughton Road to the east of Stoney Stanton to Hinckley Road to the south of the village. Again, it is envisaged that this road would comprise a 7.3m wide single carriageway road with grass verges and new hedgerow and fences on its boundaries with farmland.

3.33 The purpose of this option is to provide an alternative route for road traffic travelling east-west between the B4114 Coventry Road and the upgraded M69 junction 2, by-passing the village centres of Stoney Stanton and Sapcote.

Eastern villages option B: a by-pass around the southern side of Sapcote

3.34 This option is intended likewise to provide an alternative route for road traffic travelling east-west between the B4114 Coventry Road and the upgraded M69 junction 2, by-passing the village centres of Stoney Stanton and Sapcote. It would provide a connection between the B4669 Hinckley Road west of Sapcote and Sharnford Road to the south-east of the village.

3.35 The envisaged design specification would be as described for the option above - a 7.3m wide single carriageway road with grass verges and new hedgerow and fences on its boundaries with farmland.

Option Selected

3.36 Following consultation upon, and consideration of, the above options, 'Option B: a by-pass around the southern side of Sapcote' was selected to be the preferred road improvement option. This is due to due to the proposed north-eastern link road to the A47 significantly reducing the number of vehicles likely to pass through Stoney Stanton from the

western side of the M69 on the A581, reducing the requirement for 'Option 1'. Whilst 'Option B' is the preferred option and is included within the Project 'Order Limits', both options will continued to be modelled through the EIA process.

SELECTION AND EVOLUTION OF THE PREFERRED SCHEME

3.27 In accordance with paragraphs 4.26 and 4.27 of the National Networks NPS, TSH is testing and will continue to test options for the layout of the proposed HNRFI, including different configurations of railway sidings, roads, buildings, drainage, landscape and planting and other environmental mitigation. Draft development layouts will be tested and refined in the light of detailed EIA studies and pre-application consultations. An outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects will be presented in the ES.

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Four ◆Consultations

INTRODUCTION

4.1 Pre-application consultation is a key requirement for applications for Development Consent Orders relating to nationally significant infrastructure projects such as this Project. The Applicant will undertake effective pre-application consultation with the local authorities; consultees, and other stakeholders including the public. The Applicant has carried-out early engagement with local communities through public exhibitions held locally to the site and other means of achieving public engagement as the proposals are assembled.

4.2 In accordance with the development consent regime for nationally significant infrastructure projects (NSIPs) a Statement of Community Consultation (SoCC) is being prepared in consultation with Blaby District Council, Leicestershire County Council and Hinckley and Bosworth Borough Council as the host authorities.

4.3 The purpose of the SoCC is to describe how the Applicant will undertake consultations on the Project and set out the arrangements to achieve effective pre -application engagement.

4.4 Statutory consultations will follow in spring 2021 and will include a fully reasoned response to the informal public consultation exercise.

CONSULTATIONS UNDERTAKEN TO DATE

4.5 Engagement with the local planning authorities has been carried-out since winter 2015. The purpose of the meetings has been to ensure that the planning authorities have been aware of the intentions of TSH to assemble a scheme for a SRFI pursuant to the DCO process and to update officers generally on the progress of site assembly, and broad development considerations.

4.6 An initial working draft SoCC was discussed with officers representing Blaby District Council, and has been introduced to officers of Hinckley and Bosworth Borough Council. A joint meeting was held in February 2018 with officers of these authorities and officers representing Leicestershire County Council and the Strategic Planning Group preparing the Strategic Growth Plan for Leicester and Leicestershire. An

updated SoCC is now being prepared in consultation with both Blaby District Council and Hinckley and Bosworth Borough Council.

4.7 TSH undertook an informal public consultation in autumn 2018. Consultation feedback highlighted particular concern about the effects of the proposed development on local road traffic, particularly as a result of the proposed upgrade of junction 2 of the M69 motorway, which would redistribute existing traffic flows on the local road network. In response, TSH held a further informal consultation in summer 2019 on highway improvements outside the main development site.

CONSULTATIONS FOR THE PURPOSE OF EIA

4.8 The Planning Act 2008 and the EIA Regulations set specific and inter-related requirements for notification and consultations with defined categories of consultees. The general requirements are summarised in PINS Advice Note 3: *EIA notification and consultation* (version 7, August 2017), which takes into account the requirements of the 2017 EIA Regulations.

4.9 In undertaking the EIA, TSH will meet relevant statutory consultation requirements, including effective and timely dialogue with the consultees identified by PINS under Regulation 11 of the EIA Regulations. TSH may add to PINS's Regulation 11 list of consultees when fulfilling its duty to consult under section 42 of the Planning Act 2008.

4.10 The indicative project programme set out in table 2.1 of this report shows that formal statutory consultation will take place in spring 2021. This consultation will include the Preliminary Environmental Information Report (PEIR) that will help inform the statutory consultation will be able to present a representative picture of the site, the scheme and the likely environmental effects of the project. The PEIR will be accompanied by a non-technical summary. Further details of TSH consultation arrangements will be provided in the Statement of Community Consultation (SoCC).

4.11 Throughout the pre-application process and the DCO examination, TSH will promote the agreement of statements of common ground (SoCG) with stakeholders on matters including the scope of environmental studies, assessment methodologies and the conclusions of the EIA process.

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Five ◆ Environmental impact assessment

INTRODUCTION

5.1 This chapter of the scoping report sets out the scope of the proposed EIA and identifies the proposed structure for the chapters of the ES. The ES will consider various environmental parameters as required by Schedule 4 of the EIA regulations.

5.2 The EIA Regulations require that the ES should identify those aspects of the environment likely to be 'significantly affected' both directly and indirectly by the development. It should then describe the nature of those significant effects taking account the magnitude of the impact and sensitivity of the receptor. These assessments will be individual to the specific environmental parameters and will include mitigation where appropriate and an evaluation of any residual effects.

5.3 The environmental effects of the proposal will be considered during the construction and operational phases. The findings of the EIA will be presented as is typical in a series of volumes consisting of a non-technical summary, a main written statement, figures and appendices.

5.4 Planning policy considerations will be addressed in a separate Planning Statement submitted with the DCO application. The Planning Statement will consider the suitability of the proposal having regard to the National Networks NPS and other planning policy, address any policy implications of the project and draw conclusions from the policy review, ES and other material planning considerations.

OTHER RELEVANT GUIDANCE

5.5 The EIA for the current project will take into account the following guidance of relevance to projects of this particular type.

Design Manual for Roads and Bridges

5.6 The project includes reconfiguration works to Junction 2 of the M69 motorway to enable dual carriageway access to the site and the addition of a northbound off-slip and a southbound on-slip to the motorway from Junction 2. The proposed design process of the project and preparation of ES will be informed by the Design Manual for Roads and Bridges (DMRB). This is a comprehensive manual of requirements, advice and

other published documents relating to works on motorway and trunk roads and has been developed by Highways England and equivalent bodies in Scotland, Wales and Northern Ireland. The transport and traffic chapter of TSH's ES will have due regard to the requirements of the DMRB, including relevant approval procedures, design and environmental assessment guidance.

Governance for Rail Investment Projects

5.7 Governance for Rail Investment Projects (GRIP) is Network Rail's delivery mechanism for projects on operational railways. It specifies a process for the management and control of projects which was developed to minimise the risk associated with proposed projects on operational railway. GRIP is project driven and divides the project into eight distinct stages that include feasibility, option selection, detailed design, construction, testing and delivery. The DCO application will be progressed alongside Network Rail's GRIP procedures.

STUDY AREA AND TEMPORAL SCOPE

5.8 The study area and temporal scope will differ for each EIA. Each ES chapter will define its own assessment study area geographically and provide a temporal scope indicating clearly the timescales over which the environmental effects will be considered. The temporal scope will generally consider the construction and operational phases. The nature and timing of any decommissioning process is difficult to forecast in any meaningful way.

ASSESSMENT APPROACH

Methodologies

5.9 Each technical chapter of the ES will include an explanation of the assessment methodology used for the specific assessment topic, adopted from relevant guidance for that topic. Wherever possible the methodologies will be used to predict environmental effects in a standard significance criteria framework. Where there is variation from this approach, an explanation will be provided in the relevant ES chapter to provide contextual information to support any alternative significance criteria used.

5.10 The EIA will identify significant environmental effects by estimating the predicted change that will take place as a result of the construction and operation of the project compared with the baseline scenario. Each

chapter will begin by identifying potential receptors. A receptor might be a location, a group of locations, buildings, people, features or wildlife and each topic subject will potentially affect a different range of receptors. Each chapter will identify those receptors relevant to the topic and explain how they have been identified. Once the receptors are identified they will then be assessed to determine their sensitivity to change as a result of the project from the known baseline. The receptors will be attributed a sensitivity level ranging from very high to very low as set out in table 5.1 below.

Table 5.1: Sensitivity of a generic environmental receptor to change

Receptor sensitivity	Receptor type
Very high	Receptors of highest value, greatest sensitivity to change and very limited potential for replacement. Will include designations of international or national importance, human health etc.
High	Receptors of high importance with a high susceptibility to change and limited potential for substitution or replacement.
Medium	Receptors with some sensitivity to change and medium importance. Often have relevance at a regional scale with some opportunity for substitution or replacement.
Low	Receptors with low importance and sensitivity to change, often of relevance at a local scale.
Very low	The receptor has very low importance.

5.11 The magnitude of effect of the project on each receptor will then be considered. An effect can be both positive or negative as well as temporary or permanent. The nature of each effect will be analysed based on quantitative and qualitative techniques and a magnitude assigned to the effect ranging from major to no change, as set out in table 5.2 below.

Table 5.2: Criteria for assessing the magnitude of environmental effects

Magnitude criteria	Description of criteria
No change	No loss or change to characteristics, features or elements of the receptor.
Negligible	Very minor changes that are not noteworthy or material.
Minor	Some measurable changes that are noteworthy and material. Minor benefit or minor loss/detrimental change to the receptors characteristics, features or elements.
Moderate	Adverse loss of resource or damage to characteristics, features or elements but limited impact on integrity; or Benefit or addition to characteristics, features and elements that improve the receptor.
Major	Effects will be of a consistently high magnitude and frequency and cause severe damage to key characteristics, features and elements or even total loss; or Major improvement to characteristics, features and elements of receptor.

5.12 The significance of the effect is a function of the sensitivity of receptors and the magnitude of the effect and will be dependent upon the outcomes of the assessment process. Having identified the sensitivity of the receptor and the magnitude of the effect the standard significance matrix for the project set out in table 5.3 below will indicate the significance of the effect ranging from substantial to negligible. For the purposes of the ES, effects of moderate/major and higher are considered to be EIA significant.

Table 5.3: Framework for assessing the significance of environmental effects

Receptor sensitivity	Magnitude of impact				
	No change	**Negligible**	**Minor**	**Moderate**	**Major**
Very low	Negligible	Negligible	Negligible	Minor	Minor
Low	Negligible	Negligible	Minor	Minor	Minor/Moderate
Medium	Negligible	Negligible	Minor	Moderate	Moderate/Major
High	Negligible	Minor	Moderate	Moderate/Major	Major
Very high	Negligible	Minor	Moderate	Major	Substantial

5.13 Each topic-based EIA chapter will include a summary of the supporting consultations that were undertaken with expert stakeholders to confirm the methodology employed.

Baseline assessment

5.14 The topic-based chapters of the ES will identify the current baseline scenario against which the environmental effects of the development can be measured. This will involve describing the current state and circumstances of the identified receptors and changes that might be expected to occur as a result of the proposed development.

Assessment of environmental effects in the absence of mitigation

5.15 The topic-based chapters will identify potential receptors that might be affected by the proposed development. The assessments will then inform the predicted effects that are likely to arise as a result of the development in the absence of mitigation.

5.16 Following the assessment of effects, the ES will identify measures to mitigate any significant adverse effects of the development where feasible and necessary. Where mitigation is not possible or can only minimise an identified adverse impact, the residual effects will be evaluated and an assessment of their significance reported based upon the magnitude of impact against the sensitivity of the receptor.

HABITAT REGULATIONS ASSESSMENT SCREENING

5.17 It is necessary to consider at this stage the potential effects of the project and in combination with other plans and projects on protected habitats as required by the European Commission's Habitats Directive 92/43/EEC and The Conservation of Habitats and Species Regulations 2010 (the Habitat Regulations).

5.18 One European protected habitat exists within 15km of the site, namely Ensor's Pond, a Special Area of Conservation (SAC) located 11km to the south-west. Ensor's Pond is designated for its large population of white-clawed crayfish, which is isolated from other Midlands populations of crayfish that have become infected by a fungal disease known as *Aphanomyces astaci*.

5.19 Given the distance of the site from the nearest European site and the

nature of the proposed development, it is not anticipated that the project in isolation or in combination with other plans and projects would have a likely significant effect. Nonetheless, TSH will submit a Habitat Regulations Assessment screening report to scope out any further need to undertake an Appropriate Assessment.

HEALTH IMPACT ASSESSMENT

5.20 The development proposed is not associated with an understanding of linked health implications and is not considered to represent a serious risk to public health. The ES chapters on air quality, noise and vibration, flood risk, hydrogeology and contamination will assess the potential impact of the construction and operational phases of the development on human health. Mitigation will be proposed to address any identified risk to human health in accordance with appropriate industry standards.

5.21 Given the nature of the proposed development not being directly linked with risks to human health and the consideration of the issue in the relevant technical chapters of the ES it is not intended to provide a separate chapter on human health in the ES.

SUSTAINABILITY

5.22 The DCO submission will be supported by a sustainability strategy that will include relevant details of the methods to be used to minimise energy consumption and improve efficiency.

5.23 The project is being developed as a scheme that promotes sustainable development contributing to the economic, social and environmental strands of sustainability. The freight movements that the development would cater for already have a carbon footprint and the proposal would not be increasing the extent of this footprint. The sustainability strategy will reflect the project's ability to remove a proportion of the heavy goods vehicle traffic from the road network with a greater reliance on rail freight movements.

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Six ◆ Land use and socio-economic effects

INTRODUCTION

6.1 This chapter sets out the scope of the land use and socio-economic impact assessment. In common with subsequent chapters of this EIA scoping report it has the following structure:

- baseline assessment;
- potential environmental effects;
- proposed scope of assessment;
- summary.

6.2 The socio-economic impact assessment will include consideration of the extent to which the proposed HNRFI aligns with the national need for SRFIs as described in paragraphs 2.42 to 2.58 of the National Networks NPS.

BASELINE ASSESSMENT

Description and key features

6.3 The baseline assessment will include information about the population that could be affected by the proposed development (the receptors). This section of the report will set out the following data for residents in the study area, compared to regional and national data for context:

- population profile; age structure; growth rates;
- levels of employment activity;
- average weekly income;
- occupational profile of the employment activity;
- qualifications and skills;
- relative levels of deprivation.

6.4 The baseline assessment will also identify:

- the size and characteristics of the local, regional and national economy;
- characteristics of the housing market(s) within commuting distance of the site, including plans for new housing to accommodate population growth;
- the landholdings of each agricultural business affected by the proposed development; the nature of each businesses affected and type of tenancy.

Proposed method

6.5 Baseline information on the economic conditions of the area will be collated from:

- the UK National Census (2011) and other ONS-produced sources;
- Business Register and Employment Survey.

6.6 These will provide a relevant quantitative 'baseline' of socio-economic conditions. However, it should be stressed that many social and economic conditions are by definition complex, interrelated, and difficult to characterise or measure in any precise way. As a result, some judgements on what is most relevant might be necessarily subjective.

6.7 For analysis of the local housing market(s), the baseline information will be drawn from:

- Strategic Housing Market Assessments for housing markets within the study area, usually produced as part of the evidence base for local planning policy;
- local plans.

6.8 For the baseline conditions of existing businesses the information on existing landholdings will be collated from TSH's data, the Land Registry and property agents. Information on the nature of the businesses and tenancies will be obtained predominantly from interviews with the tenants, landowners and agents.

Reference case

6.9 The assessment will consider the reference case, being the future baseline conditions of the site. Currently the site is used predominantly for agriculture. There is no relevant planning history for the site's redevelopment so we assume that the site would continue its current use in the absence of the proposed development.

POTENTIAL ENVIRONMENTAL EFFECTS

6.10 Potentially significant socio-economic effects are anticipated to relate to:

- direct, indirect and induced employment generated by construction activity. This will be derived from the associated costs to be provided by the client and multipliers;
- direct, indirect and induced employment generated by the new businesses locating on the site. This will be largely derived from floorspace figures to be provided by the client and multipliers;
- impacts to the regional and national economy once the development is operational;
- impacts of workers on demand for housing within commuting distance;
- impact on existing agricultural businesses resulting from the change in land use;
- social and economic impacts of severance for local communities from construction or operational traffic, if the impacts of that traffic cannot be mitigated.

Construction employment

6.11 Construction of the proposed scheme would take place over a period of time and would support the employment of a range of trades and professions in the construction industry. It would also have an indirect economic effect through the sourcing of building materials, services and supplies as well as the local expenditure of construction workers.

Operational employment

6.12 With up to 850,000 square metres GIA of which 200,000 square metres is of mezzanine floorspace of buildings on site, there will be significant levels of employment once fully occupied. With standard employment

densities of 77 sq m per worker (HCA Employment Densities Guide) there could be some 8,400 workers on-site. There will also be indirect benefits to the supply chain, through the commission of sub-contractors and suppliers from the new economic activity.

Economic impact

6.13 The impact of the proposed development on the regional and national economy will be assessed, in terms of gross value added. Replacing agricultural operations with 8,400 workers is likely to have significant benefits to the economic productivity of the region. This assessment will also be informed by the quality of agricultural land as identified in the soils, geology and contaminated land chapter of the ES and any adverse effects associated with its loss.

Demand for housing

6.14 The significant amount of new jobs created on-site could lead to pressures on the housing stock of settlements within commuting distance. The degree to which the new jobs in the proposed development have been accounted for in the economic growth forecasts that informed the strategic housing market assessments by local councils will be assessed, as will the plans for future housing delivery in the study area.

Impact on existing agricultural businesses

6.15 The proposed development will result in the cessation of current agricultural activities on the land. This will have adverse effects on a number of agricultural businesses. The assessment will evaluate the impacts in the context of the wider landholdings of each business affected, the type of ownership and the desires of the tenant affected.

Impact from severance

6.16 The potential for severance of local communities from construction and operational traffic will be assessed in the transport and traffic chapter of the ES. If any significant adverse effects cannot be mitigated by design measures the socio-economics and land use chapter will assess the social and economic effects.

PROPOSED SCOPE OF THE ASSESSMENT

Approach

6.17 This section presents the broad approach to the assessment of socio-

economic impacts for the proposed development. The assessment will be consistent with Treasury Green Book Guidance. The stages of the methodology include the following.

- Impact assessment – consider the scale, magnitude, and duration, frequency and permanence of the potential impacts during both the demolition/construction and operational phases of the proposed development.

- In the employment assessment this will conclude on the net additionality of the proposed development, after taking into account displacement, leakage, multipliers and deadweight.

- Consider mitigation measures, cumulative impacts, and residual impacts.

- Summarise final impact assessment.

6.18 To assess the effects on existing agricultural businesses the following approach will be followed.

- Impact assessment – consider the magnitude of the potential impacts on businesses operating on the land and their sensitivity to permanent loss of access to land within the application area.

- Consider mitigation measures, cumulative impacts, and residual impacts.

- Summarise final impact assessment.

Geographic scope

6.19 The concept of a primary area of influence or zone of impact is standard in EIA practice. However, there is no standard measure of scale and the relevant area differs for each project and site context, and is not directly transferrable to socio-economic impact assessment due to the mobility and network of potential receptors. Also the area of influence might be affected by physical barriers to access such as major roads, railways or rivers. We will consider the socio-economic effects across a number of geographic scales, as described below.

- *Study area* – this is the primary impact area surrounding the development site. We define this as the area within commuting distance of the proposed development. We will work with the traffic consultants to determine the appropriate isochrones around the site, accounting for the predicted catchment area from which the workforce

is likely to commute.

- *Regional* – defined as the Midlands. This will be used to frame the baseline conditions.

- *National* – England. This will be used to frame the baseline conditions.

6.20 The effects on existing agricultural businesses will be assessed against the landholdings of those businesses affected by the proposed development.

Temporal scope

6.21 The temporal scope for the assessment will take into account the length of the construction phase and will be used to consider temporary and permanent impacts of the development. The temporal scope includes:

- *short term* – 0-5 years, immediate impacts;

- *medium term* – 5-10 years, generally identified as temporary impacts during the construction phase;

- *long term* – 10+ years, potentially permanent impacts during operational phase of the development.

6.22 The potential frequency of the impact or effect will also be considered.

Significance criteria

6.23 The assessment of impact significance would be undertaken based on the general methodology presented here and using expert judgment. The assessment would aim to be objective and to quantify impacts, where possible. Where quantification is not possible, qualitative assessments will be made and justified.

6.24 In terms of the describing the duration of impact, short to medium-term impacts will be considered to be those associated with the site preparation and construction phase and long-term impacts will be those associated with the completed development.

6.25 Impacts will be defined as either:

- *beneficial* – an advantageous impact on the impact area

- *negligible* – imperceptible impacts on the impact area

- *adverse* – detrimental impacts on the impact area

Magnitude

6.26 The scale of impact is determined with reference to best practice guidance and relevant contextual factors. For example, employment generation of 100 new jobs could be considered a major beneficial impact in a settlement of 1,000 residents, but it would be a less significant impact in a larger settlement of 100,000 residents. Impacts that are moderate or major in scale are considered to be significant in EIA terms.

6.27 For the impact on agricultural businesses the following framework will be used to assess the magnitude on each business:

Table 6.1: Framework for assessing the magnitude of effect on each agricultural business affected by the proposals

Magnitude of effect	Agricultural businesses
Major	Full-time farm business rendered unworkable and unviable. The farmer will have to seek alternative means of income
Moderate	Reduction in net farm income requiring such that substantial restructuring is required
Small	Reduction in net farm income such that only minor restructuring is necessary
Negligible	Minimal effects, such as changed field accesses, not necessitating farm restructuring

Assumptions

6.28 By the nature of the methodology, estimates of change in the socio-economic elements such as economic and employment impacts are subject to uncertainty. The estimates in the ES will be based on good practice, but there will likely be a degree of uncertainty around estimates. Actual impacts are likely to be in a range of +/- 20% of estimates.

SUMMARY

6.29 In summary the potentially significant environmental effects from a socio-economic perspective are anticipated to be as follows.

- Direct, indirect and induced employment generated by construction

activity. This will be derived from the associated costs to be provided by the client and multipliers.

- Direct, indirect and induced employment generated by the new businesses locating on the site. This will be largely derived from floorspace figures to be provided by the client and multipliers.

- Impacts to the regional and national economy once the development is operational.

- Impacts of workers on demand for housing within commuting distance.

- Impact on existing agricultural businesses resulting from the change in land use.

- Social and economic impacts of severance for local communities from construction or operational traffic, if the impacts of that traffic cannot be mitigated.

6.30 The impact of these effects will be assessed against the reference case of 'no scheme', in accordance with best practice guidance and the Treasury Green Book.

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Seven ◆ Transport and traffic

INTRODUCTION

7.1 The purpose of the transport and traffic section of the ES is to describe and, where possible, quantify the likely significant effects that the proposed development will have on the transport network surrounding the Development. This section of the ES will be informed by a Transport Assessment (TA) and Travel Plan (TP) which is currently being prepared by BWB Consulting (BWB) and will be appended to the ES. This will include a full multi-modal impact assessment that will consider the impact of the proposed development on all transport infrastructure surrounding the site. The TA and TP will be undertaken in accordance with the following:

- National Policy Statement for National Networks (NPSNN)
- National Policy Statement for Ports (NPSP)
- Department for Transport (DfT) Circular 02/2013 'Strategic road network and the delivery of sustainable development'
- Planning Policy Guidance on 'Travel Plans, Transport Assessments and Statements in decision-taking'
- DfT document 'Guidance on Transport Assessment

7.2 A Transport Working Group (TWG) has been established comprising representatives from Highways England, Aecom (Highways England's term consultant), Leicestershire County Council, Warwickshire County Council, Leicester City Council, Coventry City Council, Blaby District Council and Hinckley & Bosworth District Council with the TSH and their Transport and Highway consultants Hydrock (previous Transport Consultants) who are now replaced with BWB Consulting Ltd. The objective of the TWG is:

- To provide a forum for consultation with the regulatory stakeholders
- Allow agreement, in a phased and methodical process, of the key components of the transport work that are required to support the DCO submission.

7.3 The TWG has been meeting regularly to discuss and agree key elements of the Transport Assessment methodology.

7.4 The Transport Assessment will examine the trip generation, distribution and assignment of trips associated with the proposed development. The impact of the development trips on the existing transport infrastructure will be assessed at a strategic level using the Pan-Regional Transport Model (PRTM) which is a SATURN (Simulation and Assignment of Traffic to Urban Road Network) model and is maintained by Leicestershire County Council, covering the county and the wider Midlands area. The PRTM is a further development of the original Leicester and Leicestershire Integrated Transport Model (LLITM) model. The LLITM model is limited to the boundaries of the county with a sparse buffer network beyond. A study area will be agreed and, at a local level, detailed junction modelling using industry standard assessment techniques and software will be undertaken. A package of transport infrastructure improvements will be developed to mitigate adverse transport impacts associated with the development.

7.5 The Transport Assessment and accompanying Travel Plan will examine the accessibility of the site by public transport, cycling and walking, and identify the likely modal split of person trips associated with the development. The Transport Assessment will evaluate the impact of the development trips on the surrounding transport facilities, including an appraisal of heavy goods vehicle movements. Where required, the Transport Assessment will identify improvements, which, in combination with the Travel Plan, will cater for the increased travel demand.

7.6 This chapter of the ES will draw upon the findings and conclusions of the Transport Assessment and Travel Plan.

7.7 The assessment of individual environmental elements will be carried out in accordance with the 'Guidelines for the Environmental Assessment of Road Traffic' (1993) published by the Institute of Environmental Assessment (IEA, now IEMA), and where appropriate Volume 11 of the 'Design Manual for Roads and Bridges' (DMRB) entitled 'Environmental Assessment' (2008) published by the former Department of Environment, Transport and the Regions (DETR), now the Department for Transport (DfT).

7.8 This scoping document updates a previous version submitted to the Planning Inspectorate in 2018, which now provides more details

regarding the offsite highway works which were not included in the previous Scoping Report.

7.9 These documents provide accepted methodologies for the appraisal of the environmental effects of transport.

RELEVANT LAW, POLICY AND GUIDANCE

7.10 This section sets out the national, regional and local policy background for the proposed development relating to transport.

Table 7.1 – Relevant national transport policy

National policy	Key provisions
National Policy Statement for National Networks (December 2014) (NPSN)	The NPS provides transport guidance to guide individual development for Nationally Significant Infrastructure Projects (NSIP) brought forward under it. The principal aims of the NPS are to deliver: • networks with the capacity, connectivity and resilience to support national and local economic activity and to facilitate growth and create jobs; • networks which support and improve journey quality, reliability and safety; • networks which support the delivery of environmental goals and the move to a low carbon economy; • networks which join up our communities and link effectively to each other. The NPS also identifies the economic and environmental benefits of rail freight Interchanges. It is supported by the Strategic Rail Freight Interchange Policy Guidance (2011) which sets out further details as to the benefits of rail freight interchange developments. Specific to National Rail Freight Interchange the NPS

	states that at a Transport Assessment should be included and produced according to DfT WebTAG methodology. Importantly NPS also states that if new transport infrastructure is proposed, applicants need to discuss with Network Providers. In the case of Hinckley NRFI, these are Highways England and Leicestershire County Council.
National Policy Statement for Ports (January 2012) (NPSP)	The NPS for Ports recognises that the balance of modes for goods to enter and leave ports can have a variety of traffic and transport impacts on surrounding infrastructure. It recognises that the most significant impact, in the case of unitised traffic, is likely to be on the surrounding road infrastructure. To mitigate such impacts, The *NPS for Ports* states that rail and coastal or inland shipping should be encouraged over road transport, where cost effective. Such an objective can be achieved through the delivery of SRFIs.
Strategic Rail Freight Interchange Policy Guidance (November 2011)	The main objectives of government policy for SRFIs is to: • reduce road congestion; • reduce carbon emissions; • support long-term development of efficient rail freight distribution logistics; • support growth and create employment. The government aims to meet these objectives by encouraging the development of a robust infrastructure network of Strategic Rail Freight Interchanges.
National Planning Policy Framework (NPPF) (2019)	NPPF advocates that planning policies and decisions should consider whether:

	• the opportunities for sustainable transport modes have been taken up depending upon the nature and location of the site to reduce the need for major transport infrastructure; • safe and suitable access to the site can be achieved for all people; • improvements can be undertaken within the transport network that cost-effectively limits the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual impacts of development are severe. The NPPF stresses the importance of providing a travel plan for all developments that generate significant amounts of movement. It also gives priority to provision for low emission vehicles, including in particular the provision of electric car charging facilities.
Guidelines for the Environmental Assessment of Road Traffic, Institute of Environment Assessment (IEA) (1993)	This document provides the framework for the Transport and Traffic inputs to an EIA document. A standardised list of key effects to be considered is provided in the IEA (now IEMA) documents. This includes the measurement of significance from a matrix of magnitude and sensitivity.

Table 7.2 – County transport planning policy

Regional policy	Key provisions
Leicestershire Local Transport Plan (2011-2026)	The Leicestershire Local Transport Plan 3 (LTP3) seeks to give some certainty to transport planning and policy in developing a strategic framework. The LTP recognises that planning policies will be grounded in the reality that most people will wish to own and use cars, but as far as possible, new development will be planned to avoid increasing traffic pressure by ensuring that a choice of attractive alternatives is available.

Table 7.3 – Local transport planning policy

Local policy	Key provisions
Blaby District Local Plan (Core Strategy) 2013 Blaby District local Plan (Delivery) DPD 2019	The core strategy sets out the overarching strategy and core policies to guide the future development of the district up to 2029. The local plan is gradually being replaced by Development Plan Documents (DPDs) which form part of the Local Development Framework. The primary spatial objective (Policy CS10 of the adopted Core Strategy) for transportation and the need to travel reads: *'In order to limit the impacts of new development on levels of vehicle movements, congestion and on the environment the preferred approach of Blaby District Council is to seek to reduce the need to travel by private car by locating new development so that people can access services and facilities without reliance on 'private motor vehicles'.* In addition, the Council will seek to protect and enhance local services and facilities (including retail and employment) to reduce the need to travel. In order to maximise modal shift, safe, sustainable and accessible transport modes (including walking, cycling and public transport) will be promoted. This will be achieved by providing new routes for pedestrians, cyclists and public transport (as part of new development proposals) and enhancing existing facilities. This will be particularly important in the design and development of the proposed SUE west of Leicester.'
Hinckley and Bosworth Local Development Framework 2009 Core Strategy	Whilst the site is situated within the Blaby District Council administrative boundary, traffic impacts will occur off-site and across neighbouring authorities. For this reason it is considered pertinent to consider the Hinckley and Bosworth policy.

	The core strategy sets out the overarching strategy and core policies to guide the future development of the borough up to 2026. The local plan is gradually being replaced by Development Plan Documents (DPDs) which form part of the Local Development Framework. The majority of the Local Plan Policies from the 2006 local plan have been saved until they are replaced by policies in the DPDs. The primary spatial objective for transportation and the need to travel reads: 'To reduce the high reliance on car travel in the borough and to increase the opportunities for other forms of transport by focusing the majority of development in the Hinckley urban area where there is a range of transport options available and through securing improvement to public transport infrastructure and facilities that promote walking and cycling and through the use of travel plans.'

Table 7.4 – Additional transport planning guidance

Guidance document	**Key provisions**
Design Manual for Roads and Bridges	The Design Manual for Roads and Bridges provides guidance as to the requirements to the General Principles and Guidance of Environmental Impact Assessment (Volume 11) for larger development schemes.
Manual for Streets 2	Manual for Streets 2 (MfS2) - Wider Application of the Principles, is a companion guide to MfS and builds on the philosophies set out in MfS and demonstrates how they can be extended beyond residential streets.

THE 2018 SCOPING OPINION

7.11 An initial scoping exercise was carried out in 2018. A Scoping Opinion document was received in April 2018 from the Planning Inspectorate.

7.12 Specific Transport and Traffic comments were provided. These are included below for completeness. Each of the comments have been considered for this revised scoping document and are included or qualified if excluded.

Table 7.5 – Planning Inspectorate's comments from EIA Scoping Opinion in relation to Transport and Travel (April 2018)

ID	Other Points	PINS Comment	Action Taken
7.3	Guidance to be used in the assessment	The Applicant is reminded of the requirement in the NPSNN for the transport assessment (TA) to be based on the WebTAG methodology stipulated in Department for Transport guidance. The Applicant should seek agreement with Highways England (HE) and Leicestershire County Council (LCC) over the approach to producing the TA.	Further information added to policy section with WebTAG reference included. Transport Working Group highlighted within subsequent sections.
7.21	Guidance	The Scoping Report states that the assessment will be undertaken in compliance with a number of pieces of best practice guidance; however, it does not provide or clearly reference this information. Generally,	Reference to IEMA and WebTAG guidance consistently applied to the text. Methodology clarified to follow IEMA guidelines.

		guidance is inconsistently referenced throughout this chapter of the Scoping Report. The Applicant should ensure that the methodology and approach to the assessment in the ES is clearly established and that any guidance relied upon is clearly referenced and readily available.	
7.23	Development traffic	The Scoping Report states that trip generation relevant to the assessment of impacts from traffic and transport will be calculated using methodologies agreed and applied in respect of other planning applications. The Applicant should seek to agree the approach to trip generation calculation and the assessment more generally with relevant statutory consultees. The Scoping Report does not explicitly state that rail freight trips will be included in the assessment of transport and traffic. The Inspectorate expects these to be included in the assessment and for potentially significant environmental effects arising from these	Additional text included highlighting the establishment of the Transport Working Group (TWG) of all interested highway authorities. This group will sign off on all trip generation etc. Rail freight movements have been factored into the Trip Generation, this will be explicit in the TA and ES.

		movements to be assessed in the ES	
7.24 – 7.26	Anticipated traffic growth	The Scoping Report states that known committed developments in the vicinity will be included in the assessments and the inclusion of any additional development within the assessment will be agreed with the Local Highway Authority. The Applicant should agree the developments to be included with LCC. Predictions of traffic growth should also take account of relevant local plans. It is likely that the proposed changes to junction 2 of the M69 will result in alterations to the current traffic distribution. The assessment should assess impacts resulting from changes to traffic distribution where significant effects may occur. The predictions of traffic growth in the ES should be consistent with any TA and should include predictive increases in demand on the road network affected by the Proposed Development as a result of this re-distribution. The Applicant should seek to agree their approach	Committed developments have been agreed with the TWG through the PRTM modelling. The modelling accounts for background traffic redistribution as well as the development trips. All methodology and approaches are to be fully agreed with the TWG.

		to predicting demand with relevant statutory consultees.	
7.27	Study area	The Scoping Report states that the extent of the study area will be determined based on a model of changes in traffic flows on the network; however it does not explain what criteria will be used to determine the size of the area. The ES must clearly explain the methodologies used in the assessment and why they have been used. It must also clearly define the extent of the road network likely to be affected by the Proposed Development. The chosen study area should be sufficient to encompass the extent of impacts where significant effects are likely to occur this may include areas beyond Leicestershire and into adjacent counties. The Applicant should make effort to agree the study area with relevant statutory consultees.	The choice of the Pan Regional Transport Model (PRTM) model to understand traffic flows reflects the anticipated wider impacts of the development. This has been used to establish the extents of the network and respective junctions impacted. This is to be fully agreed with the TWG which includes neighbouring authorities.
7.30	Assessment of accidents and safety	The Scoping Report includes a commitment to assess impacts on road safety. The assessment in the ES must address the	Road safety in Sapcote and Stoney Stanton is a critical part of the study for the impact on the Eastern

		potential impacts highlighted by Sapcote and Stoney Stanton Parish Councils (see Appendix 2 of this Opinion). If significant effects are likely to occur these should be presented in the ES.	Villages. Modelling scenarios will be run to understand traffic flow increases. This will be compared against the accident statistics and potential risks within the ES.
7.35	Percentage change in traffic flows	The Scoping Report states that average hourly 18 hour flows will be considered rather than peak hour percentage increases to prevent minor changes on links with low baseline flows from being considered significant. The Applicant should seek agreement with the relevant statutory consultees on this approach and provide a justification in the ES for using it.	The ES will need 18 and 24 hour flows for AQ and Noise assessments, these are also commonly used for traffic assessment as they provide a better overview of traffic impact than the 'worst-case' peak hour usually used within the Transport Assessment. Any approach to assessment will be checked with the TWG.
Table 7.5	Potential effects	The Scoping Report identifies the potential for impacts on pedestrians' journey times and amenity. It does not identify potential effects on other non-motorised users such as cyclists or equestrians. The ES should include an assessment of these matters where significant effects are likely to occur	Non-motorised users will be included within the ES and the scoping report has been updated to reflect.

	Applicant's proposed matters to scope out	No matters have been proposed to be scoped out of the assessment	

CONSULTATION FEEDBACK

7.13 Feedback from local planning authorities, parish councils and other statutory consultees was received in response to the original EIA scoping. The following organisations provided comments:

- Aston Flamville Parish Council;
- Burbage Parish Council;
- Elmesthorpe Parish Council;
- Harborough District Council;
- Highways England;
- Historic England;
- Leicestershire County Council;
- North Warwickshire Borough Council
- Royal Mail;
- Rugby Borough Council;
- Sapcote Parish Council; and
- Stoney Stanton Parish Council.

7.14 Comments provided by the consultees vary in emphasis. Both Highways England and Leicestershire County Council, as key highway authorities, form part of the Transport Working Group (TWG) set up to address the technical details of the Transport Assessment (TA) and ES Traffic and Transport Chapter. Therefore, their views and guidance will be ongoing through the pre-planning period.

7.15 Further comments from other consultees focus on several key areas, all of which will be considered within the ES or TA. These include; HGV routing, construction traffic management, public transport provision, sustainable modes, including footways and cycleways and off-site mitigation.

7.16 In addition to the statutory consultees, a highways specific public consultation took place between 9 July and 6 September 2019. The consultation included six public exhibitions, social media coverage and website access. Overall, 460 feedback forms were received along with 40 email enquiries, 84 online forms, 8 phone calls and 2 letters.

7.17 The results from the feedback highlighted significant local opposition to the anticipated highway impacts of Hinckley NRFI. Over 36% of respondents cited local traffic increases as their number one priority.

7.18 From the initial mitigation options presented, the western link road met with a higher approval than the Eastern Village bypass options (Option A to the south of Stoney Stanton and Option B to the south of Sapcote).

7.19 Despite significant opposition to the Eastern Village bypass, Option B around Sapcote was the clear preference with nearly three times as many positive responses to Option A.

7.20 Over 61% of respondents considered local public transport to be inadequate.

7.21 The feedback provided by the respondents will help shape the conversations with the relevant authorities in terms of appropriate highway and transport interventions needed for the Hinckley NRFI site.

BASELINE CONDITIONS AND MAIN ISSUES

Accessibility

7.22 The ES transport and traffic chapter and the supporting TA will include a detailed analysis of accessibility to the site. The following provides a brief summary.

Vehicular access

7.23 A new dedicated highway access is proposed from M69 Junction 2. This will be coupled with the introduction of southern slip roads. These will assist in distributing traffic across the junction and the wider network, thus reducing impacts from the development.

7.24 A new link road connecting M69 Junction 2 with the B4668 is proposed through the site and across the rail line. This link road is intended to be adopted as public highway. This will ultimately connect with the A47 to the north of Hinckley. The route provides secondary access to the site and potentially eliminates the need for dedicated emergency access route to the B581.

7.25 It is intended that Burbage Common Road will be stopped-up at the south west and northern development site boundary, with internal estate roads to be maintained privately. Emergency access retained from the north only.

Public rights of way

7.26 There is an extensive network of public rights of way (PRoW) routes running through the main site (see figure 10.5). This includes a bridleway (V29/7) on the southeastern side of the proposed site which connects with V29/6 crossing over the M69 to V29/5.4.3 and Bridleway U52/9 connects the B581 to Burbage Common Road by the existing railway bridge within the site.

Pedestrian access

7.27 The B581 and the B4668, which are located at either end of Burbage Common Road, both have footways running alongside their carriageways.

7.28 Both the B4469 Hinckley Road and the wide M69 Junction 2 gyratory have footways on the northern side of the carriageway. The M69 entry and exit slip roads are crossed via uncontrolled crossings.

7.29 An additional detailed review of pedestrian facilities will be incorporated in the supporting TA.

Cycling access

7.30 A detailed review of local cycling facilities will be provided, addressing routes within the vicinity of the site, including local and national cycle routes, dedicated cycle path links and any other cycle-specific infrastructure.

Public transport

7.31 The nearest bus stops to the site are located approximately 200 m west of Junction 2 of the M69. These stops are served by the X6 bus, operated by Arriva Midlands.

7.32 The X6 runs between Coventry and Leicester, operating an hourly service between 07.57 and 18.38. Travel time to Coventry is approximately 45 minutes, with Leicester approximately 40 minutes away.

7.33 Hinckley has a railway station, served by CrossCountry trains. This is situated on the Birmingham – Peterborough line. Services run between Hinckley and Birmingham / Leicester depending on direction of travel, with usually one train per hour in either direction. On weekdays a few additional peak hour trains operate in addition to the usual services. A

continuous footway exists between the site and the railway station along the B4669 and B590, with an approximate walking/cycle distance of 4.3km.

Traffic flows

7.34 The Pan-Regional Transport Model (PRTM) is a SATURN (Simulation and Assignment of Traffic to Urban Road Network) model and is maintained by Leicestershire County Council, covering the county and the wider Midlands area. The PRTM is a further development of the original Leicester and Leicestershire Integrated Transport Model (LLITM) model. The LLITM model is limited to the boundaries of the county with a sparse buffer network beyond.

7.35 In the highway model, PRTM uses a more disaggregate zoning system than LLITM and a denser highway network across the Midlands and Wales. Within the PRTM Area, speeds are modelled dynamically using capacity limits and speed-flow curves. These changes are designed to improve the modelling of route choice and gain additional understanding of the (dis)benefits of regional and national transport schemes which extend beyond Leicestershire into surrounding counties.

7.36 It is anticipated that this will be used to assess network-wide changes in traffic flows, particularly given the proposed mitigation with the two new slip roads onto Junction 2 of the M69, a new connection to the B4668 through the site and a potential by-pass at Sapcote.

7.37 In addition, traffic surveys were commissioned across the junctions identified through the initial sift of PRTM outputs. The junctions likely to require further analysis were determined through to VoC (Volume over Capacity) values above the 85% threshold and a where development impact creates a further +/- 5% in 2036 design year. This provided an initial list of 63 junctions across local roads and the SRN (Strategic Road Network).

7.38 A further sift of impacts and review with Leicestershire County Council (LCC) and Highways England Area 7 team (HE) has consolidated the list to circa 30 junctions. This figure is subject to further link capacity reviews and development flow comparisons to understand potential wider impacts on the SRN, especially in the West Midlands.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

7.39 The identification of the baseline conditions and assessment of the significance of effects on transport and traffic will be based on the findings of the TA that will be provided as an Appendix to the ES.

7.40 The assessment will be undertaken in compliance with best practice guidance including National Policy Statement (NPS) for National Networks (December 2014), which references WebTAG guidelines as the preferred methodology for Rail Freight Interchange. Planning Practice Guidance (PPG); Manual for Streets 1 and 2; and Guidelines on the Environmental Assessment of Road Traffic. The methodology applied to the assessment will adhere to that set out in the IEA Guidelines and focus on potential effects on local roads and the users of those roads.

Assessment scenarios

7.41 Subject to agreement with the Local Highway Authority, the following years will be assessed (note these are limited to selecting the available years that exist within the PRTM):

- 2018 base year
- 2025 (anticipated first year of occupation)
- 2036 (ten years post-occupation)

Development traffic

7.42 Trip generation will be calculated using, where possible, methodologies/trip rates agreed and applied in respect of other local and pertinent planning applications. Trip generation by all modes will be calculated within the TA and vehicles distributed across the network, likely through the use of the PRTM.

7.43 Trip generation and distribution has been fully agreed with the relevant consultee organisations through the establishment of a Transport Working Group (TWG), comprising Highways England, Leicestershire County Council Highways, Leicester City Council, Coventry City Council and Warwickshire County Council.

7.44 Rail freight trips have been calculated and forecast with input from specialist rail freight input from Baker Rose Ltd. The resultant HGV trips have been included within the trip generation used within the strategic modelling process.

APPROACH AND METHODOLOGY

Study area

7.45 It is anticipated that the PRTM model will form an initial assessment of the changes in traffic flow arising from the development proposals across the network. This will identify the changes in traffic flow on the network and therefore the extent of study area used to assess the effects of traffic within this ES chapter.

7.46 By nature of its size and coverage, the PRTM will enable an initial assessment of development flows on the wider, cross-boundary network, along with the redistributive effects of the proposed infrastructure and mitigation. Thresholds of additional traffic by link and junction will inform the boundaries of the study area and are to be agreed with the relevant Highway Authorities through the TWG.

Effects requiring further consideration

7.47 The IEA guidelines identify a number of traffic related environmental effects that may arise from a proposed development and which may require consideration. Due to the site's size, construction traffic will need to be considered along with the development trips.

7.48 These effects can be arranged into two categories: those that have been scoped into this assessment and those that have been considered in another chapter of the ES. The effects by category are shown in Table 7.5.

7.49 The assessment of transport effects within the ES will be based on recognised guidelines contained within the Design Manual for Roads and Bridges, Volume 11, Environmental Assessment (DMRB) and Guidelines for the Environmental Assessment of Road Traffic, Institute of Environment Assessment (IEA). It will include the following listed in Table 7.5

Table 7.6 – Categorisation of transport effects for the purpose of this EIA

Effects scoped in and considered in the transport chapter	Effects scoped in and considered in chapters elsewhere in the ES
• Severance • Driver delay • Pedestrian delay • Non-Motorised Users amenity • Fear and intimidation • Accidents and safety • Hazardous loads	• Air quality (Chapter 8) • Noise and vibration (Chapter 9) • Landscape and visual effects (Chapter 10) • Ecology and biodiversity (Chapter 11) • Cultural heritage (Chapter 12) • Surface water and flood risk (Chapter 13) • Hydrogeology (Chapter 14) • Ground conditions (Chapter 15) • Materials and waste (Chapter 16) • Energy and climate change (Chapter 17)

7.50 The relevant effects identified in Table 7.6 and scoped into this assessment are summarised as follows:

- Potential **severance** effects on the local community: a perception that a community is severed when it becomes separated by a major traffic route. Severance is difficult to measure, and by its subjective nature, is likely to vary between different groups within a single community. In addition to the volume, composition and speed of traffic, severance is also likely to be influenced by the geometric characteristics of a road, the demand for movement across a road, and the variety of land uses and the extent of community located on either side of a road. All these factors are considered when determining the likely severance effect. In general terms, according to the IEMA guidelines, up to a 30% change in traffic flow is likely to produce a 'slight', up to a 60% change in traffic flow is likely to produce a 'moderate' and up to a 90% change in traffic flow is likely to produce a 'substantial' change in severance.

- **Delays to drivers** using the local highway network: Delay to drivers generally occurs at junctions where vehicle manoeuvres are

undertaken and which result in vehicles having to give-way. Driver delay could also occur on narrow rural roads if flows are increased (particularly those where it is difficult for vehicles to pass). A number of roads and junctions surrounding the site could be affected by changes in vehicle demand resulting from the proposed development. As such traffic modelling is being undertaken as part of the TA to understand the impact on delay, queuing and capacity at key junctions and links on the surrounding highway network. This will also be informed by results obtained from the PRTM with-development model.

- **Pedestrian delay:** The delay incurred by pedestrians is generally a direct consequence of their ability to cross roads. Thus, the provision of crossing facilities, the geometric characteristics of the road, and the traffic volume, composition and speed are all factors that can affect pedestrian delay. These factors will be considered when assessing this effect. It should be noted that the IEA guidelines advise that in assessing levels of, and changes in, pedestrian delay, assessors do not attempt to use quantitative thresholds. This is due to the range of local factors and conditions which can influence pedestrian delay. Instead, the Guidelines recommend the use of professional judgement to determine whether pedestrian delay is a significant effect. Pedestrian delay will be considered in the context of the change in travel demand generated by the proposed development, the existing pedestrian facilities on the network and any potential increase in traffic flows.

  Studies, quoted within the IEA guidance (HFA et al, Assessment Methodology Report, The West London Assessment Studies, 1990) have shown that pedestrian delay is considered perceptible / significant if it exceeds 10 seconds for a link with no crossing facilities. These studies identify that a 10 second pedestrian delay broadly equates to a two-way link flow of 1,400 vehicles per hour.

- **Non-motorised users' amenity:** The term pedestrian amenity is broadly defined as the relative pleasantness of a journey. It is considered to be affected by traffic flow, speed and composition, as well as footway width, lighting and quality and the separation/protection from traffic. It encompasses the overall relationship between pedestrians and traffic, including fear and intimidation which is the most emotive and difficult effect to quantify and assess. The IEA guidance references the DfT Manual of Environmental Appraisal (1983) which suggests that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or its HGV component) is halved or doubled. In addition to the pedestrian amenity, a

consideration of non-motorised users, including cyclists and equestrians will be included within the ES assessment based on a similar methodology.

- **Fear and intimidation:** Potential effects on pedestrians associated with fear and intimidation are caused by an increase in volume of traffic and its HGV composition, and the lack of protection caused by factors such as narrow footway widths. There are no commonly agreed thresholds for estimating levels of danger or fear and intimidation, however the IEMA guidelines suggest the adoption of values from Pedestrian Delay, Annoyance and Risk - Imperial College, Crompton (1981) when considering any effect on pedestrian fear and intimidation. These thresholds are replicated in Table 7.6 and can be used as a first approximation of the likelihood of pedestrian fear and intimidation. Other factors do however also need to be considered such as proximity to traffic and footpath widths. This approach will also be related to all non-motorised users.

Table 7.7: Pedestrian fear and intimidation thresholds

Degree of hazard to pedestrians	Average traffic flow over 18-hour day (vehicles per hour)	Total 18-hour heavy goods vehicle flow	Average speed over 18-hour day (miles per hour)
Extreme	1,800 +	3,000 +	20 +
Great	1,200 – 1,800	2,000 – 3,000	15-20
Moderate	600 – 1,200	1,000 – 2,000	10-15

- **Accidents and safety:** The potential effects on road safety will be considered, including the potential for increases in road traffic accidents. Consideration will be given to the local circumstances close to the site, including Sapcote and Stoney Stanton. In particular traffic speed, flow and composition, as well as vehicle conflict, pedestrian activity and the potential increases in accidents which could result from the development. These factors enable a professional judgement to be made regarding the significance of the effect.

- **Hazardous loads:** Any hazardous loads transported to / from the distribution centre would be assessed and managed in line with the relevant environmental permits and associated legislation; they are not a matter for the TA or ES.

7.51 The 'dust and dirt' criteria will not be in the transport and traffic ES chapter as this will be covered in the air quality chapter.

Assessment screening process

7.52 In order to limit the scale and extent of an assessment, the IEA guidelines recommend a screening process. The guidelines recommend two thresholds that would normally apply before the environmental effects of increases in traffic need to be looked at in more detail on a specific link.

- Rule 1: Include highway links where traffic flows will increase by more than 30% (or the number of Heavy Goods Vehicles (HGVs) will increase by more than 30%); and

- Rule 2: Include any other specifically sensitive areas where traffic flows will increase by 10% or more.

7.53 Sensitive areas are defined by the presence of sensitive receptors, such as hospitals, community centres, conservation areas, schools or colleges or where there are no or narrow footways. The parameters are set out in more detail in Table 7.7.

7.54 The rules are based upon knowledge and experience of environmental effects of traffic and also acknowledge that traffic forecasting is not an exact science. The 30% threshold is based upon research and experience of the environmental effects of traffic, with less than a 30% increase generally resulting in imperceptible changes in the environmental effects of traffic. At a simple level, the guidance considers that projected changes in total traffic flow of less than 10% create no discernible environmental effect, hence the second threshold as set out in Rule 2.

7.55 The percentage change in traffic flows arising from a development is a function of the level of base flows. In order to prevent very minor changes on links with low baseline flows from being considered more significant, average hourly 18 hour flows will be considered. This aligns with the required approach for traffic data to inform the Air Quality and Noise documentation, though is not generally reported within a Transport Assessment.

7.56 A summary of the sensitivity of receptors which will be considered in the assessment is set out in Table 7.7. This is based on paragraph 2.5 of the IEMA Guidelines.

Table 7.8: Transport and traffic - receptor sensitivity

Receptor Sensitivity	Receptor Type
Major	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident blackspots, retirement homes, urban/residential roads without footways that are used frequently by pedestrians
Moderate	Traffic flow sensitive receptors including: doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways that are used frequently by pedestrians, unsegregated cycleways, community centres, parks, recreation facilities
Minor	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions

7.57 Where a link is considered to be of a major or moderate receptor sensitivity (based on receptor types in Table 7.7), the 'specifically sensitive' IEA Rule 2 threshold will apply.

7.58 Each link in the study area will be analysed and summarised within the chapter based on receptors to demonstrate whether it is negligible, minor, moderate or major in sensitivity.

Assessment thresholds

7.59 The environmental effects of road traffic resulting from the proposals will be assessed upon the local highway network in accordance with the IEA guidelines. Once the study area has been identified through the PRTM assessment, the change in flows on all links within the area will be established.

7.60 The forecast vehicle generation of the Development during the construction and operational phases will be quantified. Where appropriate this vehicle generation will be assessed against background traffic flows to outline percentage increases in total vehicles and HGVs.

7.61 Assessments will be undertaken across a typical working day with the effects compared across each hour of the day across a 24 hour period (as recommended in the IEA guidance). Detailed AM and PM peak hour assessments will be set out in further detail in the TA.

Magnitude of effect

7.62 In order to determine the magnitude of change, the definitions of magnitude have been summarised within Table 7.8, and a brief summary of the IEMA recommendations for quantitative analysis is provided:

Table 7.9: Magnitude of change criteria for use in the transport and traffic assessment

Magnitude Criteria	Description of Criteria
Negligible	Not noteworthy or material – increases are of low magnitude and frequency. Percentage increase in traffic flows less than 30% and less than 10% in sensitive locations. Average 18-hour traffic flows would increase by less than 600 vehicles per hour.
Minor	Noteworthy, material – increases are of moderate magnitude and frequency. Percentage increase in traffic flows is between 30% and 60% and between 10% and 30% in sensitive locations. Average 18-hour traffic flows would increase by 600 to 1,200 vehicles per hour.
Moderate	Increases are likely to be of a high magnitude and frequency with quality standards being exceeded, at times considerably. Percentage increase in traffic flows is between 60% and 90% and between 30% and 60% in sensitive locations. Average 18-hour traffic flows would increase by 1,200 to 1,800 vehicles per hour.
Major	Effects will be of a consistently high magnitude and frequency. Percentage increase in traffic flows in excess of 90% and above 60% in sensitive locations. Average 18-hour traffic flows would increase by 1,800 + vehicles per hour.

7.63 These qualitative percentages provide a broad guide as to the magnitude of traffic flow changes, although professional judgement will also be used considering local factors such as low background traffic flows.

Significance of effects

7.64 As a guide to the potential significance of effect, and to establish whether a detailed assessment of environmental criteria on a specific link is required, the magnitude of the traffic flow increase and the sensitivity of the receptor will be compared (this will be consistent with the consideration of links against Rule 1 and Rule 2). This will also provide an indication of the potential overall significance of traffic effects. This matrix is summarised in Table 7.9.

Table 7.10 – Matrix for determining the potential overall significance of traffic effects

Magnitude	**Major**	Minor	Moderate	Major	Major
	Moderate	Negligible	Minor	Moderate	Major
	Minor	Negligible	Negligible	Minor	Moderate
	Negligible	Negligible	Negligible	Negligible	Minor
		Negligible	**Minor**	**Moderate**	**Major**
		Sensitivity			

7.65 Where a potential significance of effect is considered of moderate significance or above a detailed assessment will be undertaken on that link based on analysis of each of the environmental assessment criteria.

7.66 The significance of effect is a function of the sensitivity of receptors and the magnitude of traffic flow increases (as shown in Table 7.8). In addition to this the following parameters need to be considered:

- *Duration* - for example, whether the impact occurs during a temporary construction period or across the operational period
- *Highway characteristics* including road classification, observations of existing traffic and pedestrian flows, road geometries of the highway sections and existing infrastructure
- *Detailed environmental assessment criteria* also need to be considered (severance, pedestrian delay, fear and intimidation etc.)

7.67 Whilst the magnitude can be calculated quantitatively, guidance on such quantitative assessment associated with significance is not definitive. A qualitative value judgement will also be made when fully assessing the significance of effect, considering all assessment criteria in detail and applying this in a local context.

7.68 A set of generic significance criteria are provided by the Environmental Impact Assessment: A Guide to Good Practice and Procedures (DCLG, 2006) which describe the significance of effect. These criteria are outlined in Table 7.10.

Table 7.11: Significance of transport effects

Significance of Effect	Description
Major	Likely to be important considerations at a regional or district scale
Moderate	Likely to be important at the local scale. However, the cumulative effect of these may lead to an overall increase in the impact / effect of traffic
Minor	Generally related to local issues but the effects are relevant in the detailed design of the Scheme
Negligible	Effects are generally beneath levels of perception

7.69 Environmental Impact Assessment: A Guide to Good Practice and Procedures (The Department for Communities and Local Government, 2006) states that significance is a function of the value of resources (international, national, regional or local level importance), the magnitude of the impact, the duration involved, the reversibility of the effect and the number and sensitivity of receptors.

Committed development

7.70 Known committed developments in the vicinity of the site have been included in the assessments undertaken within this chapter. This will capture the anticipated traffic growth in the area. Following earlier liaison with the TWG, several additional developments were added to the modelling to cover large sites in the area that are likely to come forward.

7.71 It has also been confirmed that the following large Industrial developments or rail freight interchanges are included within the model to allow for cumulative assessment.

i. Daventry International Rail Freight Terminal (DIRFT)
ii. East Midlands Gateway Rail Freight Interchange (EMGRFI)
iii. Northampton Gateway Rail Freight Interchange (NGRFI)
iv. West Midlands Interchange
v. Land east of J1 of the M69 (Planning Ref:17/010104/HYB)

7.72 All noteworthy committed developments within the area have been captured within the PRTM under the current local plan period. This has been checked with the TWG and the relevant planning authorities.

Highway Infrastructure developments include the following:

- A5 widening between A47 Longshoot and A47 Dodswell roundabout (Identified in the Road Investment Strategy 2:2020–2025),
- A new roundabout and M69 J1 improvements associated with Land East of J1 of the M69 and
- M1 J20, A5 Gibbet Lane Roundabout and M1 J21 improvements associated with Lutterworth East Strategic Development Area (SDA)

7.73 The inclusion of any additional development within the assessment will be discussed and agreed with the Local Highway Authority as part of any scoping discussions associated with the preparation of both the TA and ES.

7.74 The impact of new infrastructure will influence background traffic movements through M69 Junction 2. Therefore, the PRTM model runs will take account of the redistributive effects of the new infrastructure on all traffic, inclusive of the new development trips. The Transport Assessment will provide further detailed analysis of the different mitigation options.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

7.75 The determination of the significance of the effects is a judgement as to whether the magnitude and duration of impacts, when combined with the characteristics of the road network and the sensitivity of receptors, would have a regional or district scale effect or are important at the local scale but cumulatively lead to an overall increase in the effects of traffic.

7.76 If this is the case, then the effects are considered to be significant with regard to the EIA Regulations. If the effect is likely to be only a local issue or beneath levels of perception, it is considered to be insignificant with regard to the EIA Regulations.

7.77 If the significance of effect on a road link is identified to be significant, mitigation will be proposed to reduce the effect to a not significant level.

7.78 The highway mitigation package will be discussed and agreed with the TWG on the basis of evidence from the strategic and local junction modelling work. This will consider delay, severance, amenity, safety of any new infrastructure as per the IEMA guidance.

7.79 A Construction Traffic Management Plan (CTMP) will also be produced to manage vehicle flows during the construction period.

UNCERTAINTIES

7.80 Traffic information from the PRTM model is relied upon to provide link and node traffic flows for junctions around the study area. This will be checked against surveyed traffic flows as outlined in paragraph 7.19. A furnessing exercise will then align the modelled and observed flows through an iterative statistical process. This will be agreed with the relevant authorities via the TWG.

7.81 Current observed traffic flow surveys were generally carried out in 2018 with some counts dating to 2017. With submission due in 2021, some counts will be older than the recommended reasonable timescales. However, due to Covid 19, traffic surveys for 2020 have been rendered less typical, when recorded, and factors are to be applied to estimate normal flows. It is therefore suggested to discount 2020 as a year, within the reasonable threshold. This will result in 2017 surveys being within the past three years of 'normal' conditions by the time of their submission in 2021. The approach on the survey flows will be subject to agreement with TWG.

7.82 Mitigation and site access for the immediate network has been considered through the strategic modelling process. This includes M69 Junction 2 south facing slips, the site link road between M69 Junction 2 and the B4668. At this stage an allowance for a bypass of Sapcote and potential widening of the M69 on approach and exit from J21 has been included. It is not clear whether redistributive effects and development traffic would fully justify these schemes. Discussions with the TWG will be critical to understanding the technical and political requirements of all mitigation.

7.83 Figures 1.1 and 1.3 show the potential highway mitigation works. All alignments of proposed mitigation are indicative at this stage and will

be subject to detailed technical and environmental analysis at post-planning.

MATTERS TO BE SCOPED OUT

7.84 There are currently no matters to be scoped out for the traffic and transport element of the EIA. Ongoing work with TWG will scope out impact.

◆

Eight ◆ Air quality

INTRODUCTION

8.1 The Proposed Development has the potential to generate adverse air quality effects at existing sensitive receptors during the site clearance, preparation, and construction phases of development. Once the Proposed Development is completed, air quality impacts associated with road and rail traffic movements and employment operations have the potential to have adverse effects on air quality at existing sensitive receptors located in the vicinity.

8.2 An assessment of the likely significance of effects on air quality of the Proposed Development at identified sensitive receptors will be undertaken by BWB Consulting Ltd Air Quality Consultants. A full assessment including appendices will be reported in the ES.

RELEVANT LAW, POLICY AND GUIDANCE

The UK Air Quality Strategy

8.3 European (EU) legislation forms the basis of air quality policy and legislation in the UK. The EU 2008 ambient Air Quality Directive[1] sets limits for ambient concentrations of air pollutants including nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$). The air quality standards and objectives are prescribed through the Air Quality (England) Regulations 2000[2], as amended, for the purpose of the Local Air Quality Management Framework.

8.4 The UK Government are required under the Environment Act 1995[3] to produce a national Air Quality Strategy (AQS). The AQS was first published in 1997[4] and was most recently reviewed and updated in 2007[5]. The AQS provides an overview of the Government's ambient air quality policy and sets out the air quality standards and objectives to be achieved and measures to improve air quality.

[1] European Parliament (2008) Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe
[2] HMSO (2000) Statutory Instrument 2000 No. 928, The Air Quality (England) Regulations 2000 (as amended), London: HMSO
[3] HMSO (1995) The Environment Act 1995, London: TSO
[4] Department of the Environment (DoE) (1997) The UK National Air Quality Strategy, London: HMSO
[5] Department of the Environment, Food and Rural Affairs (Defra) (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

8.5 Table 8.1 summarises the Air Quality Objectives of relevance to this study.

Table 8.1:Air Quality Standards and Objectives (England)

Pollutant	Averaging Period	Air Quality Objective (µg.m^{-3})
NO_2	Annual Mean	40
	1-hour mean not to be exceeded more than 18 times per year	200
NO_x	Annual Mean	30
PM_{10}	Annual Mean	40
	24-hour mean not to be exceeded more than 35 times per year	50
$PM_{2.5}$	Annual mean target (15% cut in annual mean urban background exposure)	25

8.6 Part IV of the Environment Act requires local authorities in the UK to review local air quality within their administrative area and, if relevant air quality standards and objectives are likely to be exceeded, designate Air Quality Management Areas (AQMAs). Following the designation of an AQMA, local authorities are required to publish an Air Quality Action Plan (AQAP) detailing measures to be taken to improve local air quality and work towards meeting the relevant air quality standards and objectives.

National Policy Framework NPS

8.7 Paragraphs 5.3 to 5.15 of the National Networks NPS[6] (NN NPS) provides guidance on generic air quality impacts and their assessment. Paragraph 5.7 of the NPS states that the environmental statement should describe:

- Existing air quality levels;
- forecasts of air quality at the time of opening, assuming that the scheme is not built (the future baseline) and taking account of

[6] Department for Transport (2014) National Policy Statement for National Networks, HMSO London

the impact of the scheme; and

- any significant air quality effects, their mitigation and any residual effects, distinguishing between the construction and operation stages and taking account of the impact of road traffic generated by the project.

8.8 Paragraphs 5.8 and 5.9 of the National Networks NPS advises that the assessment should take Defra's national air quality projections into account and provide a judgement on whether the project would affect the UK's ability to comply with the European Air Quality Directive.

National Planning Policy Framework 2019

8.9 The National Planning Policy Framework (NPPF)[7] provides guiding principles on how planning can take account of the impact of new development on air quality. The Framework states that significant development should be focussed on locations which are or can be made sustainable, primarily through offering a choice of transport options. It further suggests that opportunities to improve air quality or mitigate impacts should be identified and that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

Local Plan Policy

8.10 The Blaby District Local Plan Adopted Core Strategy[8] provides the long-term vision for the borough up to 2029. Local air quality policy of relevance to the Proposed Development is contained in:

- CS10 Transport Infrastructure

8.11 The Regional Transport Strategy (RTS) and Local Transport Plan (LTP3) referenced within the Core Strategy sets out an objective to *'improve air quality and reduce emissions from transport by reducing the need to travel and promoting modal shift away from the private car'.*

8.12 The Hinkley and Bosworth Local Development Framework includes the Core Strategy[9] which provides the over-arching strategy and long-term vision for the borough up to 2026. There are no relevant policies for air quality within the current Core Strategy.

8.13 The HBBC Site Allocations and Development Policies Development Plan policy (DPD)[10] refers to air quality in the following policies:

[7] Ministry of Housing, Communities & Local Government (2019) National Planning Policy Framework, HMSO London
[8] Blaby District Council (2013) Adopted Core Strategy
[9] Hinckley and Bosworth Borough Council (2009) Local Development Core Strategy
[10] Hinckley and Bosworth Borough Council (2016) Site Allocations and Development Management Polices DPD

- DM7 Preventing Pollution and Flooding
- DM10 Development and Design

Guidance

8.14 Highways England Design Manual for Roads and Bridges (DMRB) LA105 Air Quality guidance[11] provides a methodology to assess local air quality by comparing the Do-Nothing scenario (without the scheme) to the Do Something scenario (with the scheme) for the opening year and any future assessment years. Pollutant concentrations that may change as a result of The Development at specific locations are compared with the air quality criteria set to protect human health or vegetation, as appropriate. The spatial scope of the assessment will be determined using the criteria set out in DMRB LA105 Air Quality for identifying affected roads.

8.15 Defra has published technical guidance[12] for use by local authorities in their review and assessment work. This guidance, referred to as Local Air Quality Management Technical Guidance 16 (LAQM.TG16) will be used where appropriate within the air quality assessment.

8.16 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have published guidance[13] that offers comprehensive advice on: when an air quality assessment may be required, what should be included in an assessment, how to determine the significance of any air quality impacts associated with a development, and the possible mitigation measures that may be implemented. This guidance will be considered within the air quality assessment.

8.17 Guidance on the Assessment of Dust from Demolition and Construction[14] was published by the IAQM to provide guidance to developers, consultants and environmental health officers on assessing the impacts arising from construction activities. The emphasis of the methodology is on classifying sites according to the risk of impacts and to identify mitigation measures appropriate to the level of risk identified. This guidance will be utilised within the construction dust assessment.

8.18 Guidance on the assessment of air quality impacts on designated nature conservation sites[15] is provided by the IAQM. This guidance will be considered within the air quality assessment.

[11] Highways England (2019) Design Manual for Roads and Bridges LA105 Air Quality
[12] Defra (2018) Local Air Quality Management Technical Guidance (TG.16), London: Defra
[13] Institute of Air Quality Management (2017) Guidance on land use planning and development control: Planning for air quality
[14] Institute of Air Quality Management (2014) Guidance on the assessment of dust from demolition and construction
[15] IAQM (2020) A guide to the assessment of air quality impacts on designated nature conservation sites v1.1

THE 2018 SCOPING OPINION

8.19 An EIA Scoping Report was submitted in March 2018 to PINS which provided an outline approach for the identification and assessment of likely significant effects for Air Quality.

8.20 In April 2018 PINS, on behalf of the Secretary of State (SoS) provided their Scoping Opinion to the Applicant and comments related to air quality are detailed within Table 8.2.

Table 8.2 Planning Inspectorate's comments from EIA Scoping Opinion in relation to Air Quality (April 2018)

Consultee	Other points	Scoping Opinion Response
SoS		No matters have been proposed to be scoped out of the assessment.
	Baseline Data	The Scoping Report includes details of the background concentrations for pollutants within 1km of the Proposed Development but does not explain if this is the baseline data that will be used in the assessment or if additional data will be collected. The ES must present the baseline data and explain how this has been collected. The baseline data should include the updated information for Air Quality Management Areas (AQMAs) 1 and 6, as referred to in Blaby District Council's response.

Consultee	Other points	Scoping Opinion Response
	Proposed scope of the development	The Scoping Report does not explain how the study area for the assessment will be defined or how sensitive receptors will be identified. The Applicant should make efforts to agree the chosen study area, methodology and receptors with the relevant statutory consultees. The intention to consult Blaby District Council (BDC) is welcomed. The Applicant should also consult Hinckley and Bosworth District Council (HBDC). The Scoping Report indicates potential impacts from changes in air quality at ecological receptors, including the Site of Special Scientific Interest (SSSI) adjacent to the Proposed Development. The Applicant should make effort to agree with Natural England (NE) and LCC the approach to assessing impacts from changes in air quality on ecological receptors.
	Air Quality Assessment	There is no reference in the Scoping Report to any assessment of the effects on air quality from emissions associated with rail transport. The ES should assess impacts to air quality associated with rail transport where significant effects are likely.

CONSULTATION FEEDBACK

8.21 Table 8.3 summaries the responses received as part of the April 2018 Scoping Opinion from those consultation bodies interested in air quality or from consultees who raised air quality within their response.

Table 8.3 Consultee Feedback April 2018

Consultee	Scoping Opinion Feedback
Blaby District Council	The effects of dust generation should be considered in the assessment of the impacts for the construction phase. Air quality and dust levels should be considered not only on site but also off site, including along access roads, local footpaths and other PROW. Any mitigation measures necessary to deal with adverse impacts and identify any residual effects should be clearly described. Consideration should be given to monitoring dust complaints.
Hinckley and Bosworth Borough Council	Air Quality within the borough of Hinckley and Bosworth should be addressed, including assessments of the impact along the surrounding road network and cumulative effects of nearby development (e.g. 17/01043/HYB). HBBC would welcome

Consultee	Scoping Opinion Feedback
	consultation on the proposed methodology, required receptors and monitoring locations informing the Air Quality Assessment.
Natural England	Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition (England Biodiversity Strategy, Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The assessment should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System [redacted] Further information on air pollution modelling and assessment can be found on the Environment Agency website.
Highways England	Adverse change to noise and air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs).
Burbage Parish Council	During the development of LCC LTP3 transport in 2007, the levels of nitrous oxides[sic] and diesel particulates were both identified as being "Very High" and at levels that damage health. This situation will have markedly worsened in the last 11 years, and the development of the site with major volumes of HGVs in continuous use will radically worsen pollution levels, which already exceed legally defined limits at the site location. The ES should include a full study of the impact assessment of increased traffic on local air quality. The study should include the impact of traffic congestion upon air quality.
Elmesthorpe Parish Council	We note at Section 8 that the Environmental Statement will include forecasts of the Air Quality in the area of the development. However in Table 8.2 page 87, the closest Diffusion Tube to the residential areas of Elmesthorpe used in the monitoring process is located on the A47 Earl Shilton bypass and the residential areas of Elmesthorpe are located between the development site and A47 Earl Shilton bypass. In these circumstances, we would ask that the Environmental Statement should include results which are an appropriate assessment of the current and future air quality for the residents of Elmesthorpe, not just the results from the A47 trunk road which is further from the site than the residential properties in Elmesthorpe. We also note that at paragraph 8.13 page 88, the Report states "The main purpose of the assessment is to determine the current

Consultee	Scoping Opinion Feedback
	conditions in the area and what effects future increases in vehicle movement might have on existing sensitive receptors. In addition, concentrations at the development site after it has been constructed will be assessed for exceedances of the NAQO". If as suggested in the Report, road freight is to enter and leave the site close to the M69, then the greater impact on air quality in Elmesthorpe would be likely to be from the vehicle movements and emissions within the site. It does not seem appropriate that emissions within the site should only be assessed after the development has taken place and we would wish to see a proper assessment undertaken of the predicted impact on air quality within the village before the planning application is determined.
Aston Flamville Parish Meeting	The Environmental Statement should address how traffic/emissions/noise/vibration will be regulated on all secondary routes and in particular how Aston Flamville Conservation Area will be protected.
Public Health England	Emissions to air and water. Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts. When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these: • should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary • should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment • should consider the construction, operational, and decommissioning phases • should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts • should fully account for fugitive emissions • should include appropriate estimates of background levels • should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air) • should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data

Consultee	Scoping Opinion Feedback
	• should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels) • If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1 • This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion • should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development. Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken. PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure. Additional points specific to emissions to air. When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these: • should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs) • should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst-case conditions) • should include modelling taking into account local topography

BASELINE CONDITIONS AND MAIN ISSUES

8.22 The main source of existing air pollutants in the vicinity of The Development is road traffic from the surrounding transport network, including the M69 that runs adjacent to The Development and Network Rails 'F2N' freight route between Felixstowe and Nuneaton which passes

to the north-west of The Development.

8.23 The Development is located within the administrative areas of Blaby District Council (BDC) and Hinckley and Bosworth Borough Council (HBBC).

Local Air Quality Management Review

8.24 A review of the latest LAQM report published by BDC - the 2020 Annual Status Report[16] - confirmed that there are five Air Quality Management Areas (AQMA) declared within the Borough. The closest AQMA is situated along the M1 corridor at Enderby and Narborough approximately 8km to the north-east of The Development.

8.25 A review of the latest LAQM report published by HBBC - the 2019 Annual Status Report[17] - confirmed that there are no AQMAs designated within the Borough.

8.26 BDC and HBBC operate a network of NO_2 diffusion tube monitoring sites, eight of which are located within 1km of The Development and details of these are presented in Table 8.4. Results obtained from these monitoring sites were well below the NO_2 annual mean air quality objective (40µg.m^{-3}) for the most recent five year period of monitoring data available (2015 - 2019). Additional local monitoring data will be obtained once the affected road network is known.

Table 8.4 Annual mean NO_2 data recorded by diffusion tube monitoring within 1km of The Development

Site Name	Site ID	Grid reference		Site Type	Annual Mean Bias Adjusted NO^2 (µg.m^{-3})				
					2015	2016	2017	2018	2019
Coventry Road	DT22	448004	291660	Roadside	20.0	25.2	21.3	22.2	17.1
Sapcoate Working Men's Club	DT39	448847	293462	Roadside	15.0	16.5	-	-	15.8
Station Road, Elmesthorpe	DT69	447032	295877	Roadside	-	-	-	26.3	16.7

[16] Blaby District Council (2020) Annual Status Report
[17] Hinckley and Bosworth Borough Council (2019) Annual Status Report

Site Name	Site ID	Grid reference		Site Type	Annual Mean Bias Adjusted NO^2 ($\mu g.m^{-3}$)				
					2015	2016	2017	2018	2019
New Road, Stoney Stanton	DT73	449036	294720	Roadside	-	-	-	-	29.0
Broughton Road	DT74	449105	294705	Roadside	-	-	-	-	25.5
Long Street, Stoney Stanton	DT75	449080	294785	Roadside	-	-	-	-	21.1
Aston Firs, Blaby	DT78	446218	293831	Roadside	-	-	-	-	31.5
London Road	7	443624	293829	Suburban	-	24.4	23.6	21.3	-
Earl Shilton Bypass	8	446696	296771	Suburban	17.4	17.9	17.7	16.2	-
Wood Street Earl Shilton	9	446320	297756	Urban Centre	22.8	23.9	21.7	20.9	-
Annual Mean Air Quality Objective ($\mu g.m^{-3}$) - denotes no data available						**40**			

Background Pollutant Concentrations

8.27 Defra publishes modelled background air pollutant data for the UK[18] based on a 1km x 1km grid network, which accounts for a range of local emission sources. This includes road vehicles, other transport modes and industrial and domestic sources in addition to regional sources and imported emissions. The modelled background data is available for years 2018 to 2030.

8.28 Background pollutant concentrations of NO_2, PM_{10} and $PM_{2.5}$ were obtained for the 1km x 1km grid squares within a 1km radius of The Development. These data are summarised in Table 8.5 for the current year (2020) and the proposed opening year (2025). Additional data will be obtained for the study area once the affected road network is known.

[18] DEFRA (2018) Air Pollution Background Maps. Available from: https://uk-air.defra.gov.uk/data/laqm-background-home

Table 8.5 Defra mapped background annual mean concentrations (µg.m^{-3}) for each pollutant in current (2020) and opening year (2025)

Pollutant	Annual Mean Concentrations(µg.m^{-3})					
	Maximum		Minimum		Average	
	2020	2025	2020	2025	2020	2025
NO_2	14.5	11.5	9.2	7.7	11.0	9.1
NO_x	19.7	15.2	12.0	10.0	14.6	11.9
PM_{10}	15.9	15.1	12.9	12.2	13.2	13.3
$PM_{2.5}$	9.6	9.0	8.3	7.7	8.2	8.2

8.29 All background concentrations relative to The Development and surrounding area are well below their respective annual mean health-based air quality objective for NO_2, PM_{10} and $PM_{2.5}$. Similarly, the annual air quality NO_x objective set for the protection of vegetation and ecosystems is not predicted to be exceeded.

Defra PCM Compliance Links

8.30 The Pollution Climate Mapping (PCM) model is a collection of models designed to fulfil part of the UK's EU Directive (2008/50/EC) requirements to report on the concentrations of pollutants in the atmosphere, which includes NO_x, NO_2 and PM_{10}.

8.31 The most relevant PCM road link to The Development is the A47, which is within 1km of The Site boundary. The annual mean NO_2 concentration predicted by the PCM model adjacent to the A47 are reported by Defra[19] as follows:

- 2020 predicted NO_2 annual mean: 20.6µg.m^{-3}
- 2025 predicted NO_2 annual mean:15 6µg.m^{-3}

8.32 The PCM predicted concentrations are below the respective annual mean air quality objective in the current year (2020) and opening year (2025).

Potentially Sensitive Receptors

8.33 Sensitive locations are places where the public or sensitive ecological habitats may be exposed to pollutants resulting from activities associated with The Development. These will include locations sensitive to an increase in dust deposition and PM_{10} exposure as a result of on-

[19] Defra (2020) Pollution Climate Mapping. Available from https://uk-air.defra.gov.uk/library/no2ten/2020-no2-pm-projections-from-2018-data

site construction activities, and locations sensitive to pollutants emitted from the exhausts of construction and operational road and rail traffic associated with The Development.

Construction Phase

8.34 Existing residential areas and designated ecological sites are located within 350m of the Site boundary and approach roads. As such, a construction dust assessment will be conducted with reference to the IAQM construction dust guidance.

8.35 Distance bandings contained within the IAQM guidance will be analysed based on The Development alignment to identify potentially sensitive receptors.

Operational Phase

8.36 Locations that are sensitive to pollutants emitted from engine exhausts include places where members of the public are likely to be regularly present over a period of time representative of the relevant air quality objectives. For instance, on a footpath where exposure will be transient (for the duration of passage along that path), comparison with a short-term standard (i.e. 15-minute mean or 1 hour mean) may be relevant. At a school or adjacent to a private dwelling, where exposure may be for longer periods, comparison with a long-term standard (such as 24-hour mean or annual mean) may be more appropriate. Box 1.1 in LAQM.TG16 provides examples of the locations where the air quality objectives should/should not apply.

8.37 Existing residential properties and other sensitive land uses where members of the public would spend extended periods of time are located adjacent to The Site boundary, namely Castlewood Mobile Home Park, Aston Firs Caravan Park, Bridge Farm, Langton Farm and the areas of Elmesthorpe, Aston Flamville, Stoney Stanton and Sapcote.

8.38 The Development site lies adjacent to the Burbage Wood and Aston Firs SSSI and the Burbage Common & Wood Local Nature Reserve which are considered sensitive to changes in ambient NO_x and nitrogen deposition.

8.39 Receptors to be assessed will be discussed and agreed with BDC and HBBC and will include those areas where changes in traffic flows and or dispersion of pollutants are likely to result in significant impacts on air quality. This will also include consideration of AQMAs. It may be appropriate for the assessment to include any AQMA in the wider area, including within other local authority boundaries if traffic from the Proposed Development might be directed towards them. This will be informed by detailed transport modelling from the Transport

Assessment.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

Construction Phase

8.40 Activities such as earthworks and the transport of materials on haul routes during construction, will generate fugitive dust emissions, including fine particles (PM_{10} and $PM_{2.5}$). If transported beyond the boundary of the site works, fugitive dust has the potential to adversely impact designated sites, residential areas and other sensitive receptors as a result in soiling of surfaces through deposition.

8.41 Residential properties on Burbage Common Road, Smithy Lane and Leicester Road as well as footpaths and other public rights of way (PROW) are located within close proximity to The Proposed where there will be a clear risk of nuisance associated with deposition during construction. With regards to these sensitive receptors, there are well established mitigation measures documented by IAQM, which are focused on the control and mitigation of dust generation and deposition. Such measures will minimise likelihood of there being a significant environmental effect.

8.42 Other potential impacts during construction can be associated with elevated concentrations of NO_x, NO_2 and fine particles (PM_{10} and $PM_{2.5}$) from vehicles travelling to and from The Site and the potential of these to affect local pollution concentrations and existing sensitive receptors.

Operational Phase

8.43 Operational phase air quality impacts will be associated with changes to vehicle flow characteristics and emissions of NO_x, NO_2 PM_{10} and $PM_{2.5}$. This has the potential to result in localised impacts to air pollutant concentrations at identified sensitive receptors within 200m of road emission sources as per the DMRB LA105 guidance.

8.44 There may be emissions from plant proposed within The Development such as heating and energy production. There may also be impacts from rail movements in relation to a direct impact on local air pollutant concentrations as well the potential for short term exceedances of the air quality objectives due to idling trains and the movement of containers.

8.45 The Burbage Wood and Aston Firs SSSI and the Burbage Common & Wood Local Nature Reserve are situated adjacent to The Development

Boundary. Changes in vehicle emissions of NO_x and NO_2 have the potential to impact designated ecological sites, particularly ecosystems and habitats sensitive to changes in nitrogen deposition and elevated NO_x concentrations.

APPROACH AND METHODOLOGY

8.46 Consultation will be undertaken with the Environmental Health Departments of BDC and HBBC to agree the proposed assessment approach and methodology.

Construction Phase

8.47 Impact risk to inform mitigation of fugitive emissions of dust and PM_{10} during the construction phase, will be assessed in accordance with the IAQM guidance for assessing impacts from construction activities by providing a qualitative assessment of potential sources and effects, together with a risk assessment to identify those receptors that may experience impacts. The assessment will consider sensitive locations within 350m of the site boundary and within 50m of the construction vehicle route up to 500m from the site entrance.

8.48 During the construction phase there is likely to be an increase in heavy goods vehicles (HGVs) delivering and removing materials. Potential impacts from these vehicles will be screened in accordance with DMRB LA105 guidance.

8.49 The ES will detail the mitigation measures which would be adopted and secured by way of their inclusion within a Construction Environmental Management Plan (CEMP) for any construction contracts during the implementation of The Development. These measures would be commensurate with the scale and duration of activities to ensure that there are no significant local air quality effects.

8.50 The Development is in close proximity to the Burbage Wood and Aston Firs SSSI and the Burbage Common & Wood Local Nature Reserve. The construction assessment will give specific consideration to the impact on such sites and inform ecological impact assessments.

Operational Phase

8.51 The assessment of local air quality impacts associated with the operation of The Development will be informed by the approaches detailed in DMRB LA105, with reference to Defra air quality technical guidance, IAQM/EPUK guidance and NN NPS guidance.

8.52 The air quality assessment will involve screening of the Do Minimum (i.e. without the Proposed Development) and Do Something (i.e. with The Development) traffic data to identify any affected road links that adhere to the following criteria as provided by DMRB LA105:

- Road alignment will change by 5m or more; or
- Daily traffic flows will change by 1,000 Average Daily Traffic (AADT) or more; or
- Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; and
- A change in speed band.

8.53 Committed developments that are expected to influence traffic flows will be accounted for within the traffic data provided for the air quality assessment.

8.54 At the time of writing, preliminary traffic data for The Development was not available to assess the number of affected road links. However, given the introduction and potential realignment of a number of roads and junctions, a detailed local air quality assessment will be undertaken.

8.55 Emission databases for each pollutant (NO_x, NO_2, PM_{10} and $PM_{2.5}$) will be developed for the following scenarios, based on traffic data provided for:

- Base year;
- Do Minimum for opening year of Proposed Development (e.g 2025);
- Do Something for opening year of Proposed Development;
- Do Minimum for future year of Proposed Development; and
- Do Something for future year of Proposed Development.

8.56 Emission factors will be used from the Defra Emission Factor Toolkit version 10.1 for the years of assessment.

8.57 Each scenario will be entered into the ADMS-Roads model v5.0.0.1 to enable prediction of pollutant concentrations at the identified sensitive receptor locations. The modelling will use hourly sequential meteorological data from the most representative monitoring site in relation to the study area.

8.58 Rail movements will be considered in accordance with Defra's technical air quality guidance and included within the ADMS-Roads dispersion model where this is required.

8.59 The model will be verified and adjusted using local authority monitored data and in accordance with Defra LAQM.TG16 guidance.

8.60 The results of the atmospheric dispersion modelling at each sensitive receptor will be compared to the respective air quality objectives to evaluate the potential for exceedances in all scenarios. Changes in pollutants concentrations between Do Nothing and Do Something scenarios will be compared to the relevant IAQM & EPUK guidance to determine the significance of any impacts.

8.61 Nitrogen deposition will be calculated from ambient predictions of NO_x and NO_2 in accordance with DMRB LA105 with consideration of the IAQM guidance on the assessment of air quality impacts on designated nature conservation sites.

8.62 At this stage, it is considered unlikely that the specific location or occupants of buildings for The Development will be fixed for the Application. Therefore, detailed information on the energy plant(s) likely to be installed to the warehousing element of The Development would not be sufficiently progressed to allow for a quantitative assessment of operational emissions. A qualitative assessment will be undertaken, focussing on the design measures which could be put in place to minimise emissions and ensure adequate dispersion of pollutants to reduce the potential for significant effects.

Significance

8.63 The ES will detail the likely significant effects of The Development on air quality.

Construction Phase Significance

8.64 The significance of any dust emission from the construction phase of The Development will be assessed in accordance to the IAQM guidance.

8.65 Step four of the IAQM guidance examines the residual effects of The Development and states '*for almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation*'.

8.66 The assessment is used to define appropriate mitigation measures to ensure that there will be no significant effect.

Operational Phase Significance

8.67 The magnitude of change predicted at each receptor location, as a result of The Development, will be determined through the analysis of the Do Something and Do Nothing scenario data. The significance of potential

changes to local air quality will be determined with reference to the criteria provided by IAQM & EPUK guidance and DMRB LA105.

8.68 Guidance is provided by IAQM to determine the significance of the impact of development on local air quality. The impact descriptors at sensitive receptor locations are detailed within Table 8.6. These impact descriptors consider the predicted magnitude of change in pollutant concentrations and the concentration in relation to the relevant air quality objectives.

Table 8.6 IAQM Impact Descriptors for Individual Receptors

Annual Mean $NO_2/PM_{10}/PM_{2.5}$ Concentration at Receptor ($\mu g.m^{-3}$)	Number of Receptors with:			
	1%	2-5%	6-10%	>10%
<75% of AQAL (<30$\mu g.m^{-3}$)	Negligible	Negligible	Slight	Moderate
76-94% of AQAL (30-38 $\mu g.m^{-3}$)	Negligible	Slight	Moderate	Moderate
95-102% of AQAL (38-41 $\mu g.m^{-3}$)	Slight	Moderate	Moderate	Substantial
103-109% of AQAL (41-44 $\mu g.m^{-3}$)	Moderate	Moderate	Substantial	Substantial
>110% of AQAL (>44 m^{-3})	Moderate	Substantial	Substantial	Substantial

8.69 DMRB LA105 guidance includes the assessment of significant effects at representative human receptors for public exposure and designated ecosystems. Where DMRB LA105 is applied, changes in pollutant concentrations greater than imperceptible (more than 0.4 $\mu g.m^{-3}$) at each receptor, based on the Do Minimum versus Do Something scenario data are compared with guideline bands that inform the potential significance of The Development. The guideline band ranges as presented in Table 8.7 set the upper level of likely non-significance and the lower level of likely significance. Between these two levels are the ranges where likely significance is more uncertain, and greater onus is afforded to professional judgement.

8.70 Significant air quality effects are only identified for those receptors where air quality thresholds are exceeded or at risk of being exceeded in either the Do Minimum and/or Do Something scenarios.

Table 8.7 Guideline band for the number of properties informing a judgement of significant air quality effects

Magnitude of change($\mu g.m^{-3}$)	Number of Receptors demonstrating	
	Worsening of air quality objective, risk of exceeding objective or creation of new exceedance	**Improvement of air quality that already exceeds objective, risks of exceeding objective or the removal of existing exceedances**
Large (>4)	1 to 10	1 to 10
Medium (>2 to 4)	10 to 30	10 to 30
Small (0.4 to 2)	30 to 60	30 to 60

8.71 Whilst the approach contained within DMRB LA105 focuses on receptors already exceeding an annual mean air quality objective, or within 10% of exceeding an objective, guidance for determining the impact of the operational phase of the The Development on each individual local air quality sensitive receptors is provided by the IAQM guidance as detailed within Table 8.6.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

8.72 The construction phase dust assessment will determine the required dust mitigation measures commensurate with the dust impact identified. These will feed into the Construction Environmental Management Plan (CEMP). These mitigation measures would be followed to ensure that construction dust does not result in a significant impact.

8.73 Future year reductions in air emissions are anticipated through progressive replacement of older, more polluting vehicles with vehicles using improved emissions technology. Mitigation measures detailed within the NN NPS will be taken into consideration. This includes the provision of electric vehicle charging infrastructure and a travel plan for The Development.

UNCERTAINTIES

8.74 Preliminary traffic data for The Development are not currently available to assess the number of affected road links.

8.75 In the absence of specific PM_{10} and $PM_{2.5}$ monitoring data, the NO_2 verification factor will be applied to predicted concentrations of PM_{10} and $PM_{2.5}$ at receptor locations.

MATTERS TO BE SCOPED OUT

8.76 The detailed assessment of plant emissions are proposed to be scoped out of the assessment as they are not considered to be likely to give rise to significant environmental effects.

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Nine ◆ Noise and vibration

INTRODUCTION

9.1 An assessment will be undertaken of the likely significant effects of the development with respect to noise and vibration. The assessment will consider the potential impacts during both construction and operational phases of the development, and where necessary, mitigation measures will be recommended to meet appropriate noise requirements for the scheme.

9.2 The development has the potential to generate adverse noise and vibration effects on existing noise sensitive receptors during the site clearance, preparation and construction phases.

9.3 Once the development is completed, noise associated with road and rail traffic movements, employment operations and externally located and externally fixed plant have the potential to have adverse effects on noise sensitive receptors located in the immediate vicinity.

9.4 Noise sensitive receptors will include noise sensitive premises, such as residential dwellings, but may also include noise sensitive areas of special interest such as habitats for protected species or other wildlife.

9.5 An assessment of the likely significance of effects of noise and vibration of the proposed development on the identified noise sensitive receptors will be undertaken by BWB Consulting Ltd.

RELEVANT LAW, POLICY AND GUIDANCE

National Policy Statement for National Networks

9.6 Paragraphs 5.186 to 5.200 details the requirements of noise and vibration assessments. It states that factors that will determine the likely noise impact include;

- Construction and operational noise, including its characteristics;
- The proximity of noise sensitive receptors/areas to The Development;
- The proximity to quiet places, including areas that are valued for their tranquillity, acoustic environment or landscape quality; and
- The proximity to designated sites.

9.7 The document also makes reference to relevant policies and standards

and states that 'where a development is subject to EIA and significant noise impacts are likely to arise', the following should be included in the noise assessment;

- A description of the noise sources including likely usage in terms of number of movements, fleet mix and diurnal pattern. For any associated fixed structures, such as ventilation fans for tunnels, information about the noise sources including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise.
- Identification of noise sensitive premises and noise sensitive areas that may be affected.
- The characteristics of the existing noise environment.
- A prediction on how the noise environment will change with the proposed development;
    - In the shorter term such as during the construction period;
    - In the longer term during the operating life of the infrastructure;
    - At particular time of the day, evening and night as appropriate.
- An assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas.
- Measures to be employed in mitigating the effects of noise. Applicants should consider using best available techniques to reduce noise impacts.
- The nature and extent of the noise assessment should be proportionate to the likely noise impact.

National Planning Policy

9.8 Published in February 2019, this document sets out the Government's planning policies for England and supersedes the previous NPPF published in 2012. It makes the following reference to noise in the section entitled Conserving and enhancing the natural environment:

"170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

[…]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by,

unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."

9.9 It also makes the following references to noise in the Section entitled Ground conditions and pollution:

"180. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life60;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

60 See Explanatory Note to the Noise Policy Statement for England (Department for Environment, Food & Rural Affairs, 2010)."

Local Plan Policy

9.10 The Blaby District Local Plan Adopted Core Strategy sets out the strategy and core policies for the District up to 2029. Policy CS10 is relevant to the project, although it does not reference noise.

9.11 The Hinckley and Bosworth Site Allocations and Development Management Policies Documents forms part of the Local Plan up until 2026. It contains policies DM7 and DM10 which both reference noise and vibration.

Other Relevant Guidance

9.12 Other noise and vibration policies and standards which are particularly relevant to The Site are:

- Noise Policy Statement for England (2010);
- Planning Practice Guidance;
- British Standard 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures;
- British Standard 5228: 2009+A1: 2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2 (BS5228);

- WHO Guidelines for Community Noise (1999);
- British Standard 8233: 2014 Guidance on sound insulation and noise reduction for buildings (BS8233);
- British Standard 4142: 2014+A1:2019 Method for rating and assessing industrial and commercial sound (BS4142);
- Highways England (2019) Design Manual for Roads and Bridges (DMRB) LA 111 Noise and Vibration Revision 2;
- Calculation of Road Traffic Noise (1988 (CRTN)); and
- Calculation of Rail Noise (1995 (CRN)).

THE 2018 SCOPING OPINION

9.13 An EIA Scoping Report was submitted in March 2018, detailing the proposed methodology for assessing the likely significant effects from noise and vibration. A response was received in April 2018, and a summary of the comments relating to noise and vibration are provided below in Table 9.1.

Table 9.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Noise and Vibration

ID	Other Points	Inspectors Comments	Action Taken
1	N/A	No matters have been proposed to be scoped out of the assessment.	Matters to be scoped out are detailed within the matters to be scoped out section of this new Scoping Report.
2	Study Area	The Scoping Report has not provided detailed justification for using a 500m study area. The study area should be clearly defined, justified and reflect the extent of potential impacts.	The study area will be defined and agreed with the Local Authority and relevant stakeholders.
3	Receptors	The Applicant should make efforts to agree the list of noise sensitive receptors, with the relevant statutory consultees. The location of the receptors should be depicted in the ES.	This is addressed in the approach and methodology section of this new Scoping Report.

ID	Other Points	Inspectors Comments	Action Taken
4	Road Traffic Noise	The Scoping Report does not clearly state whether the ES will assess road traffic noise during construction and operation or just during operation. The ES should assess impacts associated with road traffic noise where significant effects are likely to occur.	This is addressed in the approach and methodology section of this new Scoping Report.
5	Temporal Scope of Assessment	The Scoping Report states that assessments will be carried out for the baseline year and the future assessment year but does not explain what the future assessment year would be. The ES should ensure that the choice of future assessment year is based on a worst case scenario i.e. when the noise generated by operation would be at its highest levels. The ES should also assess impacts associated with construction and operation during day and at night.	Justification will be provided for the future year to be included within the assessment. Consideration will also be given to the daytime and night-time periods, as appropriate.
6	Assessment of Significance	The ES must clearly explain how unacceptable adverse effect levels, significant observed adverse effect levels and lowest observed adverse effect levels have been defined and applied to the assessment.	This will be included within the ES Chapter.

CONSULTATION FEEDBACK

9.14 Further responses were issued from consultees in April 2018 regarding noise and vibration, and these are detailed below in Table 9.2.

Table 9.2: Consultee comments (April 2018)

Consultee	Scoping Opinion Response
Blaby DC	Methodology and choice of noise receptors should be agreed with the Environmental Health Department of Blaby DC. The ES should state how noise generated by each element of the proposed development has been evaluated. Any assumptions underlying the evaluation of potential impacts should be stated. Noise contour maps would be welcomed.
Burbage PC	Users of Burbage Common, woods and surrounding areas should be assessed. Noise effects upon the Common and surrounding area should be assessed. Impacts on horse riding should be considered.
Elmesthorpe PC	Impact on livery stables and agricultural businesses needs to be assessed. Wish to see more than seven noise sensitive receptors assessed.
Highways England	Adverse change to noise and air quality should be considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs).
Hinckley and Bosworth BC	HBBC would welcome consultation on the methodology and receptors informing any noise and vibration reports.
Historic England	We recommend that heritage assets are considered as sensitive receptors in relation to other areas of the EIA such as 'Transport and Traffic', 'Noise and Vibration', 'Hydrogeology' and 'Geology, Soils and Contaminated Land'.
Sapcote PC	Noise impact on residents of Aston Firs caravan sites, particularly at night.

9.15 The previous responses received from SoS and the statutory consultees will be implemented within the Noise and Vibration chapter and associated appendices.

BASELINE CONDITIONS AND MAIN ISSUES

9.16 Following a desktop review of the site, it is considered that the dominant source of noise is likely to be from road traffic on the M69 to the south east and existing rail movements on the railway line to the north west.

9.17 It is considered that the nearest existing Sensitive Receptors (SRs) are isolated dwellings which surround the site, including the caravan sites to

the south, and Burbage Woods, to the south west.

9.18 The IOA have The Institute of Acoustics (IOA) and Association of Noise Consultants (ANC) have recently published guidance on the impact of COVID-19 on baseline noise monitoring and noise impact assessments. The current revision states that measured survey data should be used as the default, which can be supplemented by data from other sources to establish as appropriate robust estimate of baseline conditions.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

9.19 Potential effects associated with the project are;

- The effect of noise and vibration resulting from the construction phase of The Development, including on-site activities on existing noise and vibration sensitive receptors
- The effect of noise resulting from the operational phase of the freight interchange, including proposed rail movements, HGV movements and loading/unloading operations, fixed and mobile plant and development generated road traffic. Localised mitigation measures may be required to reduce operational noise at nearby existing sensitive receptors;
- The effect of noise resulting from the proposed link roads; and,
- The effect of noise resulting from the Development and proposed link roads on the level of recreational amenity of Burbage Common.

APPROACH AND METHODOLOGY

9.20 Consultation will be undertaken with the Environmental Health Department at BDC and HBBC to determine the requirements of the assessment. The sensitive receptor locations and position of the baseline noise measurement locations will be agreed prior to the commencement of the baseline noise survey.

9.21 Further consultation will be undertaken with Natural England in order to determine the prevalence of designated nature conservation sites, protected landscapes and protected species. Where an assessment is required, we will undertake consultation with the relevant consultees and stakeholders to determine suitable criteria.

9.22 Consultation will also be undertaken with other relevant consultees and stakeholders.

9.23 In accordance with the above, a baseline noise survey will be undertaken to establish the prevailing ambient and background levels at representative locations at nearby receptors accounting for the dominant local noise sources. It is anticipated that monitoring will be undertaken to cover a seven day period, provided secure locations for noise monitoring equipment are available. Characterising the local noise environment in this way will allow the impact of the proposed development to be assessed against the existing baseline conditions.

Construction Phase

9.24 A quantitative construction noise assessment will be undertaken following guidance contained in British Standard 5228: 2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise. The Standard contains detailed information on noise reduction measures and promotes the 'best practicable means' (BPM) approach to control noise and minimise associated impacts on local residents. Advice on construction noise will be provided using the 'ABC' method presented in Annex E (informative) of BS 5228. A quantitative assessment of construction vibration will be undertaken in accordance with British Standard 5228: 2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 2: Vibration.

Operational Phase – Rail Freight Interchange

9.25 The potential effects of noise due to the proposed commercial or industrial operations on existing residential receptors will be determined by assessing predictions of likely service yard activity and loading/unloading noise on the closest noise sensitive receptors in accordance with British Standard 4142: 2014+A1:2019 Methods for rating and assessing industrial and commercial sound. The standard provides a method for assessing whether sound from industrial or commercial premises (e.g. fixed mechanical and electrical (M&E) plant, loading activities etc.) is likely to cause a disturbance to persons living in the vicinity of the site. Where details of proposed noise sources are unknown, indicative rating level noise limits will be set in accordance with BS 4142:2014+A1:2019 for any fixed plant, equipment and noise break-out from activities inside buildings on site.

9.26 The potential effects of rail noise resulting from rail movements within the site will be assessed in accordance with BS8233:2014 Guidance on sound insulation and noise reduction for buildings.

9.27 Rating level noise limits will be set in accordance with BS4142:2014+A1:2019 for any fixed plant.

9.28 The effects of noise as a result of development-generated traffic on the existing road network will be calculated using the methodology provided in Calculation of Road Traffic Noise memorandum (CRTN). This prediction method requires a good understanding of the traffic flows, percentage heavy goods vehicles (HGVs) and traffic speeds amongst other factors. As such, information from the Transport Assessment will be used to inform the road traffic noise level predictions.

9.29 Noise levels will be predicted for both 'without development' and 'with development' scenarios, to allow determination of the changes in road traffic noise levels as a result of the proposed scheme. This will be based on road traffic calculations provided by the project transport consultant.

9.30 Where required, a tranquillity assessment will be undertaken. A suitable approach will be derived and agreed with the relevant consultees and stakeholders.

Operational Phase – New Road Links

9.31 The effect of the introduction of new road traffic noise sources to the area will be considered. In addition, changes in road traffic noise on existing local roads surrounding the development will be based on changes in traffic flow, speed and percentage of heavy goods vehicles. The changes will be assessed using data provided by the project transport consultant across a study area to be agreed with the relevant stakeholders. The standard method used to predict traffic noise levels in the UK is the Calculation of Road Traffic Noise (CRTN).

9.32 In the first instance, a scoping study will be undertaken in accordance with DMRB to determine the impact of the proposed link roads and extent of the assessment.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

Construction Phase

9.33 Any impact is likely to be a temporary, short-term impact and can be controlled through a suitably worded Construction Environmental Management Plan (CEMP).

Operational Phase – Rail Freight Interchange

9.34 Should significant impacts be predicted, mitigation measures could include localised acoustic fencing and/or acoustic bunding. Careful consideration could also be given to the layout and orientation of the proposed site.

UNCERTAINTIES

9.35 Should traffic levels be affected by the on-going situation with COVID-19, then an alternative methodology for baseline data collection may need to be adopted. Current observed traffic flow surveys were generally carried out in 2018 with some counts dating to 2017. With submission due in 2021, some counts will be older than the recommended reasonable timescales. However, due to Covid 19, traffic surveys for 2020 have been rendered less typical, when recorded, and factors are to be applied to estimate normal flows. It is therefore suggested to discount 2020 as a year, within the reasonable threshold. This will result in 2017 surveys being within the past three years of 'normal' conditions by the time of their submission in 2021. The approach on the survey flows will be subject to agreement with TWG.

MATTERS TO BE SCOPED OUT

9.36 For the proposed new roads, DMRB advises that, should the level of ground-borne vibration (PPV) at a receptor be predicted to rise above a level of 0.3 mm s-1, or an existing level above 0.3 mm s-1 is predicted to increase, then this should be classed as an adverse effect. Whilst methods are available to predict ground-borne vibration from roads, these require detailed knowledge of the ground type and surface conditions, which are not readily available. Furthermore, on account of imperfections in the road surface being the main cause of vibration, such that where either a new road is proposed or where an existing road is to be resurfaced, which is likely to be the case in terms of the Proposed Scheme, vibration is not typically an important consideration.

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Ten ◆ Landscape and visual effects

INTRODUCTION

10.1 This section explains the general approach that will be taken to the assessment of landscape and visual effects and the way in which it will be reported in the ES. This chapter considers the likely significant environmental effects of the main site (include the eastern and western link roads) only. It does not consider potential effects as a consequence of development within the Order Limit boundary encompassing junction 21 of the M1 motorway, which will be considered as project details come forward as part of the EIA process.

10.2 Landscape and visual effects are independent but related issues. Landscape effects relate to changes to the landscape fabric and the features contributing to the landscape character and quality. Visual effects relate to the appearance of such changes within views and the resulting effect on visual amenity.

10.3 The landscape and visual assessment has already commenced in relation to the 'Main Site' and has examined the current landscape and visual baseline conditions within the site and its broader context with reference to sensitive visual receptors and landscape designations. The assessment process will involve an ongoing analysis of the likely landscape and visual effects of the evolving development proposals and, where impacts cannot be avoided through design, will recommend additional mitigation measures.

RELEVANT LAW, POLICY AND GUIDANCE

Legislative and Policy Context

European Landscape Convention 2007

10.4 The European Landscape Convention (ELC), which was signed by the UK in February 2006 and became binding in 2007, is the first international convention to focus specifically on landscape issues and aims to protect and manage landscapes in Europe and to plan positively for change within them. The ELC highlights the importance of developing landscape policies dedicated to the protection, management and creation of landscapes, and establishing procedures for the general public and other stakeholders to participate in policy creation and

implementation.

10.5 The ELC defines landscape as *'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'* (Council of Europe, 2004).

Hedgerow Regulations 1997

10.6 The Hedgerow Regulations (UK Parliament, 1997) aim to protect hedgerows, which play an important role in supporting and enhancing biodiversity, as well as defining the character of the English and Welsh countryside.

According to the regulations, a hedgerow is important if it has existed for 30 years or more, and it satisfies various wildlife, landscape or historical criteria specified in the regulations.

Policy Framework

National Policy Statement for National Networks (2014)

10.7 The National Policy Statement for National Networks, hereafter referred to as 'NPS', sets out the need for, and government's policies to deliver Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. It is the primary statement of policy for promoters of NSIPs on the road and rail networks and forms the basis for the examination by the Examining Authority and decisions by the Secretary of State.

10.8 The landscape and visual effects of national networks projects are considered on pages 75-79 of the National Networks NPS. In paragraphs 5.144 – 5.146 the NPS states:

'Where the development is subject to EIA the applicant should undertake an assessment of any likely significant landscape and visual impacts in the environmental impact assessment and describe these in the environmental assessment. A number of guides have been produced to assist in addressing landscape issues[20]*. The landscape and visual assessment should include reference to any landscape character assessment and associated studies, as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England.*

[20] *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, April 2013. Natural England publishes profiles for National Character Areas.

The applicant's assessment should include any significant effects during construction of the project and/or the significant effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).

The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquillity and nature conservation.'

10.9 In terms of NSIP development in areas that are not subject to a national landscape designation such as Areas of Outstanding Natural Beauty or National Parks, at para 5.156 the NPS states:

'Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development.

In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.'

Planning Policy

10.10 At the heart of the National Planning Policy Framework 2019 (NPPF) is a presumption in favour of sustainable development, this being the golden thread running throughout the policy statement. For landscape, this means recognising the intrinsic beauty of the countryside (paragraph 170) and balancing any 'harm' to the landscape resource with the benefits of the scheme in other respects. The Framework is supported by the National Planning Policy Guidance (NPPG) where relevant.

10.11 Paragraph 127 seeks to achieve high quality design in development, whilst in paragraph 130 it is stated that development should improve the *'character and quality of the area and the way that it functions'*.

Local Planning Policy

10.12 The statutory development plan relevant to the main site comprises the Blaby District Core Strategy (adopted February 2013) and the Blaby District Local Plan (Delivery) DPD 2019. A review of the local planning policy, including relevant supplementary planning documents, evidence base documents and associated guidelines relevant to the LVIA, is contained below.

Blaby District Core Strategy (adopted February 2013)

10.13 Policies in the Blaby District Local Plan Core Strategy DPD (Adopted 2013) of relevance to landscape and visual amenity include the following:

- Policy CS2 – Design of New Development;

  'In order to secure a high quality environment, all new development should respect distinctive local character and should contribute to creating places of a high architectural and urban design quality, contributing to a better quality of life for the local community.'

- Policy CS14 – Green Infrastructure (GI);

  'Blaby District Council and its partners will seek to protect existing, and provide new, networks of multi-functional green spaces'. This network will comprise public and privately owned land. Green Infrastructure can include formal open spaces for sport and recreation, green areas that can be used for informal recreation, areas that are valuable for their biodiversity (flora and fauna and network links), areas that are of cultural importance (heritage assets and their settings), areas that maintain natural and ecological processes (such as floodplains) and other areas that contribute to the health and quality of life of communities.'

- Policy CS18 – Countryside;

  'Land will be designated as Countryside where it is outside the limits to built development and outside designated Green Wedges and Areas of Separation.

  Within areas designated as Countryside, planning permission will not be granted for built development, or other development which would have a significantly adverse effect on the appearance or character of the landscape.'

Blaby District Local Plan (Delivery) Development Plan Document (Adopted February 2019)

10.14 The land within the Draft DCO Boundary lies in the Countryside Policy Area as shown on the Blaby District Local Plan Policies Map (2019).

10.15 It is therefore is covered by Development Management Policy 2 'Development in the Countryside' (DM2).

- Policy DM2 – Development in the Countryside;

  'In areas designated as Countryside on the Policies Map, development proposals consistent with Core Strategy Policy CS18 will be supported where the following criteria are met:

  <u>General</u>

  a) The development is in keeping with the appearance and character of the existing landscape, development form and buildings. Decisions in respect of impact on landscape character and appearance will be informed by the Blaby Landscape and Settlement Character Assessment, Leicestershire and Rutland Historic Landscape Characterisation Study, National Character Areas and any subsequent pieces of evidence; and,

  b) The development provides a satisfactory relationship with nearby uses that would not be significantly detrimental to the amenities enjoyed by the existing or new occupiers, including but not limited to, consideration of:
  i. overdevelopment of the site due to factors including footprint, scale and mass;
  ii. privacy, light, noise, disturbance and overbearing effect; and,
  iii. vibration, emissions, hours of working, vehicular activity.

  c) The development will not undermine the vitality and viability of existing town, district and local centres'

Hinckley and Bosworth Borough Council (HBBC) – Local Plan 2006-2026

10.16 The statutory development plan for HBBC comprises 'The Local Plan 2006 – 2026' which is made up of a series of documents. Those of relevance include:

- Core Strategy (adopted 2009); and

- Site Allocations and Development Management Policies (adopted 2016).

10.17 A review of the local planning policy circumstances, including relevant supplementary planning documents, evidence base documents and associated guidelines relevant to the LVIA assessment, is contained below. A detailed review of planning policy will be undertaken within the Planning Statement accompanying the DCO application.

Core Strategy (adopted 2009)

10.18 One policy within the HBBC Core Strategy DPD, 'Policy 6 – Hinckley/Barwell/Earl Shilton/Burbage Green Wedge' is of relevance to landscape and visual amenity. The proposed link road to the A47 crosses the designated Green Wedge.

Site Allocations and Development Management Policies (adopted 2016)

10.19 Policies within the Site Allocations and Development Management Policies DPD of relevance to landscape and visual amenity include the following:

- Policy DM4 – Safeguarding the Countryside and Settlement Separation;

  'To protect its intrinsic value, beauty, open character and landscape character, the countryside will first and foremost be safeguarded from unsustainable development.'

- Policy DM9 – Safeguarding Natural and Semi-Natural Open Spaces.

  'All developments within or affecting Natural and Semi-Natural Open Spaces should seek to retain and enhance the accessibility of the space and its recreational value whilst ensuring the biodiversity and conservation value is also enhanced.'

- Policy CS6 – Hinckley/Barwell/Earl Shilton/Burbage Green Wedge

  'Areas of green wedge primarily seek to guide the development form of urban areas. The presence of a green wedge helps maintain settlement identity whilst providing green infrastructure links between settlements as a 'green lung' and recreational space.'

Supplementary planning documents

10.20 The following additional supplementary guidance is relevant in terms of understanding landscape character across both the Blaby and Hinckley and Bosworth LPA areas:

- Blaby District Character Assessment (2008); and
- Landscape Character Assessment for Hinckley and Bosworth (2017).

THE 2018 SCOPING OPINION

10.21 An EIA Scoping Opinion was received from the Planning Inspectorate in April 2018 which included some comments in relation to Landscape Section of the Scoping Report. The comments are included in Table 10.1 that follows. Also contained within the table are how each comment has been addressed since.

Table 10.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Landscape (April 2018).

ID	Other Points	Inspectorate's comments	Action taken
2	Study area	The Scoping Report refers to a 5km search area for the landscape baseline assessment but provides not justification in support of the extent of this study area. The study area for the landscape and visual assessments in the ES should be applicable to the extent of the likely impacts. The ES should include justification in support of the study area and effort should be made to agree the approach with BDC. HBDC and LCC.	Justification of 5km study is detailed within the landscape and visual baseline report and this new Scoping Report.
3	Guidance	In addition to BS5837:2012 the assessment of trees should take into account the Forestry Commission (FC)	This will be implemented within a technical appendix supporting the ES Chapter.

ID	Other Points	Inspectorate's comments	Action taken
		and NE's 'Standing Advice for Ancient Woodland and Veteran trees (amended January 2018).	
4	Scope of the assessment	The visual impact assessment in the ES should include impacts during both day and night. This point is also made in the response from BDC in Appendix 2 of this Opinion. The predicted light levels at the site and its vicinity should be clearly identified and the ES should explain any assumptions that the prediction of light levels has been based on. The ES should include landscape and visual impact assessments for the winter months when the screening provided by vegetation is reduced, to ensure that the full range of effects has been covered. This point is also made in the advice from LCC in Appendix 2.	Photography to be undertaken in winter months and assessed as 'worst case' scenario and in accordance with the latest guidance *Visual Representation of Development Proposals* (Technical Guidance Note 06/19, Landscape Institute).
5	Proposed viewpoints	It is noted that the landscape and visual impact assessment has already begun. However the Applicant should still make effort to agree the approach to the assessment including the location of proposed viewpoints with BDC, HBDC and LCC.	Approach and viewpoint selection agreed with HBDC and LCC. LCC act as advisors for BDC.
6	Mitigation	Landscaping measures are proposed to provide	These aspects will be agreed with local authorities

ID	Other Points	Inspectorate's comments	Action taken
		mitigation for the Proposed Development. The Applicant should make effort to agree the planting specification/ species mix with BDC, HBDC and LCC. An appropriate aftercare period for the proposed landscaping should also be agreed. It should be clear how the proposed landscaping would mitigate the impacts on landscape and visual receptors, and how these impacts would change with seasonal variation and as the proposed planting matures. Interactions with other ES aspects, for example beneficial impacts on local ecology, should be included in the assessment.	once design reaches a more detailed stage.
7	Design	The ES should explain any assumptions made regarding the design and materials applicable to new structures. The ES should also explain how the assumptions made in the assessment are to be secured and the effect they have on minimise the potential landscape and visual impacts. This point is also made in the advice from BDC in Appendix 2 of this Opinion.	This will be detailed once design reaches a more detailed stage.
8	Significance	The Scoping Report does not specify what criteria	The full assessment methodology is included

ID	Other Points	Inspectorate's comments	Action taken
		will be used to determine the sensitivity of receptors or the magnitude of change. The ES should specify the assessment methodology to be applied and the criteria used to determine the significance of effects.	within the landscape and visual baseline report and will be included within the ES chapter.
9	Scope of assessment - construction	The Scoping Report states that the assessment of residual effects will be considered for Year 1 and Year 15. The Inspectorate understands this to be referring to operational years. The assessment should also assess impacts at other stages applicable to the Proposed Development including during construction, and if significant effects are likely to occur.	Assessments have been made effects during the construction process and during operation at Year 1 and Year 15 of completion.

CONSULTATION FEEDBACK

10.22 In addition to the consultation responses received in the Scoping Opinion, the assessment has been informed by further consultation with the Hinckley and Bosworth District Council (HBDC) Landscape Officer and Leicestershire County Council (LCC) Landscape Architect (advisor to Blaby District Council) in January – February 2019 in order to agree the photoviewpoint selection and methodology.

BASELINE CONDITIONS AND MAIN ISSUES

Site Context

10.23 The main site measures (approximately) 185.43 hectares of the 335.7ha main site DCO redline boundary and is located approximately

5km to the north-east of Hinckley town centre, in a level area of mixed farmland to the north-west of M69 junction 2 as illustrated in Figure 10.1 (which relates to the main site only). As illustrated on Figure 10.1, the main site does not fall within any national or local landscape designations. Assessment of the site context for the proposed eastern by-pass link road and any required highway improvements at M1 junction 21 will take place as part of the EIA process.

Landscape Designations

10.24 As noted above, and of relevance here with regard to landscape value, no part of the site lies within a nationally or regionally designated landscape.

Landscape Character

10.25 The landscape of England has been subject to a nationwide Landscape Character Assessment. The site lies within National Character Area (NCA) 94 'Leicestershire Vales'. The key characteristics are broadly described as:

- *"An open landscape of gentle clay ridges and valleys underlain by Mercia Mudstone and Lias groups bedrock but with an extensive cover of superficial deposits occasionally giving rise to moderately steep scarp slopes. There is an overall visual uniformity to the landscape and settlement pattern.*

- *Land use characterised by a mixture of pasture and arable agriculture that has developed on the neutral clay soils.*

- *Distinctive river valley of the Soar and Swift, with flat flood plains and gravel terraces together with tributaries including the Sence. Riverside meadows and waterside trees and shrubs are common, along with waterbodies resulting from gravel extraction.*

- *Woodland character derived largely from spinneys and copses on the ridges and the more undulating land and from waterside and hedgerow trees and hedgerows. The density, height and pattern of hedgerows varies throughout.*

- *Diverse levels of tranquillity associated with contrasts between busy urban areas and some deeply rural parts. Large settlements dominate the open character of the landscape. Leicester, Lutterworth, Hinckley and Market Harborough and related infrastructure, including major roads are often visually dominant.*

- *Frequent small towns and large villages often characterised by red brick buildings and attractive stone buildings in older village centres and eastern towns and villages.*

- *Frequent, imposing spired churches are also characteristic, together with fine examples of individual historic buildings.*

- *Rich and varied historic landscape, with the nationally important Bosworth Battlefield near Sutton Cheney, prominent historic parklands and country houses, ridge-and furrow earthworks and important medieval settlement remains, for example at Wistow Hall, Gumley, Knaptoft and Peatling Magna."*

10.26 While the key characteristics are broadly representative of the wider landscape, for the scale of the development proposed, it is considered that the description of landscape character undertaken at the sub-regional level is more relevant in establishing the landscape resource baseline. Accordingly, while NCA 94 has been used to inform this LVIA, it will not be carried forward to detailed assessment of effects, with the focus being on local landscape character areas.

10.27 At the county and district levels there are two published documents relating to landscape character which are of relevance to the site and its context:

- Blaby District Council Character Assessment (2008); and

- Hinckley and Bosworth Landscape Character Assessment (2017).

10.28 A review of the Blaby District Council Character Assessment (BDCCA) finds that the site is located within three Landscape Character Areas (LCA). The northern parts of the site lie in LCA E: 'Elmesthorpe Floodplain' and the southern portions are located within LCA A: 'Aston Flamville Wooded Farmland'. A small part of the eastern area of the site, (east of the M69) is located within LCA N: 'Stoney Stanton Rolling Farmland'.

10.29 Within the Hinckley and Bosworth District Council Landscape Character Assessment (HBDCLCA) one LCA, 'Burbage Common Rolling Farmland' bounds a short section of the western site boundary.

EDP Site Assessment

10.30 While the above published assessments provide a helpful contextual appreciation of the wider landscape, none provide a sufficiently site-specific assessment to allow a reliable assessment to be made of the

effects of the Proposed Development on the landscape. In particular, published assessments tend to miss more localised influences on the landscape, such as the effect of traffic or existing development on tranquillity and visual character, especially in close proximity to settlements. This requires an appropriately detailed assessment of the site itself and its immediate surroundings, which EDP has undertaken, and is described below.

10.31 Site visits to the main site have taken place in 2015, 2017, 2018 and 2019 in very good to excellent weather conditions. The visits were complemented by a review of aerial photography, mapping and field assessments from publicly assessible locations (e.g. from local roads and PRoW).

Soil Types

10.32 The underlying mudstone bedrock across site has an influence both on soil profiles and drainage with a large part of the site comprising 'slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils', whist some small areas in the north of the site comprise 'slightly acid loamy and clayey soils with impeded drainage', which have impeded to slightly impeded drainage down to the mudstone aquifer below.

Sensory and Perceptual Elements

10.33 As noted above, the underlying vale character of the area forms an expansive generally flat to gently undulating landscape. As such, distant visibility can be limited due to subtle variation in topography and by mature vegetation within the landscape or built form forming settlements. From within the site, a number of telecommunications masts can be seen across the site, which electricity pylons appear in relatively close proximity to the east of the site, which pass over the site towards its southern extent and appear as visual detractors within the landscape. Traffic movements associated with the M69 forms much of the eastern boundary, and trains passing along the western to northern boundary exert an urbanising influence over areas adjacent to these features and into the site, due to the noise and negative effect this causes on the tranquillity of the site.

Vegetation and Hydrological Features

10.34 The current land use of the site is predominantly arable farmland, comprising medium to small enclosed field parcels, typically bounded with mature hedgerows with few hedgerow trees. Also included within the site are a number of small to medium Improved Grassland field and

few Poor Semi-improved Grassland. Areas of amenity grassland are extremely limited and located adjacent to dwellings only.

10.35 Along part of the eastern edge of the site to the southern extent of the site are limited areas of Semi-improved Neutral Grassland. In addition, there is a small strip of Broadleaved Semi-natural Woodland and an area of Broadleaved Plantation Woodland at the footbridge over the M69 and within the M69 junction 2 roundabout is an area of Broad-leaved Plantation Woodland. A number of Broadleaved Scattered/Parkland Trees are located within the site, along the B4669 to the west of Junction 2 and south along the M69. Another group of Broadleaved Scattered/Parkland Trees also align with part of the Hinckley to Leicester Railway along the western boundary.

10.36 As mentioned in the previous section, there is no Ancient Woodland within the site. However, there are several blocks of Ancient Woodland close to the south-western edge of the site, at Burbage Wood, Aston Firs, Freeholt Wood and Sheepy Wood. Two other areas of Ancient Woodland are located within the 5km study area, with Kirkby Spinney located c.4.5km to the north-west of the site and Crab-tree Spinney located c3.5km to the south of the site.

10.37 Small areas of dense scrub are located near Hobbs Hayes and Woodhouse Farm whilst a larger portion is located between the access track to Hobbs Hayes and the M69 Junction 2 roundabout. A thin strip of scattered scrub is present along most of the boundary with the Hinckley to Leicester railway.

10.38 Hydrological features comprise nine field ponds scattered over the site, one stream corridor that passes from Freeholt Wood south of the site, which travels in a north-eastern direction to the eastern boundary and M69, and few dry ditches of low ecological value.

Historic Landscape and Features

10.39 The Leicestershire Historic Landscape Characterisation data for the site is available via the archaeology data service and identifies that the site formed part of areas HLE5028 (reorganised piecemeal enclosure), HLE5123 (planned enclosure), HLE5026 (piecemeal enclosure), HLE5119 (very large post-war fields), HLE5027 (major road junction) and HLE5029 (farm complex). Therefore, this is considered to be a 'low value' landscape character of 19-20th century origin in archaeological and heritage terms.

10.40 The site was subject to a series of walkovers between November 2017 and June 2018 by an experienced EDP Archaeological and Heritage

Consultant to assess the current ground conditions and topography, as well as to confirm the continuing survival of any known archaeological remains and to identify any hitherto unknown remains.

10.41 At the time of the visits the eastern portion of the site was generally under pasture, while the western extents were under arable cultivation.

10.42 While undulations within the fields north of Woodhouse Farm and in a field to the south of Freeholt Lodge were identified as representing reduced ridge and furrow earthworks, beyond these features no evidence for above ground archaeological remains was noted within the site.

Existing Built Features

10.43 Major road infrastructure included within the site includes the M69 motorway, which runs along the eastern site boundary to the southern tip of the site. The M69 Junction 2 roundabout, a short section of the B4669, two bridges (Aston Lane and Lychgate Lane), and one footbridge over the M69 are also included within the site boundary.

10.44 Burbage Common Road is the principal road running through the site and provides access to properties and farm buildings located on the site, which are mainly centred around Woodhouse Farm located centrally within site.

10.45 A separate access road off the B4669 provides access to Freeholt Lodge and Hobbs Hayes within the southern portion of the site, as well as to the gypsy and traveller community site and mobile home site, which falls between the site boundary and Freeholt Wood in the southern area of the site.

10.46 Along the western to northern boundary of the site includes a section of the Hinckley to Leicester railway and a bridge that allows Burbage Common Road from within the site to pass over the railway and link with Burbage Common and Woods Country Park to the west of the site.

10.47 Buildings on the site itself include the dwellings of Woodhouse Farm, Old Woodhouse Farm, Woodfield, The Weeping Willows, Hobbs Hayes Farm and Freeholt Lodge. In addition to these, there are a number of agricultural that form farm complexes around Woodhouse Farm and Hobbs Hayes.

Visual amenity

10.48 Figures 10.2 and 10.3 (Plans edp3267_d045), edp3267_d028)

illustrate the Zone of Theoretical Visibility (ZTV) of:

a) the site in its current form;

b) the site, with proposed development at a building height of 36m.

10.49 These ZTVs illustrate the theoretical visibility of the site based on topographical data, built development data and National Tree Data up to 1km, assuming excellent visibility with no atmospheric attenuation. In reality, other components of the landscape such as buildings and hedgerows will introduce screening effects which, coupled with the atmospheric conditions, will reduce this visibility in some instances. The ZTVs will be refined and reviewed as the development parameters are explored further.

10.50 For its size, the visual influence of the site in its current form is very limited given the extent of woodland and built form in the local vicinity. As Figure 10.3 demonstrates, the visual influence of the site will increase with development. The visual assessment process will determine the extent of the increase in visual influence as well as the magnitude of any visual effects that arise.

10.51 The woodland along the south and south-western boundaries serves to limit views to the south, but higher ground to the north-west at Barwell and to the north at Elmsthorpe allows opportunities for more open views across the site from some locations.

10.52 Open views of the site are largely limited to those from Burbage Common Road as it passes through the site, the various PRoW which cross the site and the M69, although roadside vegetation provides some interruption and the speed and nature of travel limit the availability of views. In the wider landscape there will be opportunities for partial views of the proposed development from roads, PRoW and residential properties.

10.53 Other sources of visual receptor include passengers on trains travelling on the Nuneaton to Felixstowe railway line which is on an embankment along the western site boundary and residential receptors within the farmsteads across the site as well as within properties in relatively close proximity such as at Langton Farm.

10.54 Figure 10.4 (Plan edp3267_d091) includes 44 representative viewpoints that have been identified in the ZTV for a development with a maximum height parameter of 36 metres. These viewpoints have been consulted and agreed upon with the relevant local planning authorities as part of the 2018 Scoping and PEIR consultation. After the

PEIR consultation (although note that the previous height parameter was 30m) these viewpoints are at locations where there are likely to be sensitive visual receptors, including receptors in designated landscapes such as Burbage Common and those on PRoW and at residential properties. These viewpoints will form the basis of the visual assessment, the significance of any effect being assessed in terms of the magnitude of change in the view and the sensitivity of the visual receptor. The location of these views is set out in the table below:

Table 10.2: Proposed viewpoints for the landscape and visual assessment

Viewpoint number	Viewpoint location
1	View from PRoW V35/1
2	View from PRoW U50/1
3	View from PRoW U52/6
4	View from PRoW U52/8/ Burbage Common Road Bridge over railway
5	View from PRoW V23/1 over railway
6	View from PRoW U50/3
7	View from Burbage Common Road
8	View from PRoW V29/6 footbridge over M69
9	View from PRoW U53/2
10	View from Hinckley Road
11	View from PRoW V29/3
12	View from M69 overbridge on Aston Lane
13	View from M69 overbridge on Lychgate Lane
14	View from PRoW U63/1
15	View from Burbage Common
16	View from Burbage Common Road
17	View from PRoW U52/9
18	View from PRoW U52/11
19	View from churchyard of St Mary, Elmesthorpe
20	View from M69 overbridge on B581
21	View from Station Road/PRoW V29/10
22	View from PRoW V49/2, Stoney Stanton
23	View from Hinckley Road, west of Sapcote
24	View from PRoW V34/2
25	View from churchyard of St Mary, Barwell
26	View from Shilton Road, Barwell
27	View from Thurlaston Lane

28	View from M69 overbridge on Pingle Lane
29	View from PRoW U18/1
30	View from Croft Hill
31	View from Coventry Road
32	View from Bumblebee Lane, High Cross
33	View from B578, Lutterworth Road
34	View from PRoW U18/4 near Huit Farm
35	View from PRoW V48/2
36	View from Smenell Field
37	View from Footpath V29/7
38	View from Mill Lane
39	View north of Church Farm
40	View from Weaver Springs Sports Park
41	View from Hinckley Golf Course
42	View from South of Wood House Farm
43	View from northern edge of Burbage Common and Woods Country Park
44	View from eastern edge of Burbage Common and Woods Country Park

Arboricultural Baseline

10.55 A BS5837:2012 Trees in Relation to Design, Demolition and Construction compliant survey of the trees within the footprint of the Proposed Development has been undertaken. The survey was undertaken by an appropriately qualified Arboriculturist in May 2018; and the survey recorded a total of 200 individual trees, 104 groups of trees and 193 hedgerows and 9 woodlands totalling 506 items. Of these 506 items, 13 have been categorised as A, of high quality and value; 148 have been categorised as B, of moderate quality; and 260 have been categorised as C, of low quality. In addition, 85 items have been categorised as U and due to their impaired condition are considered unsuitable for retention, irrespective of development.

Future Baseline

10.56 It is anticipated that, in the absence of development, the Site would continue to be managed as mainly agricultural land and farmsteads. Depending on the management regime, the quality of the landscape structure may erode, leading to further losses of valued trees and hedgerows or hedgerow and field boundary management could be altered to promote the biodiversity of these features perhaps with the benefit of grants.

10.57 Such variations are unlikely to be significant and would be considered as standard fluctuations. It is near-certain that the existing baseline described above would therefore not appreciably change.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

10.58 The landscape and visual assessment has already commenced and has examined the current landscape and visual baseline conditions within the site and evaluated the site in its broader context including landscape and landscape related designations as illustrated in Figure 10.1.

10.59 The assessment process will involve an iterative analysis of the likely landscape and visual effects of the evolving development proposals. Where likely significant adverse effects cannot be avoided through design, additional mitigation measures will be considered.

10.60 The most notable landscape effect as a result of the development would be the change in character from open agricultural land to commercial development across much of the site. Other potential effects include the removal of sections of hedgerow and occasional individual boundary trees to allow for access and layout, together with the planting of new hedgerows and trees to strengthen the structure of the landscape.

10.61 The main potential likely significant landscape and visual effects of the proposed development once completed, irrespective of any mitigation measures, are summarised below.

- Potential adverse landscape impacts caused by the operational development would generally be localised in scale and restricted to the site itself and immediate environs, particularly where existing woodland and linear tree belts provide visual screening.

- Change to the character of the landscape of the site, through alteration of land use and introduction of new temporary and permanent features, the latter including beneficial effects such as the creation of new habitats within the site boundary.

- A permanent, long-term adverse impact on landscape character would occur due to physical impact on landscape within the site, introduction of new built form and associated ground remodelling within existing agricultural land, movement of vehicles and people within the site, and increase in the volume of light pollution from both street lighting and internal lighting of built form.

- There would be adverse physical impact on landscape elements and features within the site caused by the localised removal of existing landscape features and;

- potential adverse visual effects upon close proximity views from roads including Burbage Common Road and the M69, PRoW, Burbage Common (Registered Common Land) and Burbage Country Park, adjacent railway line and residential receptors due to visibility of the completed scheme (including built development, traffic and lighting).

APPROACH AND METHODOLOGY

10.62 The methodology for undertaking the Landscape and Visual Assessment will follow the guidelines set out in the third edition of *Guidelines for Landscape and Visual Impact Assessment* (GLVIA - Landscape Institute and Institute of Environmental Management and Assessment, 2013). This will be used as a basic approach and amended as necessary to cover specific site issues.

10.63 Viewpoint photography and verified views will be taken in accordance the latest best practice guidance issued in September 2019: *Visual Representation of Development Proposals* (Technical Guidance Note 06/19, Landscape Institute).

10.64 The first stage of the assessment is to establish the distinct baseline conditions of the Site and their surrounding area, which includes identifying the landscape character and key features of the landscape and whether any landscape designations affect the site. Sources examined for the desktop study include:

- Local planning policy;

- Landscape and heritage designations;

- Natural England's National Character Areas;

- District and local level character areas;

- Natural England's Natural Area Profile;

- Public rights of way;

- Local OS maps;

- Aerial photographs.

10.65 Site appraisal has commenced and will be continued in order to:

- Confirm the extent of study areas for the landscape and visual assessments respectively;
- Identify and confirm the arboricultural resource in accordance with BS 5837:2012;
- Confirm the status of baseline conditions identified by the desktop survey;
- Confirm the landscape character areas within the study area and compare these to the actual baseline condition. This will also include consideration of the parallel archaeology and heritage, ecology and arboricultural assessments; and
- Identify the Primary Visual Envelope of the site and record key viewpoints from within this, which will be used to inform the landscape and visual assessment of the proposed development.

10.66 The second stage of the landscape and visual assessment would seek to describe and make judgements on:

- *Landscape effects* that might arise as a result of the proposed development on discrete landscape character areas and/or character types comprising features that may possess a particular quality or merit as well as effects on the landscape elements and features within the DCO boundary itself;
- *Visual effects* that might arise as a result of the proposed development on views from visual receptors, such as users of local rights of way, and upon the amenity value of the views from surrounding uses.

10.67 In order to consider the likely significance of any effect, the sensitivity of each receptor is combined with the predicted magnitude of change to determine the significance of effect, with reference also made to the geographical extent, duration and reversibility of the effect within the assessment. Having taken such a wide range of factors into account when assessing sensitivity and magnitude at each receptor, the significance of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in Table 10.4.

Table 10.3: Level of effects matrix

Overall Sensitivity	Overall magnitude of change				
	Very High	**High**	**Medium**	**Low**	**Very Low**
Very High	**Substantial**	**Major**	**Major/-Moderate**	**Moderate**	Moderate/-**Minor**
High	**Major**	**Major/-Moderate**	**Moderate**	Moderate/-Minor	Minor
Medium	**Major/-Moderate**	**Moderate**	Moderate/-Minor	Minor	Minor/-Negligible
Low	**Moderate**	Moderate/-Minor	Minor	Minor/-Negligible	Negligible
Very Low	Moderate/-Minor	Minor	Minor/-Negligible	Negligible	Negligible/-None

10.68 Each effect will be described and evaluated individually through the combination of all of the relevant factors and assessed as either significant or not significant. For landscape and visual effects, those effects identified at a substantial, major, major/moderate or moderate level (bold type within matrix above) are generally considered to be significant and those effects assessed at a moderate/minor, minor, minor/negligible or negligible level are considered to be not significant.

10.69 In certain cases, where additional factors may arise, a further degree of professional judgement might be applied when determining whether the overall change in the view will be significant or not and, where this occurs, this will be explained in the assessment.

10.70 Measures to mitigate any adverse visual effects upon the landscape value and visual quality of the area will be integral to the design process, with the master plan being refined in response to the findings of the assessment work with regard to layout, scale and massing, materials and finishes. Landscape elements will be included in the parameter plans as 'designed in' mitigation.

10.71 Finally, an assessment of any residual effects that might arise following the incorporation of mitigation measures will be undertaken and the significance of these effects stated. The evaluation of residual effects will be considered for Year 1 and Year 15. This allows for the consideration of the screening effects of screen planting that will be incorporated as mitigation for the development.

10.72 Consideration will also be given to cumulative effects. These generally occur where there may be simultaneous or sequential visibility of two or more developments of the same type and scale, or where the consideration of other schemes would increase an effect identified. Where other similar schemes are in the planning system and made

known to the applicant, or are under construction, these are considered in conjunction with the draft Order Limits.

10.73 In addition, the assessment of landscape effects will include a full BS 5837:2012 compliant tree survey and report, and an Arboricultural Impact Assessment which will be appended to the Landscape and Visual Chapter of the ES.

10.74 EDP will also be undertaking an assessment of the likely impacts of the Proposed Development on existing PRoW in the draft Order Limits and its immediate vicinity. A PRoW strategy to mitigate for any changes in the routing and amenity of existing PRoW will be included as part of this assessment and will be appended to the Landscape and Visual Chapter of the ES [21].

10.75 The final output of the exercise will be to provide text and illustrative material which:

- Establishes the baseline conditions at a point at which land will become available for development;
- Assesses the landscapes sensitivity to change of nature and extent of the proposed development;
- Assesses the landscape and visual impact of the development on the draft Order Limits and relevant surrounding area;
- Identifies areas of landscape and visual concern and/or benefit in relation to the development and during its construction;
- Advises on any proposals to mitigate significant negative effects;
- Identifies the residual impacts of the proposed development.

Field Surveys

10.76 A field assessment of local site circumstances, including a photographic survey of the character and visual context of the development site and its surroundings, and an analysis of Rights of Way, have been undertaken between December 2017 and February 2019 in order to gather robust baseline information. Field assessments were undertaken, as far as is practicable, in accordance with best practice guidance which states that such assessments should be undertaken

[21] The PROW assessment deals with matters related to informal recreation only, including walking, cycling, horse-riding and other recreational pursuits such as bird watching or picnicking. It does not include an assessment of the requirements for, and accessibility of, formal open space or the activities associated with this, such as organised football practice or matches on marked out football pitches.

when the leaves are absent from the majority of trees/vegetation and visibility is at its greatest.

10.77 These field based assessments were undertaken by qualified Landscape Architects, during good weather conditions.

Study Areas

10.78 As a result of baseline analysis, together with an understanding of the nature and scale of the development, and the likely extent and distribution of effects, the assessment defines the following study areas, as represented on Figure 10.5:

- Broad Study Area – set at 5km distance from the Application Site (providing the broad geographical context); and
- Detailed study area – se at 2km from the Application Site (the area within which any significant effects are likely to fall).

10.79 A broad study area of 5km was adopted, enabling the geographical scope of the assessment to be defined and to provide the wider geographical context of the study. The search focussed on the local planning policy context, on identifying national and local landscape and other associated designations (e.g. AONB, historic parks and gardens) and providing a general geographical understanding of the site and its broader context (for example, in relation to landform, transport routes and the distribution and nature of settlement).

10.80 Following initial analysis and subsequent field work, and having an appreciation of the development proposed, a refinement of the study area has been undertaken that focuses on those areas and features that are likely to be affected by the proposals. A Zone of Theoretical Visibility for the proposal was produced across the 5km study area to aid understanding of the potential geographical extent of visual effects and help define a more detailed study area. The extent of this detailed study area is 2km from the site boundary, although occasional reference may be made to features beyond this area where appropriate.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

Mitigation and Enhancement

10.81 The hierarchical approach towards mitigation (prevent, reduce, offset) has been to avoid, where possible, any effects through the overall design of the Proposed Development, the disposition of its elements

(prevent), and, subsequently through careful siting of the different elements of the Proposed Development and its required infrastructure (reduce).

10.82 Inherent mitigation provides a form of preventative mitigation and, as discussed above, is that which has been considered as an integral part of the overall design and locational strategy for the Proposed Development. It is not an 'add-on' measure to ameliorate significant environmental effects, but part of the positive and pro-active approach whereby mitigation has been assessed and considered at all stages of the project to prevent or reduce the occurrence of potentially significant environmental effects.

10.83 A landscape and visual mitigation strategy will be a key, and fully-integrated, component of the Proposed Development. As illustrated on the parameter plans, the Proposed Development incorporates retained green infrastructure, public open space (both formal and informal) and landscape enhancements.

10.84 The Proposed Development has been conceived and designed with reference to published Landscape Character Assessments, as well as site-specific advice regarding landscape and visual matters, thus ensuring mitigation proposed is in line with Local Authority policy guidance.

10.85 The principal element of the mitigation to address landscape and visual effects will be to secure conditions that ensure the delivery of appropriate controls on detailed design at the Reserved Matters stage.

10.86 Those mitigation measures pertinent to landscape and visual (and arboricultural) matters are detailed with reference to the different stages of the Proposed Development below.

Demolition and Construction

10.87 The following measures should be implemented during the construction phase of the HNRFI project:

- The adoption of an approved Construction and Environment Management Plan including mitigation designed to avoid significant ecological effects, including those on key landscape features;

- The adoption of an approved Arboricultural Method Statement (AMS) incorporating best practice guidance set out in British Standard 5837: '2012 Trees in Relation to Design, Demolition and Construction' which will ensure retained trees and other vegetation is not adversely

affected during the construction process;

- The adoption of an approved topsoil and earthworks management plan (Soil Management Plan);

- The use of visual screening, such as hoardings for more sensitive visual receptors in proximity to the Application Site, including residential receptors that have the greatest potential to be affected by the Proposed Development;

- Existing residents that live adjacent to the Application Site (particularly those to the north, on the current settlement edge) would be more sensitive to construction lighting due to the proximity, direction and type of receptor. Mitigation measures for construction lighting are likely to include directional fittings and restricted hours of operation; and

- There are a number of PRoW crossing the main site. Safe access for pedestrians would need to be maintained whenever practicable throughout the construction phases of development. Access along the PRoWs should be protected using Heras fencing or similar. Construction works which create dust should be kept to a minimum within proximity to the PRoWs, and dust prevention measures, such as damping, should be undertaken to reduce the impact on users of the PRoW network. For reasons of public safety, any informal use of the site for dog walking, etc. should be established, and where evident, would need to be prevented during the construction phase of the development. This would be achieved using protective fencing. Any further mitigation required in relation to off-site highway works will be identified through the EIA process.

Completed Development

10.88 Mitigation during the operation (post completion) stage comprises embedded (avoidance) mitigation and additional mitigation proposed to reduce the significance of likely effects (reduction mitigation). These different mitigation measures are discussed below with reference to the proposed development.

Embedded Mitigation

10.89 The site currently comprises as a series of small to medium scale regular agricultural fields enclosed by a network of hedgerows and occasional hedgerow trees, and is influenced across its eastern boundary by the M69 and west-to-northern boundary by the Hinckley to Leicester railway line.

10.90 Despite the unavoidable loss of some enclosed farmland, the current condition and key characteristics of the landscape have been considered throughout the design of the Proposed Development and integrated into the layout where possible.

10.91 In terms of the arboricultural resource, the masterplanning of the development layout has ensured that trees and hedgerow loss would be minimised through integration of these features into the residential and/or employment areas and the areas of open space.

Additional Mitigation

10.92 The landscape and visual mitigation strategy is a key, a fully integrated, component of the Proposed Development. It is anticipated that the Proposed Development will incorporate public open space (both formal and informal) and other landscape enhancements, which include:

- An over-arching GI Strategy for the site;
- The provision of a retained, albeit somewhat realigned and upgraded on-site PRoW network, offering recreational value, and a community resource; and
- The creation of surface water attenuation and detention features incorporated within the areas of open space.

10.93 In addition to these site-wide measures, along the site boundaries and through the development along key existing green links, the landscaping will be managed and reinforced to contain the development, providing site security, screening and habitat enhancement, along with aiding the integration of the development into its landscape context when viewed from further afield.

10.94 As part of the wider Green Instructure, public open spaces, both formal and informal, will be designed to provide high-quality and traffic free green space, which satisfies a number of objectives, including:

- Public open space for formal and informal use;
- Provision of an improved on-site PRoW network;
- Contribution to green networks and enhance habitat connectivity; and
- Facilitated sustainable urban drainage (SUDS) and connectivity with the existing blue network.

10.95 In summary, the landscape elements specific to the detailed design of the proposals include enhancements that would provide:

- Visual filtering of the Proposed Development;
- Public and private amenity; and
- Ecological value

UNCERTAINTIES

10.96 Baseline conditions have been established using existing assessments, available documentation and field assessment; it is important to note that this information may change before or during the construction and operation of the Proposed Development.

10.97 Within reasonable limits, the assessment is undertaken in consideration of the 'worst case' scenario for the development, i.e. those potential outcomes, situations or location that would result in the most elevated effect on landscape and visual receptors. It therefore identifies the greatest degree of change likely to accrue and may be subject to mitigating factors or alternative conditions, that might reduce those effects. For example, visual effects are considered in both summer and winter context; although the magnitude of change and effect is expressed for winter landscape conditions when trees are bare of leaf cover and the visibility of development is at its greatest. Where this is the case, the assessment identifies alternative conditions or further mitigation which might result in impacts being less pronounced.

10.98 The assessment applies a pre-determined methodology to arrive at conclusions. This procedure brings a degree of objective, procedural rigor into what otherwise might be judged to be 'personal opinion'. Professional judgement still plays its part, but the purpose of adopting a methodology is to make the process as clear and logical as possible.

10.99 The assessment will be undertaken with regard to the phases of development and assumed build rate therein. A Landscape Strategy Document to be submitted with the planning application, will illustrate proposed planting, hard surface treatments and habitat creation within other open areas. This will be accompanied by an appropriate management plan, to be agreed with the Council.

MATTERS TO BE SCOPED OUT

10.100 There are no specific matters proposed to be scoped out as part of the ES.

SUMMARY

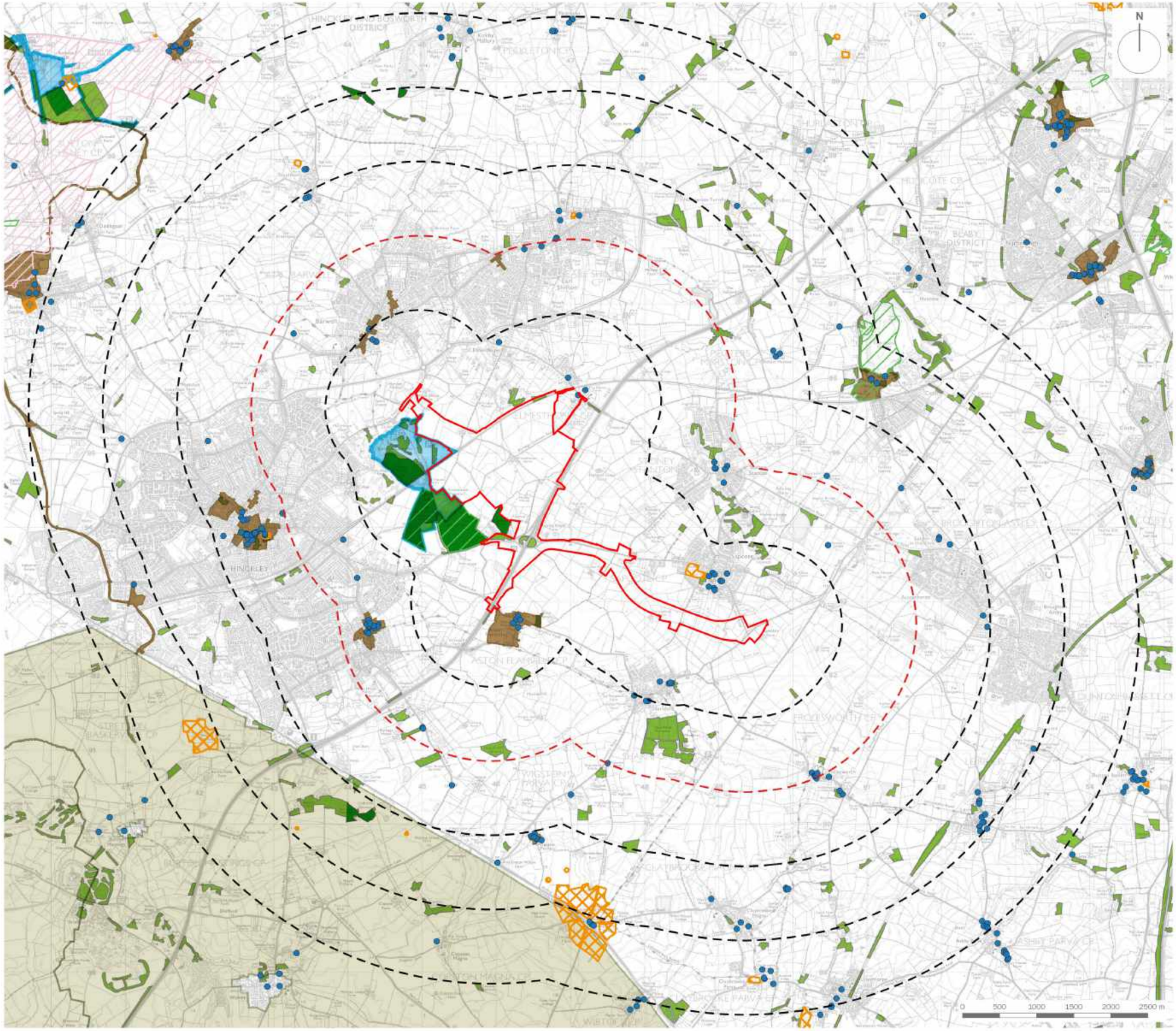
10.101 The site is not covered by any statutory landscape designations and could be designed and developed in accordance with national and local landscape planning policy.

10.102 There are no significant constraints to development in landscape, visual and arboricultural terms. However, development of the site in the manner proposed would alter the character of the landscape in the local area.

10.103 Whilst the landscape is not subject to a protective designation, it is crossed by public rights of way and is visible to a variety of receptors locally. Detractors such as the noise and movement from the M69 and railway are noted but are not so significant as to 'urbanise' the landscape, which retains its rural agricultural character.

10.104 Opportunities exist to improve and enhance the structure of the landscape across the area, which has been partially degraded and fragmented with the intensification of agricultural practices. A strong framework of green infrastructure across the site is likely to be required as mitigation and, incorporating hedgerow and woodland planting and connectivity to the landscape beyond the site.

◆



DCO Order Limits

Range Rings (at 1km Intervals)

2km Detailed Study Area

Green Belt

Country Parks

Ancient Semi-natural Woodland

National Forest Inventory

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves

Listed Buildings

Conservation Areas

Scheduled Monuments

Battlefields

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 10.1: Environmental Planning Considerations

date	**11 NOVEMBER 2020**	drawn by	**OK**
drawing number	**edp3267_d088b**	checked	**FM**
scale	**1:50,000 @ A3**	QA	**JTF**

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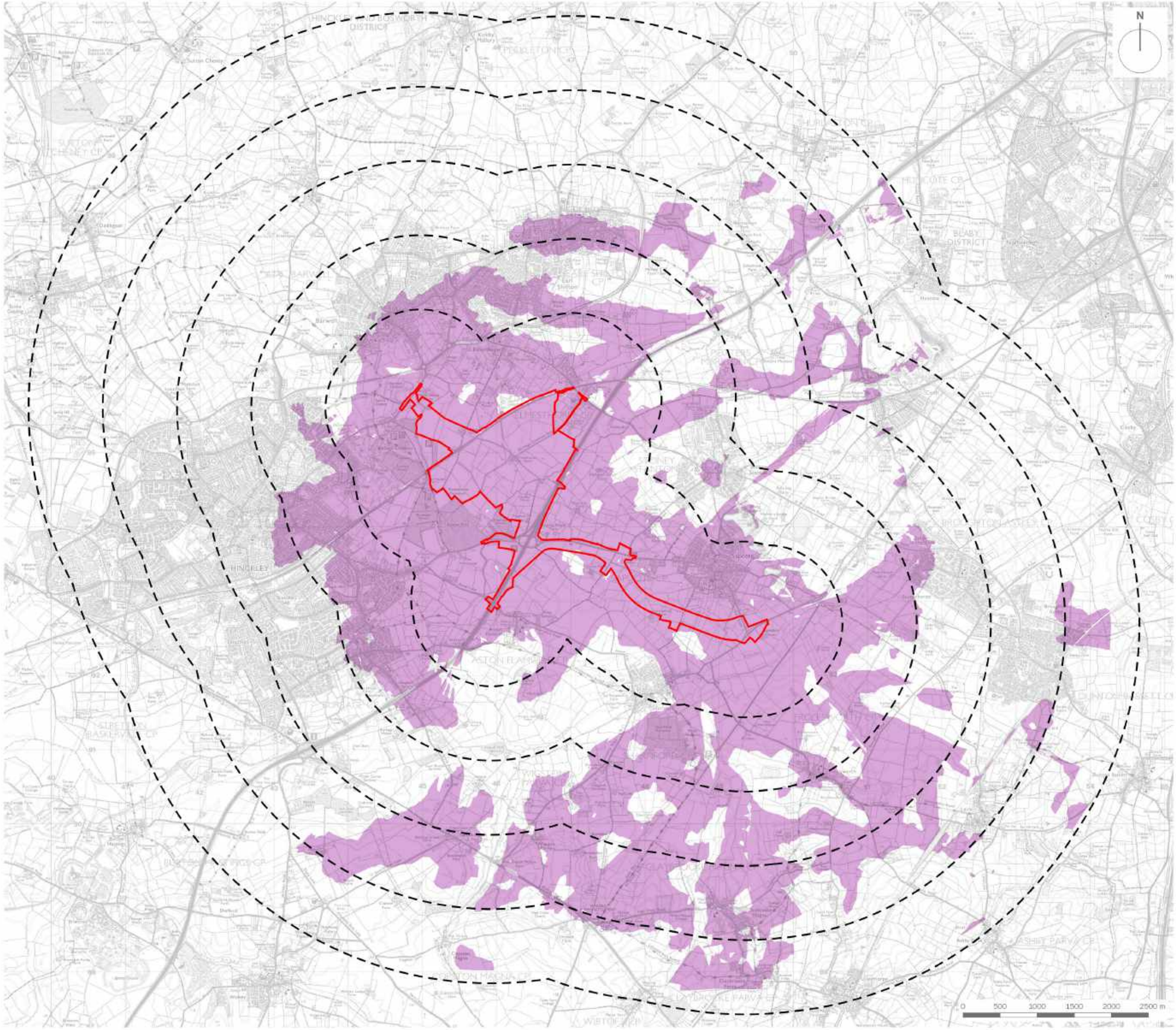

DCO Order Limits

Range Rings (at 1km Intervals)

Zone of Theoretical Visibility

NOTE:

Zone of Theoretical Visibility (ZTV) was calculated using a spatial modelling algorithm which considers the following parameters:
- 1.7m Receptor Elevation (Observer Height)
- 360 Degree Field of View
- OS Terrain 5m Digital Terrain Model (DTM) (vertical accuracy of +/- 2.5m).

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL
RAIL FREIGHT INTERCHANGE

drawing title

Figure 10.2: Zone of Theoretical Visibility - Site in its Current Form

date	**11 NOVEMBER 2020**	drawn by	**OK**
drawing number	**edp3267_d045b**	checked	**FM**
scale	**1:50,000 @ A3**	QA	**GY**

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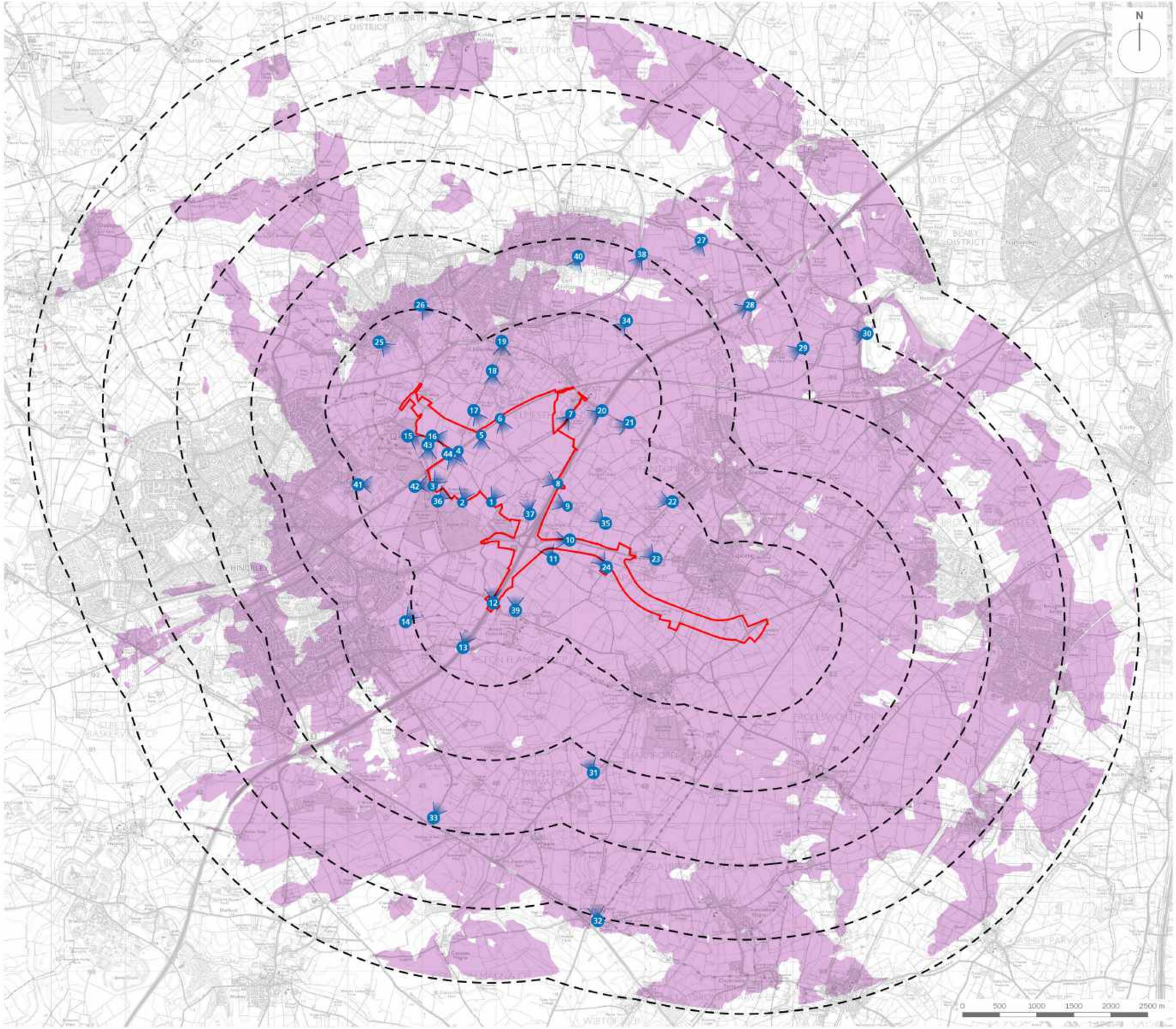

DCO Order Limits

Range Rings (at 1km intervals)

Zone of Theoretical Visibility (ZTV)

Viewpoint Location

NOTE:

Zone of Theoretical Visibility (ZTV) was calculated using a spatial modelling algorithm which considers the following parameters:
- 1.7m Receptor Elevation (Observer Height)
- 36m Proposed Development Locations (Ridge Height)
- 360 Degree Field of View
- OS Terrain 5m Digital Terrain Model (DTM) (vertical accuracy of +/- 2.5m)

client

Tritax Symmetry Ltd

project title

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RAIL FREIGHT INTERCHANGE

drawing title

Figure 10.3: Zone of Theoretical Visibility - 36m Development Parameters

date	**11 NOVEMBER 2020**	drawn by	**JTF**
drawing number	**edp3267_d028f**	checked	**FM**
scale	**1:50,000 @ A3**	QA	**GY**

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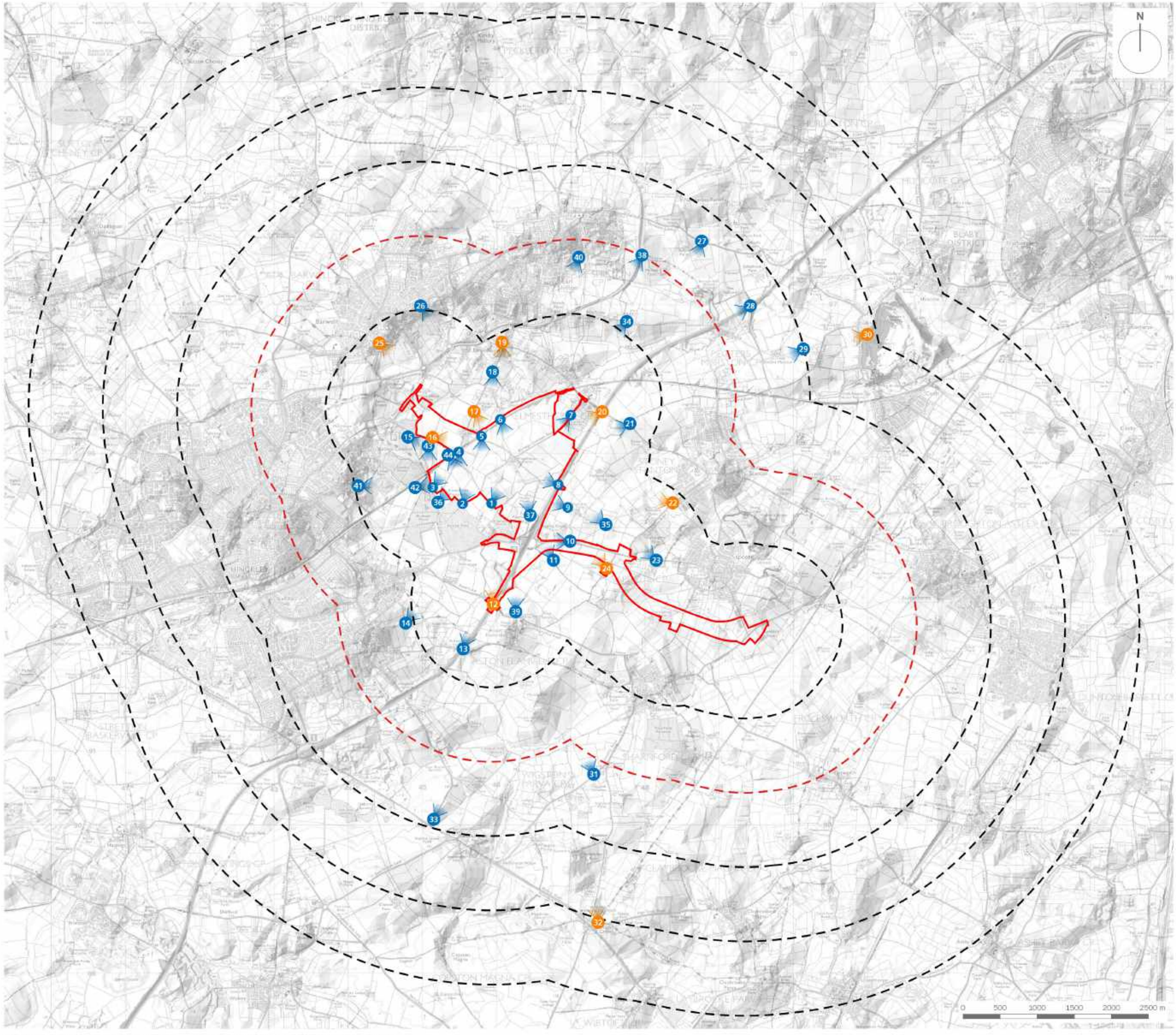

DCO Order Limits

Range Rings (at 1km Intervals)

2km Detailed Study Area

Photoviewpoint Locations

Proposed Wireline Photomontage Locations

client

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project title

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drawing title

Figure 10.4: Photoviewpoint Locations

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drawing number	edp3267_d091c	checked	FM
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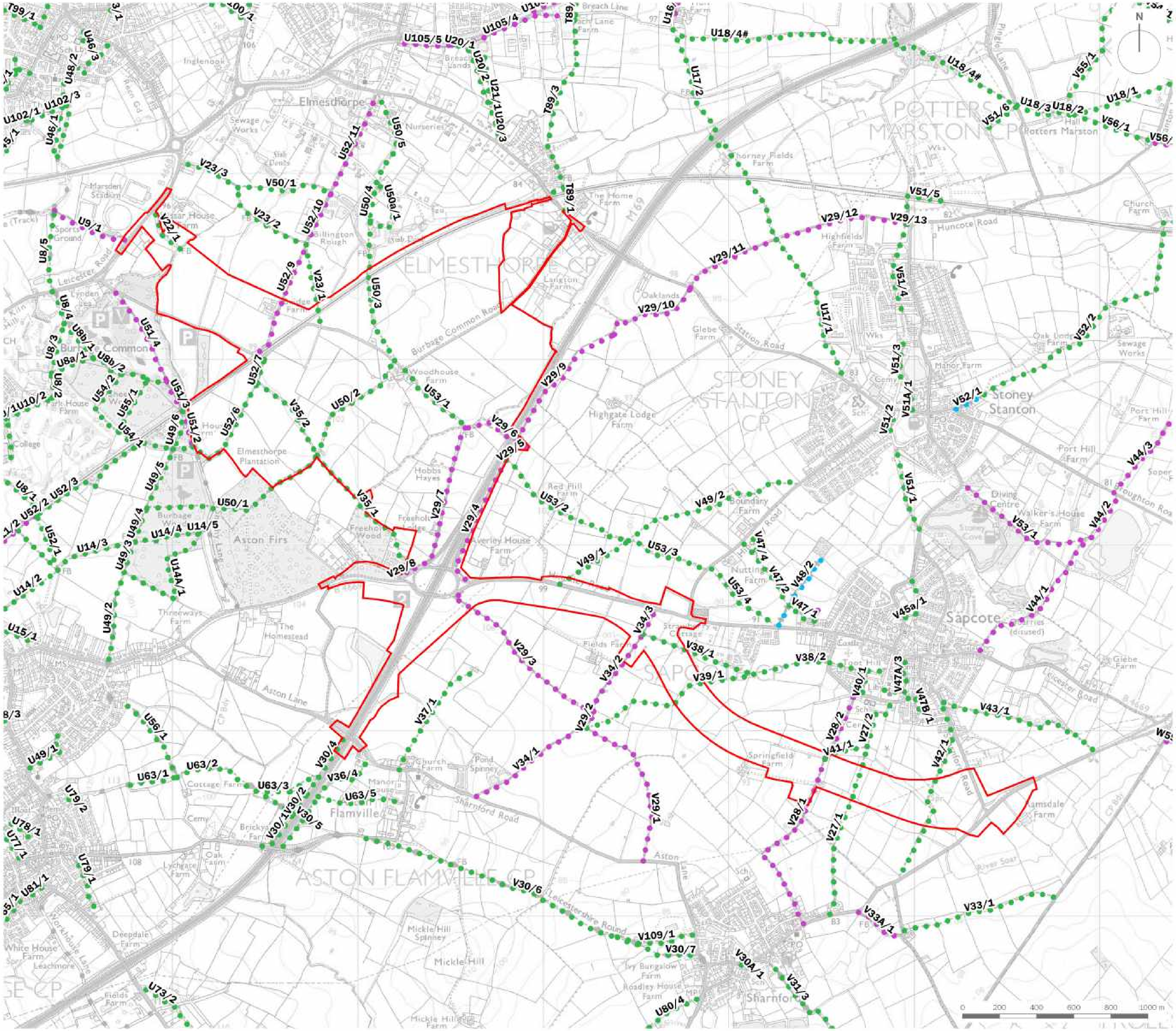

DCO Order Limits

Public Rights of Way

Footpath

Bridleway

Byway Open to All Traffic

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 10.5: Local Public Rights of Way Network

date	11 NOVEMBER 2020	drawn by	OK
drawing number	edp3267_d008f	checked	FM
scale	1:20,000 @ A3	QA	JTF

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Eleven ◆ Ecology and biodiversity

INTRODUCTION

11.1 The Ecology chapter of the ES will evaluate the likely significant effects of the proposed development in terms of ecology and nature conservation. To do this, an ecological impact assessment (EcIA) will be undertaken based on the ecology baseline data gathered at the site over the course of 2016 to 2021. In addition EDP will consult with the Planning Inspectorate, Blaby District Council, Leicestershire County Council, local interest groups and Natural England on the scope of these surveys and recommended mitigation. Cumulative effects arising from the effect of the proposal in conjunction with other developments will also be considered.

RELEVANT LAW, POLICY AND GUIDANCE

Legislative context

11.2 Animal and plant species that are considered to be threatened as a result of their rarity, vulnerability or persecution are afforded protection through both European and UK law. The Conservation of Habitats and Species Regulations 2017 (as amended) (commonly known as the Habitat Regulations) protects a number of rare and vulnerable animal and plant species listed for protection in Europe, whilst the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act, 2000 and Natural Environment and Rural Communities Act 2006) affords protection to wild bird species requiring protection in Europe and other rare or vulnerable native species of animals and plants not protected under the Conservation of Habitats and Species Regulations 2010. In addition, the Animal Welfare Act 2006 further protects wild animals from unnecessary suffering when under the control of man and includes the Wild Mammals (Protection) Act 1996 which protects wild mammals from intentional cruelty and the Protection of Badgers Act 1992 which affords protection specifically to badgers.

11.3 The Habitat Regulations also protects European Sites including Special Protection Areas (SPA), Special Areas of Conservation (SAC) and RAMSAR Sites which are recommended for designation by the Joint Nature Conservation Committee (JNCC). Sites of Special Scientific

Interest (SSSIs) are of national importance, designated by Natural England (and predecessors) under the Wildlife and Countryside Act 1981 (as amended), and are also protected from any development that might destroy or adversely affect such sites, either directly or indirectly.

11.4 'Important' hedgerows are protected from removal (up-rooting or otherwise destroying) by the Hedgerow Regulations 1997.

National policy

11.5 The National Networks NPS sets out the guidance on how decisions will be made relating to development consent orders for nationally significant infrastructure projects. The NPS strategic aims broadly mirrors those of the National Planning Policy Framework (NPPF). However, the NPS recognises that some developments will have some adverse local impacts on noise, emissions, landscape/visual amenity, biodiversity, cultural heritage and water resources. The significance of these effects and the effectiveness of mitigation is uncertain at the strategic and non-locationally specific level of this NPS. Therefore, whilst applicants should deliver developments in accordance with government policy and in an environmentally sensitive way, including considering opportunities to deliver environmental benefits, some adverse local effects of development might remain.

11.6 Paragraph 5 of the National Planning Policy Framework[22] (NPPF; June 2019) states:

"The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications."

11.7 In preparing the ES chapter regard will be given to the relevant parts of the NPS and the NPPF, particularly during the assessment process. Relevant guidance from National Planning Practice Guidance[23] will also be adhered to.

[22] Ministry of Housing, Communities and Local Government (June, 2019) 'National Planning Policy Framework'.
[23] https://www.gov.uk/guidance/natural-environment#biodiversity-geodiversity-and-ecosystems

11.8 The Government's current planning policies on land use planning in England are set out in the NPPF. The following NPPF policies are relevant to consideration of terrestrial ecology and biodiversity:

- Policy 15 – Conserving and enhancing the natural environment.

National Planning Practice Guidance

11.9 Planning Practice Guidance on the natural environment supports the NPPF by explaining the government's planning policies for England, in regard to (amongst others) the protection and enhancement of biodiversity, ecosystem and green infrastructure, and how these are expected to be applied.

Local policy

11.10 Local ecology and biodiversity policy of relevance to the site are contained in:

- Blaby District Local Plan Delivery DPD 2019;
- Blaby District Core Strategy adopted February 2013;
- Hinckley and Bosworth Local Plan 2006-2026

THE 2018 SCOPING OPINION

11.11 An EIA Scoping Opinion was received from the Planning Inspectorate in April 2018 which included comments in relation to the Ecology and Biodiversity Section of the Scoping Report. The comments are included in Table 11.1 below with an explanation of how each comment has been addressed and the consultation feedback received from relevant consultees.

Table 11.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Ecology and Biodiversity (April 2018)

ID	Other points	Inspectorate's comments	Action taken
1	Baseline Assessment	The Scoping Report states that although targeted surveys will be scoped out, an invertebrate habitat	The scoping survey was undertaken to see if further surveys were required and follow up surveys were

ID	Other points	Inspectorate's comments	Action taken
		quality survey will be carried out in April/May 2018 to establish if further more specialised surveys would be required. These statements appear to contradict each other and it is unclear what is actually proposed in terms of further survey. The Inspectorate advises that the results of the habitat quality survey should be presented in the ES. If the habitat quality survey indicates the need for further targeted surveys then they should be carried out and the information used to inform the assessment in the ES where significant effects are likely to occur.	undertaken for target species.
2	Study Area	It is not clear from the Scoping Report how the study area has been defined. The ES should clearly explain how the study area has been defined and how it relates to the potential zone of influence of the Proposed Development.	To be assessed and implemented within the ES chapter
3		The full results of the extended Phase 1 survey should be presented in the ES. It should be clear when this and any other surveys presented in the ES, were carried out and any limitations (such as weather conditions) should be identified.	This will be fully documented within the Ecological Baseline Report, which will form a Technical Appendix to the ES chapter.
4		The Scoping Report states	The Scope of the baseline

ID	Other points	Inspectorate's comments	Action taken
		that the number of surveys will be confirmed through consultation with the Inspectorate and the local authority ecologist. The approach to and need for targeted species surveys should be agreed with relevant consultees. The ES should contain sufficient background information regarding the receiving environment to ensure all likely significant effects associated with the Proposed Development have been assessed.	surveys was agreed with both the local authority and Natural England. Consultation will be ongoing in agreeing the Scope of update surveys prior to submission.
5		The Scoping Report provides a high level description of the impacts and effects that may be associated with the Proposed Development. The ES must contain a detailed and, where appropriate, a quantitative assessment of the effects generated by the Development.	To be assessed and implemented within the ES chapter
6		The Scoping Report states that the assessment of 'pre-mitigation' effects will take into account measures included in the draft Ecological Construction Method Statement and any 'embedded mitigation'. The ES should make clear which measures have been taken into account in reaching conclusions on the significance of environmental effects.	To be assessed and implemented within the ES chapter

ID	Other points	Inspectorate's comments	Action taken
7		The Inspectorate notes the commitment to fully consider and appropriately safeguard nationally designated sites within the zone of influence of the Proposed Development. However, there is little explanation of the approach in this regard. The responses from NE and the FC highlight the location of Burbage Wood and Aston Firs SSSI immediately adjacent to the red line boundary for the Proposed Development. The ES must clearly identify the likely impacts from the Proposed Development during the construction and operational phases, explaining necessary mitigation and residual impacts. This point is also made by the responses from NE and FC in Appendix 2.	To be assessed and implemented within the ES chapter
8		The Scoping Report makes reference to the potential for loss and damage of important habitats and species but there is no definition of what qualifies as an important habitat or species. The Inspectorate considers that the ES must assess impacts to sensitive receptors including ancient woodland, habitats and species of principal importance within the zone	The ecological baseline will set out the importance of habitats and how the importance was derived. The ES will assess the impacts on these habitats.

ID	Other points	Inspectorate's comments	Action taken
		of influence where significant effects from the Proposed Development are likely to occur. This point is also made by in the responses from NE and FC in Appendix 2 of this Opinion.	

CONSULTATION FEEDBACK

11.13 In addition to the consultation responses received in the Scoping Opinion, further consultation has not been undertaken.

BASELINE CONDITIONS AND MAIN ISSUES

11.14 The baseline assessment to inform the ES has commenced and is ongoing. The baseline data collection has and will involve a desk study exercise, an extended Phase 1 habitat survey and detailed Phase 2 surveys for a range of protected species and habitats, undertaken during the appropriate survey seasons.

11.15 A desk study was undertaken in February 2016, with records of designated sites and notable/protected species sourced from the Leicestershire and Rutland Environmental Records Centre (LRERC). Additionally, a search of the Multi-Agency Geographic Information for the Countryside (MAGIC) website's interactive map was also undertaken.

11.16 The Phase 1 survey technique adopted was at a level intermediate between a standard Phase 1 Survey [24] (JNCC, 2010), based on habitat mapping and description, and Phase 2 surveys based on detailed habitat and species surveys. This survey technique is commonly known as an Extended Phase 1 Survey. This level of survey does not aim to compile a complete floral and faunal inventory for the study area.

11.17 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected

[24] Joint Nature Conservation Council (2010) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

species or species of principal importance are identified and appropriate surveys scoped.

11.18 A range of Phase 2 habitat surveys and protected species surveys have been undertaken over the period of 2017 to 2019 The survey methodology and results of these surveys are set out within the draft Ecological Baseline Report.

11.19 The Key findings or Ecologically Important Features (IEFs) identified within the report are set out in Table 11.2 below and the findings of designated sites review and Phase 1 habitat figure 11.1 (Plan EDP3267/11a) and figure 11.2 (Plan EDP3267/09a) respectively.

Table 11.2: Important Ecological Features

Important Ecological Feature	Key Attributes	Nature Conservation Importance
Statutory Designated Sites		
Burbage Woods and Aston Firs SSSI	Ash-Oak-Maple woodland adjacent to the west of the Site.	National
Burbage Common and Woods LNR	Semi-natural woodland and mesotrophic grassland, overlapping with the SSSI.	County/National
Non-statutory Designated Sites		
Burbage Common and Woods LWS	Semi-natural woodland and mesotrophic grassland, overlapping with the SSSI.	County/National
Other LWS, cLWS and pLWS	Various woodland, hedgerow, wetland and grassland sites	District to County
Habitats		
Semi-improved Neutral Grassland	Grassland with poor to moderate species-diversity, value limited by extent and isolation.	Local
Hedgerow and Tree Network (not including pLWS or LWS)	Network of predominantly species-rich hedgerows and mature tress associated with the field boundaries that form dispersal corridors for wildlife.	District

Important Ecological Feature	Key Attributes	Nature Conservation Importance
Woodland (not including Woodland adj. to Aston Firs pLWS)	Small areas of plantation and semi-natural broadleaved woodland.	Local
Ponds	Network of permanent water bodies supporting a few aquatic species and forming part of the local ecological network.	Local
Stream	Stream supporting very few aquatic species but forming a wildlife corridor through landscape.	District
Ditches	Mostly dry, but a small number of wet ditches present supporting aquatic flora.	Local
Fauna		
Winter Birds	Assemblage including reasonable flocks of farmland specialists, with a range of other species of conservation concern in smaller numbers. Value limited by management regime and levels of disturbance.	Local to District
Breeding Birds	Breeding assemblage including reasonable numbers of farmland specialists, including a population of up to 42 pairs of skylark and other ground nesting species.	District
Bats	Common and widespread assemblage of foraging/commuting/roosting bats primarily associated with higher value boundary hedgerow and tree habitats.	Local
Badger	An active subsidiary sett within hedgerow in west of Site, main sett just off-site to the west, outlier sett towards south-east of Site and in the south-west of the Site. The habitats present on-site provide opportunities for foraging and commuting badgers.	Site

Important Ecological Feature	Key Attributes	Nature Conservation Importance
Otter	One old spraint on wet ditch in north-western corner of Site.	Local
Water vole	Possible feeding remains on wet ditch in north-western corner of Site.	Site
European hare	Hare present over most arable land within the Site.	Local
Great crested newt	Records of great crested newt present just off-site. Network of ponds both within the Site and the surrounding local landscape have potential to support a breeding population of this species and other amphibians. One pond tested positive for great crested newt environmental DNA despite no breeding population being found.	Local
Reptiles	Records of grass snake in local area, low population recorded on-site.	Site
Common toad	Records of amphibians present nearby, including common toad. Medium population recorded during reptile and GCN surveys.	Local
Invertebrates	Records of S.41 butterfly and moth species. Habitat scoping exercise identified suitable habitat for notable species, including white-letter hairstreak.	Local

11.20 Given that a number of the surveys have seasonal shelf lives, the surveys will be updated during the 2020/2021 survey seasons to ensure that the most up to date ecological baseline is used, whilst

11.21 The scope of the update surveys will also be agreed through consultation with both Natural England and the Local Authority.

11.22 The Baseline Ecology Report focuses on the habitats within the DCO boundary for the proposals, however further survey work has been undertaken and is ongoing with relation to the infrastructure that will

be required in order to enable the Development. The ES will review all potential impacts on all IEF both within the DCO boundary and those associated with the off site enabling works.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

11.23 Without mitigation, development would result in the loss of habitats and/or direct/indirect disturbance to species supported by habitats on and off site. Possible beneficial effects include those arising from landscaping, habitat management and enhancements and other green infrastructure links within the proposed development.

Construction

11.24 During this phase, the without mitigation impacts and effects on ecology would result from habitat loss and direct and indirect disturbance/harm to species.

11.25 Direct impacts would involve the loss of habitats, loss of refuge for species, physical harm from construction process and vehicles and potential pollution/contamination events from chemicals and materials used.

11.26 Indirect impacts would potentially involve increased lighting during construction affecting foraging and commuting nocturnal species, noise disturbance, vibration disturbance and potential off site effects from pollution/contamination such as contaminated run-off into hydrological systems and dust deposition on off-site habitats.

Operational

11.27 Operational effects without mitigation include the potential disturbance to habitats and species from increased recreational pressure within the site. This can result in damage to habitats through trampling and disturbance to species in retained habitats through physical presence.

11.28 Other impacts include increased lighting, noise and traffic that will adversely affect the foraging and commuting resources within the retained and created habitats. It also increases the potential of road traffic collisions with species.

11.29 There is the potential of positive impacts during the operational phase through the provision of habitats of greater biodiversity than those currently present on the site and the implementation of appropriate

management of the retained and created habitats to maximise their biodiversity potential.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

Ecological Impact Assessment

11.30 The Ecological Imapct Assessment (EcIA) will follow the methodology provided in the *'Guidelines for Ecological Impact* Assessment *in the UK and Ireland'*, produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018)[25]. The Guidelines confirm that the "*EcIA is a process of identifying, quantifying and evaluating the potential effects of development-related or other proposed actions on habitats, species and ecosystems*".

Identification of the Resource/Baseline Conditions

11.31 The results of the desk study, Phase 1 habitat survey, and further detailed surveys as described previously will be used to identify the ecological receptors IEFs) within the draft Order Limits and its potential zone of influence. This baseline will then be used to inform the master-planning and mitigation strategy, and form the basis for the assessment of potential effects.

Geographical Context

11.32 CIEEM guidelines recommend that the importance of an ecological feature should be considered according to a defined geographical context and recommends that the following frame of reference should be used, or adapted to suit local circumstances:

- International and European;
- National;
- Regional; and
- Metropolitan, county, Vice-county or other local authority-wide area.

[25] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1 – updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

Assessment of Effects and Significance Criteria

11.33 The assessment of effects will consider potential effects during the construction of the Proposed Development, and throughout the operational and decommissioning phases of the works. The assessment will be undertaken both before and after consideration of additional mitigation measures, the latter represents the assessment of residual effects, but including the inherent measures incorporated into the proposals e.g. retention of habitats. In addition, the potential for cumulative impacts to arise from the in-combination effects with other development proposals will be assessed.

11.34 Since the purpose of an EIA is to focus on likely significant effects, it is not reasonable to expect the assessment to include every ecological feature that may be affected, since effects are unlikely to be significant where features of low value (i.e. valued at the Site level or below) or sensitivity are, for example, subject to low or short-term impacts. On this basis therefore, the assessment will focus on ecological features that are considered, based on professional judgement, experience and contextual information, to be protected and/or of local nature conservation value or above.

11.35 This does not mean that effects upon features of less than local level nature conservation value will be discounted. Certain species and habitats that may not constitute IEFs based upon their nature conservation value, may still warrant consideration during the design of the development (and any mitigation identified) on the basis of their legal protection, their implications for policies and plans, or other issues, such as animal welfare.

11.36 In accordance with the CIEEM published guidance and terminology (CIEEM 2018), a 'significant effect', in ecological terms, is defined as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific, broad, or more wide-ranging, and can be considered at a range of geographical scales, including cumulative effects. Insignificant effects are those that would not result in such changes.

11.37 Once any impacts have been assessed and defined using the geographical frame of reference advocated by CIEEM, using professional judgement each impact will be transposed into the standard terminology used throughout the ES.

11.38 Mitigation will be devised to avoid any significant impacts associated with the construction and operation of the proposed development on

ecological features. Any other mitigation or enhancement considered appropriate would also be set out. Once the appropriate mitigation measures have been proposed, the impacts remaining once they are taken into account will be identified (the 'residual impact').

Temporal Scope

11.39 The assessment of potential ecological effects resulting from the development proposals will be undertaken in the context of how the predicted baseline conditions within the zone of influence might change between the surveys and the start of construction activities.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

11.40 The EcIA will include mitigation measures designed to avoid, reduce or offset any potential significant negative effects left following consideration of inherent mitigation incorporated into the proposals.

11.41 The key mechanisms to deliver mitigation will include measures to:

- Conform with relevant and pertinent legislative requirements, particular those associated with legally protected species; and
- Deliver and, where possible, maximise opportunities for biodiversity enhancement and gain through the Proposed Development.

11.42 The mitigation strategy will be developed in full following completion of further technical work to establish the ecology baseline and in response to consultee comments. However, provisionally, the proposed mitigation measures to be deployed through the construction phases could include:

- Implementation of an Ecological Construction Method Statement (ECMS), to include (but not limited to):
    - Provision of an Ecological Clerk of Works (ECoW) to supervise construction activities in sensitive areas for habitats and species;
    - Provision of 'toolbox talks' to key site workers;
    - Method statements for the delivery of works in sensitive areas, including controls over timing/ duration of works to avoid sensitive times of year (e.g. the bird breeding season);

- Precautionary methods of working and sensitive vegetation/site clearance (under a European Protected Species where necessary), e.g. 'soft-felling' trees with bat roost potential or removal of suitable dormouse habitat;
- Translocation of protected species prior to construction works commencing (under a European Protected Species where necessary);
- Restricted working hours and sensitive lighting strategy to minimise impacts on nocturnal wildlife;
- Establishment of Ecological Protection Zones (EPZs), through use of protective fencing, to prevent construction activities damaging retained habitats;
- Update ecology surveys prior to commencement of works;
- Prevention of hydrological impacts through adherence to an appropriate Surface Water Management Strategy; and
- Pollution prevention guidelines.

11.43 Throughout the operational phase, provisionally, mitigation and enhancement measures are likely to be secured through the following:

- Implementation of a Landscape and Ecology Management Plan (LEMP), to include (but not limited to):
  - Prescriptions for the ongoing management, maintenance and monitoring of the IEFs and of those newly created habitats to maximise opportunities for biodiversity enhancement and gain;
  - Management of open spaces for biodiversity, with controlled/restricted recreational use within sensitive areas;
  - Objectives and principles for the long-term management of ecology interests; and
  - Compliance checks and monitoring to ensure the success of the implemented measures against the objectives and principles, with interventions carried out as necessary.

UNCERTAINTIES

11.44 At this stage there are a number of project design options under consideration, ths includes the level of off-site highways works as well as the final internal layouts. This will have a bearing on the areas of potential impact. However, the progression of a programme of suitable ecological surveys and assessment of value, agreed through consultation with the local Authority and Natural England will address these and provide a reliable and robust Ecological Baseline and provide certainty on the potential impacts to inform the assessment.

MATTERS TO BE SCOPED OUT

11.45 There are considered to be no relevant matters to be scoped out in respect of Ecology and Biodiversity at this stage.

SUMMARY

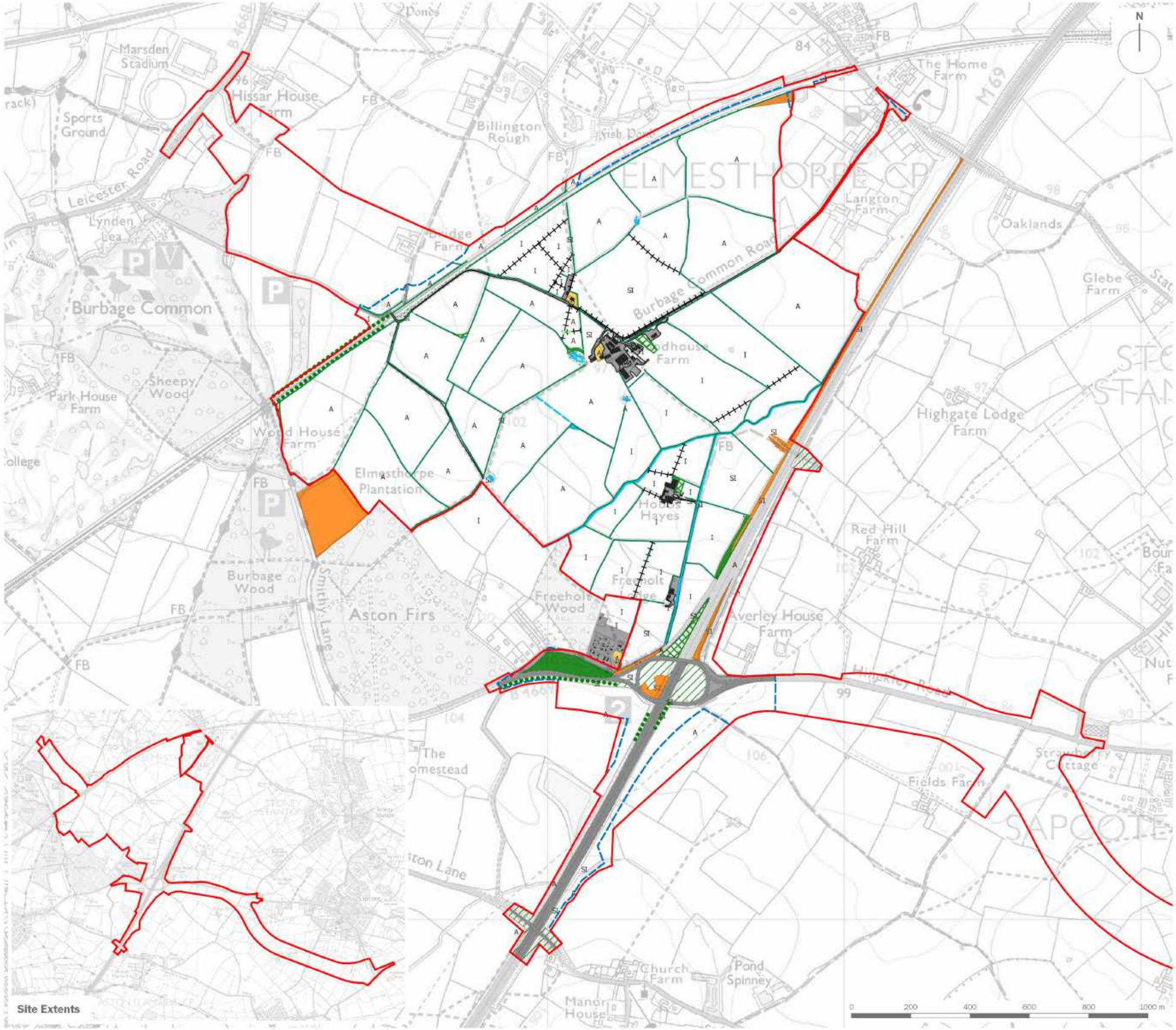
11.46 The main site is not covered by any statutory designated sites for nature conservation and although there are some nationally designated sites within the potential zone of influence, these will be fully considered and appropriately safeguarded during the design process.

11.47 There are a number of non-statutory designated sites that are within and adjacent to the main site that will be carefully considered in the assessment and appropriate avoidance, enhancement or mitigation provided to ensure no residual impacts from the scheme.

11.48 There is the potential for loss and damage of protected or important habitats and species as a result of the proposals that will be fully assessed as part of the EcIA. These will be avoided or mitigated through the design process to ensure that the proposals fully comply with legislation and both national and local planning policy requirements.

11.49 11.39 Opportunities exist to improve and enhance the structure of the ecological network within the area, which has been partially degraded and fragmented with the intensification of agricultural practices. A strong framework of green infrastructure across the main site would be required as mitigation and enhancement with hedgerow and woodland planting and connectivity to the habitats beyond the main site.

◆



DCO Order Limits

Study Area

Broad-leaved Semi-natural Woodland

Broad-leaved Plantation Woodland

A Arable

I Improved Grassland

A Amenity Grassland

SI Poor Semi-improved Grassland

SI Semi-improved Neutral Grassland

Unimproved Neutral Grassland

Dense Continuous Scrub

Scattered Scrub

Standing Water

Bare Ground

Hardstanding

Buildings

Scattered Trees/Parkland (Broad-leaved)

Scattered Trees/Parkland (Coniferous)

Hedgerow

Running Water

Dry Ditch

Fence

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 11.1: Phase 1 Habitat Survey

date	29 OCTOBER 2020	drawn by	JTF
drawing number	edp3267_d009i	checked	WC
scale	1:12,500 @ A3	QA	WG

the environmental dimension partnership

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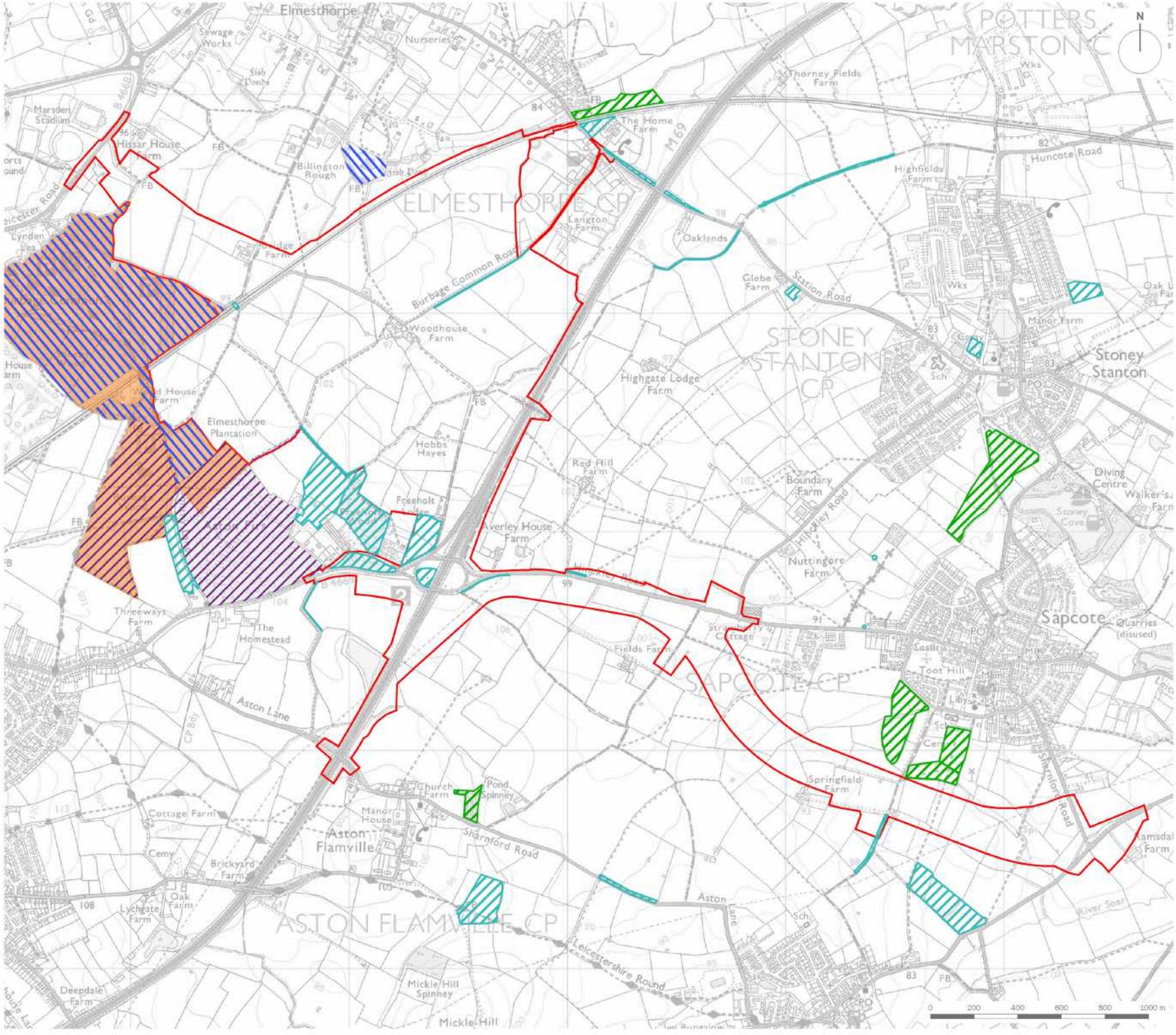

DCO Order Limits

Potential Local Wildlife Sites (pLWS)

Candidate Local Wildlife Sites (cLWS)

Local Wildlife Sites

Sites of Special Scientific Interest (SSSI)

Local Nature Reserve

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 11.2: Ecological Designations

date	**11 NOVEMBER 2020**	drawn by	**LB**
drawing number	**edp3267_d011h**	checked	**WC**
scale	**Refer to scale bar @ A3**	QA	**JTF**

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Twelve ◆ Cultural heritage

INTRODUCTION

12.1 The assessment for the development within the draft Order Limits will evaluate the known and potential archaeological and heritage resource within the sites and an appropriate wider study area. This will be placed in the local regional and national context and assessed against national criteria.

RELEVANT LAW, POLICY AND GUIDANCE

Legislation

12.2 Sections 66(1) and 72(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 set out the duties of Local Planning Authorities in respect of the treatment of listed buildings and conservation areas through the planning process and the Secretary of State.

12.3 Section 66(1) of the Act sets out the statutory duty of the decision-maker, where proposed development would affect a listed building or its setting.

12.4 The 'special regard' duty of the 1990 Act has been tested in the Courts and confirmed to require that 'considerable importance and weight' is afforded by the decision maker to the desirability of preserving a listed building along with its setting.

12.5 Paragraph 5.131 of the National Policy Statement for National Networks and Paragraph 193 of the National Planning Policy Framework transpose s66 (1) of the 1990 Act into national planning policy.

Policy framework

National Policy Statement for National Networks (2014)

12.6 The National Policy Statement for National Networks, hereafter referred to as 'NPS', sets out the need for and the government's policies to deliver

development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England and Wales. It provides planning guidance for promoters of NSIPs on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.

12.7 The NPS recognises the need to consider heritage assets within the application and determination process as the construction and operation of national infrastructure has the potential to result in adverse impacts on the historic environment, as stated in paragraph 5.120. The historic environment section of the statement (NPS pp. 71-75) emphasises the need for local authorities to set out a clear strategy for the conservation and enjoyment of the historic environment, where heritage assets are recognised as a finite and irreplaceable resource, to be preserved in a manner appropriate to their significance.

12.8 Paragraph 5.127 addresses applications for NSIPs, stating that:

"The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation."

12.9 Designated heritage assets are addressed in Paragraph 5.131, which states that:

"When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, harm or loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional.

Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional."*

12.10 With regard to non-designated heritage assets, Paragraph 5.125 states that:

"The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision making process) on the basis of clear evidence that the assets have a significance that merit consideration in that process, even though those assets are of lesser value than designated heritage assets."

Planning Policy

12.11 The National Planning Policy Framework (NPPF) (2019) sets out the government's approach to the conservation and management of the historic environment, including both listed buildings and conservation areas, through the planning process in more general terms. The opening paragraphs of Section 16 [184 and 185] emphasise the need for local authorities to set out a clear strategy for the conservation and enjoyment of the historic environment, where heritage assets are recognised as an irreplaceable resource, to be conserved in a manner appropriate to their significance.

Local Planning Policy

12.12 The statutory development plan relevant to the draft Order Limits comprises saved policies from the Blaby District Core Strategy (adopted February 2013).

Blaby District Local Plan Delivery DPD (2019)

12.13 Policies of relevance to cultural heritage include the following:

- DM2 Development in the countryside
- DM12 Designated and Non-designated Heritage Assets

Blaby District Core Strategy (adopted February 2013)

12.14 The Blaby District Local Plan 2013-2029 (Core Strategy) provides the

strategic planning policy framework and sets out strategic site allocations for the District to 2029. The core strategy forms part of the spatial plan and provides the basis for decisions on land use planning affecting Blaby District.

12.15 Policy contained within the adopted Local Plan, relevant to the historic environment, includes:

Policy CS20: Historic Environment and Culture

'Blaby District has a number of important buildings, sites and areas of historic value including Scheduled Monuments (SMs), Listed Buildings, Conservation Areas, archaeological remains and other heritage assets. These (including heritage assets most at risk through neglect, decay or other threats) will be preserved, protected and where possible enhanced.

The Council takes a positive approach to the conservation of heritage assets and the wider historic environment through:

a) Considering proposals for development on, in, or adjacent to historic sites, areas and buildings against the need to ensure the protection and enhancement of the heritage asset and its setting. Proposed development should avoid harm to the significance of historic sites, buildings or areas, including their setting.

b) Expecting new development to make a positive contribution to the character and distinctiveness of the local area.

c) Ensuring that development in Conservation Areas is consistent with the identified special character of those areas, as well as working, where appropriate, to identify other areas of special architectural merit or historic interest in designating additional Conservation Areas;

d) Securing the viable and sustainable future of heritage assets through uses that are consistent with the heritage asset and its conservation; and

e) Promoting heritage assets in the District as tourism opportunities where appropriate.'

12.16 In addition to policy CS20, Paragraphs 7.20.1 to 7.20.4 of the Local Plan make the following points:

'The East Midlands Regional Plan indicates that 'the historic environment should be understood, conserved and enhanced' in order to 'contribute to the Region's quality of life'. The above policy aims to meet this objective by protecting (and where possible enhancing) archaeological sites, historic buildings, conservation areas, historic parks and other cultural assets.'

'The National Planning Policy Framework (NPPF) emphasises the importance of Local Plans setting out a positive strategy for the conservation and enjoyment of the historic environment and its heritage assets, and places a heavy emphasis on the conservation of heritage assets in a manner appropriate to their significance.'

'Blaby District contains a number of important archaeological sites (including 14 Scheduled Monuments). In addition there are numerous areas of known archaeological interest and the potential for other unexplored areas to contain important archaeological artefacts.'

'The District of Blaby has nine conservation areas and some 200 listed buildings. Development proposals that affect listed buildings or fall within Conservation areas need to be of very high design quality taking into consideration the principles of good design set out in Policy CS2.'

Other local planning policy

12.17 The Hinckley and Bosworth Borough Council (HBBC) administrative area bounds the westernmost extent of the main site and makes up a large part of the broad 5km study area.

12.18 The statutory development plan for HBBC comprises 'The Local Plan 2006 – 2026' which is made up of a series of documents. Those of relevance include:

- Core Strategy (adopted 2009); and
- Site Allocations and Development Management Policies (adopted 2016).

THE 2018 SCOPING OPINION AND CONSULTATION FEEDBACK

12.19 An EIA Scoping Opinion was received from the Planning Inspectorate in April 2018 which included comments in relation to the Cultural Heritage Section of the Scoping Report. The comments are included in Table 12.1 below with an explanation of how each comment has been addressed and the consultation feedback received from relevant Cultural Heritage consultees.

Table 12.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Cultural Heritage (April 2018)

ID	Other points	Inspectorate's comments	Action taken
2	Guidance	The Inspectorate draws the Applicant's attention to the revised Historic England Good Practice Advice note 3, which was updated in December 2017. The ES should also refer to the guidance notes highlighted in the advice from Historic England (His E) in Appendix 2 of this Opinion.	To be addressed and implemented in the ES.
3	Study Area	The Scoping Report is inconsistent in its description of how the study area for the assessment will be defined. The ES must clearly explain how the study area has been defined. The study area should include both designated and non-designated heritage assets that would experience impacts from the Proposed Development and where significant effects are likely to occur. The Applicant should make efforts to agree the study area and relevant heritage assets with the statutory consultees.	Addressed and implemented. Study Area for Designated Heritage Assets set at 5km in line with Historic England consultation. Study Area for Non-designated Heritage Assets and archaeological assessment set at 1km, as agreed with the LCC Archaeologist.
4	Baseline	The Scoping Report refers	Programme of geophysical

ID	Other points	Inspectorate's comments	Action taken
	Assessment	to proposals to undertake investigative fieldwork which may include geophysical survey and trial trenching as agreed with relevant consultees but also states in paragraph 12.16 that archaeological remains on the site are likely to be heavily compromised by later agricultural activity. The Applicant should ensure that the information provided in the ES is sufficient to provide an assessment of the likely significant effects associated with the Proposed Development and includes effects to archaeological remains. The Applicant should make effort to agree the approach to gathering baseline information and the need for intrusive works with relevant consultees.	survey and trial trenching agreed with LCC Archaeologist. These surveys for the main site have been completed, while the surveys for the additional highways and road connections will be scoped and progressed in consultation with the LCC Archaeologist.
5	Criteria used to determine significance of effects	The Inspectorate notes that the Applicant proposes to define the significance of effects on the basis of the criteria set out in tables 12.1, 12.2 and 12.3 of the Scoping Report. The Applicant should also have regard to the recommendations made by His E in Appendix 2 of this Opinion and seek to agree the approach to determining the	Historic England comments on engaging with the significance of heritage assets beyond use of the tables and matrices are acknowledged and are being addressed in the ES and supporting technical appendices.

ID	Other points	Inspectorate's comments	Action taken
		significance of effects with relevant consultees.	

BASELINE CONDITIONS AND MAIN ISSUES

12.20 The baseline assessment to inform the ES has commenced. The cultural heritage assessment will be informed by an appropriate level of baseline assessment, in line with the historic environment policy in paragraphs 5.120-5.142 of the National Networks NPS, including an archaeological and heritage assessment, a setting assessment and appropriate programme of investigative fieldwork that includes geophysical survey and trial trenching, as agreed with relevant consultees.

12.21 Known heritage assets within the main site and the local area are illustrated in figure 12.1. Assets at 1km intervals to a study area of 5km are shown within figure 12.2 (including ZTV).

Designated heritage assets

12.22 The preliminary baseline assessment has established that there are no designated heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens within the main site.

12.23 Within the 5km radius study area beyond the main site (as agreed through consultation with Historic England) there are several groups of listed buildings located predominantly within the surrounding settlements and conservation areas, with those closest to the site comprising of Stoney Stanton to the east (including the Grade II* listed Church of St Michael) and Elmesthorpe to the north (including the Grade II listed Church of St Mary). Two scheduled monuments are located within 2 km of the main site, comprising a ruined church at Elmesthorpe and Sapcote Castle and Moat, on the west edge of Sapcote, south-east of the main site, while further scheduled monuments are located at a greater distance from the main site.

12.24 In general terms, the majority of the designated heritage assets in the wider area comprise listed buildings clustered in the historic cores of the settlements surrounding the main site. Several listed buildings, including the Church of All Saints, are located in Sapcote to the south east; Aston Flamville to the south; and a number of listed buildings, including the Grade II* listed Church of St Catherine are located in Burbage to the south-west. The Grade I listed Church of St Mary is located on the southern edge of Barwell, north west of the site.

12.25 The assessments progressed to date indicate that, in the overwhelming majority of cases, the positions of the listed buildings and conservation areas within the wider area, in relation to their surrounding settlements and the prevailing topography, are such that the site does not form part of their settings. However, there are a number of listed churches in the settlements closest to the site that, by virtue of their location on local high points with views outwards in the direction of the site, or through the prominence of their towers or spires in the local landscape, are experienced in combination with the land within the site.

Non-designated heritage assets

12.26 There are relatively few non-designated heritage assets or archaeological events recorded within the site by the Leicestershire Historic Environment Record (HER).

12.27 A single archaeological event is recorded on the western edge of the site (ELE8716) and relates to a desk-based assessment in advance of a construction of a sewer.

12.28 The remaining HER entries relate to an undated cropmark of a possible ditch (MLE68) recorded in the northern portion of the site and a late 19th century barn (MLE20555) at Hobbs Hayes farm in the southern part of the site.

12.29 Two fields containing ridge and furrow earthworks, deriving from medieval agricultural practice, were also identified during the course of site walkovers.

12.30 Historic mapping indicates that the extant farmsteads within the site were established variously in the 19th or early 20th centuries although they have experienced successive alterations and additions in the intervening period.

12.31 Historic Landscape Characterisation (HLC) data provided by the HER indicate that the fields within the site are predominantly characterised as reorganised piecemeal enclosure or planned enclosure originating in the late post-medieval period.

12.32 The surrounding area has produced evidence for archaeological activity dating from the early prehistoric period through to the medieval period, although this is predominantly evidenced by records relating to chance finds of artefacts rather than conclusive evidence of settlement.

12.33 The scarcity of previous archaeological information for the site is likely to be reflective of a lack of systematic investigation in the wider area,

rather than the actual absence of archaeological remains. The limited evidence for archaeological activity in the wider area, coupled with the extensive size of the site, suggests that there is some potential for it to contain hitherto unidentified buried archaeological remains relating to the prehistoric, Roman and later periods.

12.34 Further assessment has been undertaken to better understand the nature, presence and extent of any buried features that might survive within the main site through an appropriate programme of investigative fieldwork. This comprised a geophysical survey and trial trench evaluation of the main site, which were each undertaken in accordance with a scope and methodology agreed with the LCC Archaeologist.

12.35 The results of these investigations identified activity ranging from the late Iron Age to 20th centuries within the main site area, including evidence for a dispersed Roman rural settlement focused on a probable roundhouse in the centre of the site close to Hobbs Hays Farm. This was overlain by the remains of a medieval landscape consisting of ridge and furrow which was superseded in turn by an enclosed system of 18th century fields focused on a newly constructed farmstead and the alignment of Burbage Common Road. The final episodes of significant change occurred with the construction of the railway between Hinckley and Leicester in the 1860's, and the M69 Motorway in the 1970's.

12.36 On the basis of the current evidence as derived from the results of the archaeological investigations in the main site, the identified remains are not considered to be of at most, local importance. There is no suggestion that any remains within the main site are of sufficient importance or extent, or survive to a level of preservation, which would warrant their preservation in situ.

12.37 Therefore, none of the archaeological or landscape features identified within the site to date by the HER, the site walkover, or the fieldwork investigations including geophysical survey and trial trenching is considered to represent an 'in-principle' constraint to development.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

12.38 The cultural heritage assessment has already commenced and has examined the known historic environment baseline conditions within the site and its broader context. The assessment process will involve ongoing analysis of the likely cultural heritage effects as the evidence base expands and the development proposals evolve. Where impacts cannot be avoided through design, additional mitigation measures will be recommended.

12.39 In accordance with paragraph 5.127 of the National Networks NPS and other best-practice guidance (see below), the assessment will identify the heritage significance of assets and assess the impact of the development on that significance. Impacts are not harmful unless they adversely affect a heritage asset's significance.

12.40 Archaeological resources are susceptible to a range of impacts during development. These relate to works associated with site preparation as well as construction related activities, including:

- demolition and site clearance activities that disturb archaeological remains;
- excavation that extends into archaeological sequences, for example deep foundations or basements resulting in the removal of the resource;
- piling activities resulting in disturbance and fragmentation of the archaeological resource;
- dewatering activities resulting in desiccation of waterlogged remains and deposits.

12.41 The implications, if any, of these actions will be considered and significance criteria allocated to any identified impact.

12.42 In terms of the effects on cultural heritage, the effects of the development can be direct, such as loss or damage to a heritage feature, or indirect, including the effect resulting from change to the setting of a listed building or scheduled monument for example. This component of the assessment will be cross-referenced with the landscape and visual assessment. Any such impacts will be discussed and significance criteria applied.

12.43 On the basis of the assessment work progressed to date, the potential effects on designated heritage assets will be limited to impacts arising from change to their settings. Overwhelmingly, these effects will be experienced only by those assets within approximately 2km of the main site.

12.44 The effects on the identified non-designated heritage assets within the site will likely result in their complete loss and destruction through the construction of the proposed development.

12.45 Once impacts have been identified, means by which they can be

avoided through design will be explored as a priority. If impacts cannot be avoided through design then alternative strategies, which might include site investigation and recording, will be proposed. The residual impacts following the implementation of these measures will then be defined and significance criteria applied.

12.46 An appropriate archaeological mitigation strategy will be implemented to offset the potential effects associated with the form of development proposed.

APPROACH AND METHODOLOGY

12.47 The first stage of the assessment is to verify the baseline conditions of the site and surrounding area. The scope of works includes an archaeological and heritage assessment of the historic environment at and around the site, informed by an appropriate programme of investigative fieldwork, as agreed with relevant consultees, which has included geophysical survey and trial trenching.

12.48 The aim of the assessment work has been to identify, as far as is reasonably possible, the nature of the archaeological and cultural heritage resource within the study area, to assess significance and to make appropriate recommendations for the future treatment of any remains which may be affected.

12.49 A robust and proportionate setting assessment will be undertaken for all designated heritage assets within an appropriate radius of the site, in addition to any assets beyond this study area that may be found to be potentially sensitive to the development proposals.

12.50 The study area for the assessment of setting effects will be informed by landscape and visual considerations. A study area of 5 km measured from the boundaries of the site has been agreed through consultation with Historic England (HE) as appropriate to assess the potential for impacts on designated heritage assets through changes to their settings. Additional assets beyond this study area will also be assessed as appropriate.

12.51 Nonetheless, the assessment will take into account the understanding that the ability to see a proposed development from or in combination with a heritage asset does not necessarily equate to an effect upon that heritage asset. It is a question of whether such intervisibility contributes to significance.

12.52 A 1km radius study area from the boundaries of the site is considered

appropriate to inform the baseline assessment of the site's archaeological resource, in terms of non-designated heritage assets. The scope of this study area has been agreed in consultation with the LCC Archaeologist.

12.53 In addition to field visits and consultation with relevant officers and stakeholders, consultation with the following resources has been undertaken:

- Leicestershire Historic Environment Record.
- The relevant local history centre/ record office and other local repositories.
- The National Heritage List for England.
- Historic Ordnance Survey mapping.
- Historic aerial photography.
- Archaeological Data Service Online Catalogue.
- Previous desk-based assessments, EIAs or fieldwork reports prepared for other sites in the vicinity.

12.54 The assessment will thereafter identify and evaluate the nature and likelihood of the impacts of the development, in both the long and short term, on the identified archaeological and cultural heritage features against clearly defined criteria. Significance will be assigned to impacts relative to the sensitivity of the resource and the magnitude of impact in accordance with best practice.

12.55 The baseline assessment process will give due regard to industry best practice guidance produced by the Chartered Institute for Archaeologists and relevant Historic England guidance, including Historic Environment Good Practice Advice in Planning, Note 3, The Setting of Heritage Assets (HE 2017), as well as the consultation responses of consultees, as set out above.

12.56 The EIA assessment for archaeology and cultural heritage will be prepared with reference to guidance set out in the Highways Agency Design Manual for Roads and Bridges 2019. This is an industry standard assessment methodology, and the only one adopted by a Government agency.

Assessment methodology

12.57 Tables 12.2, 12.3 and 12.4 (below) set out the criteria that will be employed in attributing 'sensitivity' to archaeological and heritage assets, identifying the magnitude of any changes to them (i.e. the impact) and assessing the significance of the resulting effects in EIA terms.

12.58 The sensitivity of the heritage assets identified will be assessed on the basis of table 12.2. The magnitude and significance of potential effects on archaeological remains and built heritage resources, arising from the implementation of the proposed development, will be identified and appropriately assessed, based on tables 12.3 and 12.4.

12.59 The significance of effect is assessed with reference to the heritage asset's sensitivity and the magnitude of impact. The criteria in Table 12.2 are based on criteria established by the Highways Agency in its Design Manual for Roads and Bridges (HA 2019). This is an industry standard assessment methodology, and the only one adopted by a government agency. The attribution of the sensitivity will rely upon professional judgement.

12.60 The classification of the magnitude of change on heritage assets is rigorous and based on consistent criteria. This will take account of such factors as the physical scale and type of disturbance to them and whether features or evidence would be lost that are fundamental to their historic character, integrity and therefore significance. The magnitude of change will be assessed using the criteria in Table 12.3.

Table 12.2: Sensitivity of cultural heritage receptors

Receptor	**Sensitivity of receptor**				
	Very High	High	Medium	Low	Negligible
World Heritage Site					
Scheduled Monument					
Grade I or II* listed building					
Grade I or II* registered park or garden					
Other nationally important archaeological asset					
Grade II listed building					
Grade II registered park or garden					
Conservation area					

Other asset of regional or county importance					
Locally important asset with cultural or educational value					
Heritage site or feature with no significant value or interest					

Table 12.3: Cultural heritage assessment - magnitude of change

Magnitude of Change				
Large	Medium	Small	Negligible	None
Change to the significance of a heritage asset so that it is completely altered or destroyed				
	Change to the significance of a heritage asset so that it is significantly modified			
		Change to the significance of a heritage asset so that it is noticeably different		
			Change to the significance of a heritage asset that hardly affects it	
				No change to the significance of an asset

12.61 Following the evaluation of sensitivity for specific archaeology and cultural heritage receptors and the magnitude of impact, the significance of effect will be assessed using the criteria shown in table 12.4 below.

Table 12.4: Cultural heritage assessment - significance matrix

Magnitude of Change		**Sensitivity of receptor**				
		Very High	High	Medium	Low	Negligible
	Large	Severe	Major	Moderate	Moderate or Minor	Minor
	Medium	Major	Major or Moderate	Moderate or Minor	Minor	Negligible
	Small	Moderat	Moderat	Minor	Negligibl	Neutral

		e	e or Minor		e	
	Negligible	Moderate or Minor	Minor	Negligible	Neutral	Neutral
	None	Neutral	Neutral	Neutral	Neutral	Neutral

12.62 The assessment matrix defined in table 12.4 is not intended to be 'prescriptive', but rather it allows for the employment of professional judgement to determine the most appropriate level of effect for each heritage asset that is identified.

12.63 Effects will be categorised with regard to their nature (adverse, beneficial or neutral) and their permanence (permanent, temporary or reversible). For all forms of heritage asset (receptor); including archaeological sites and remains; historic buildings, places and areas; and historic landscapes; the sensitivity of the receptor will be combined with the predicted magnitude of change to heritage significance to arrive at the significance of effect in EIA terms.

12.64 The combination of sensitivity and magnitude of change is undertaken with reference to the matrix in table 12.4, with those effects defined as severe or major being deemed 'significant'. All other effects are determined to be 'not significant' in EIA terms.

PROPOSED AVOIDANCE AND MITIGATION METHODS

12.65 The development proposals have the potential to impact on identified non-designated heritage assets within the site. Baseline assessments completed to date do not indicate the presence of any heritage assets greater than low sensitivity. Therefore it is expected that the effects on these receptors can be mitigated by a suitable programme of investigation and recording in advance of development.

12.66 More widely, there is the potential for impacts on designated heritage assets beyond the site through changes to their settings. The mitigation strategy implemented to avoid or minimise the potential effects associated with the proposed development in this respect will firstly be implemented through mitigation by design; i.e. the sensitive disposition of elements of the development proposals in the site to minimise effects on receptors in the wider landscape. Subsequent mitigation through landscaping, i.e. bunds and planting, will also be employed to further reduce or limit adverse effects arising through change to the setting of

designated heritage assets. Nonetheless, given the scale of the proposed development, it is expected that such mitigation is unlikely to fully mitigate adverse effects and therefore a degree of residual harm is likely to arise.

UNCERTAINTIES

12.67 Current uncertainties are identified in respect of the archaeological baseline for the link roads at this stage. However, the progression of a programme of suitable archaeological investigation, agreed through consultation with the LCC Archaeologist, will address these matters and provide certainty on the potential impacts to inform the assessment.

MATTERS TO BE SCOPED OUT

12.68 There are considered to be no relevant matters to be scoped out in respect of Cultural Heritage.

SUMMARY

12.69 The site does not contain any designated heritage assets and there are no 'in-principle' constraints to its development in heritage terms. Therefore, the development proposals are capable of being designed and developed in accordance with national and local historic environment planning policy.

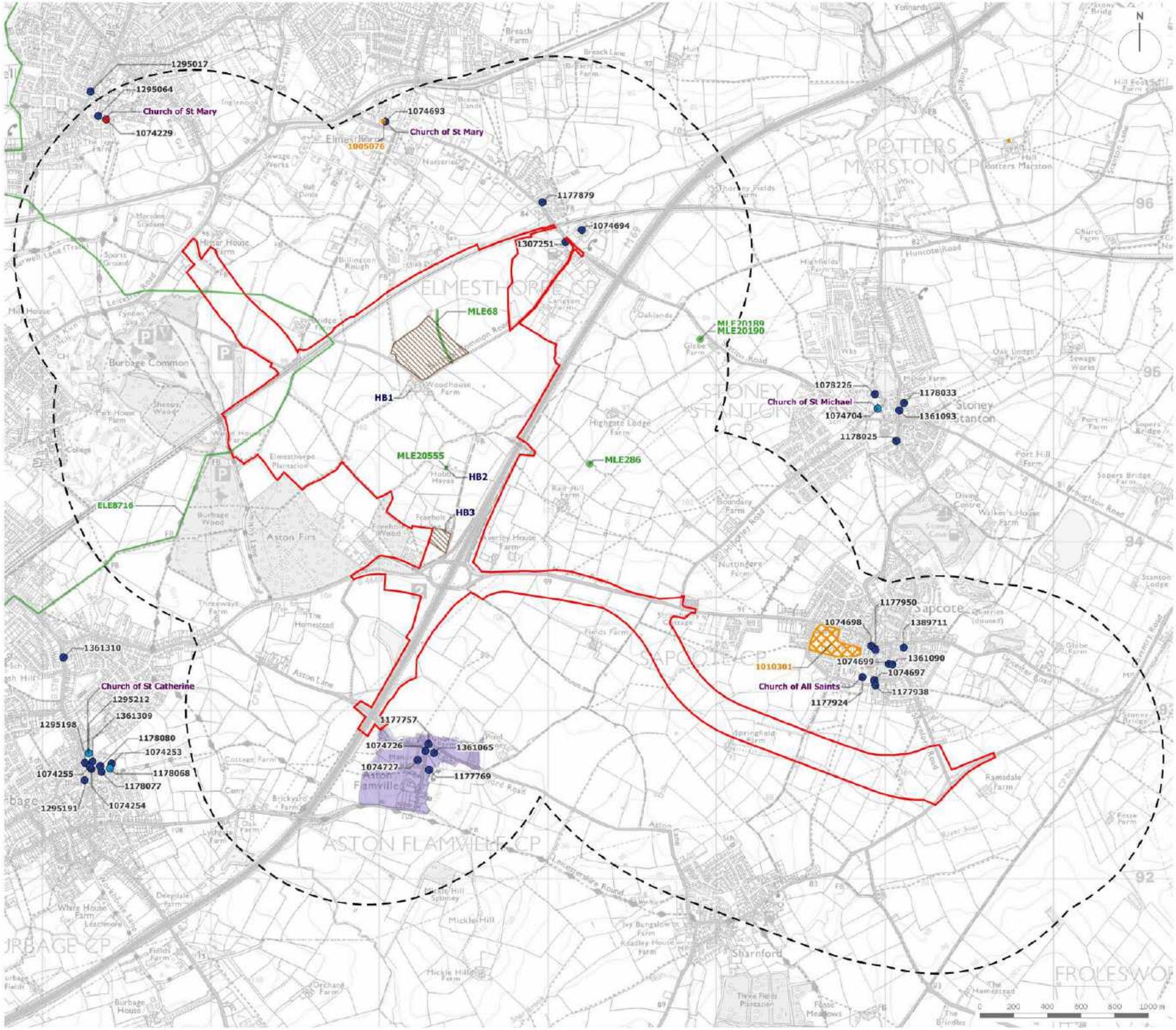
12.70 The development proposals have the potential to impact on known non-designated heritage assets within the site. Baseline assessments completed to date do not indicate the presence of any heritage assets greater than low sensitivity.

12.71 More widely, there is the potential for impacts on designated heritage assets beyond the site through changes to their settings.

12.72 The assessment will identify and evaluate the nature and likelihood of the impacts of the development, in both the long and short term, on the identified archaeological and cultural heritage features against clearly defined criteria. Significance will be assigned to impacts relative to the sensitivity of the resource and the magnitude of impact in accordance with best practice.

12.73 An appropriate archaeological mitigation strategy will be implemented to offset any potential effects associated with the proposed development.

12.74 At this stage, there is no indication that the implementation of development of the form proposed would result in any significant effects, in EIA terms, on cultural heritage receptors. ◆



Site Boundary

Range Rings (at 1km intervals)

Scheduled Monuments

Listed Buildings

Grade I

Grade II*

Grade II

HER Entries

Ridge and Furrow

Aston Flamville Conservation Area

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 12.1: Known Heritage Assets

data	29 OCTOBER 2020	drawn by	JTF
drawing number	edp3267_d085a	checked	ES
scale	Refer to scale bar @ A3	QA	MC

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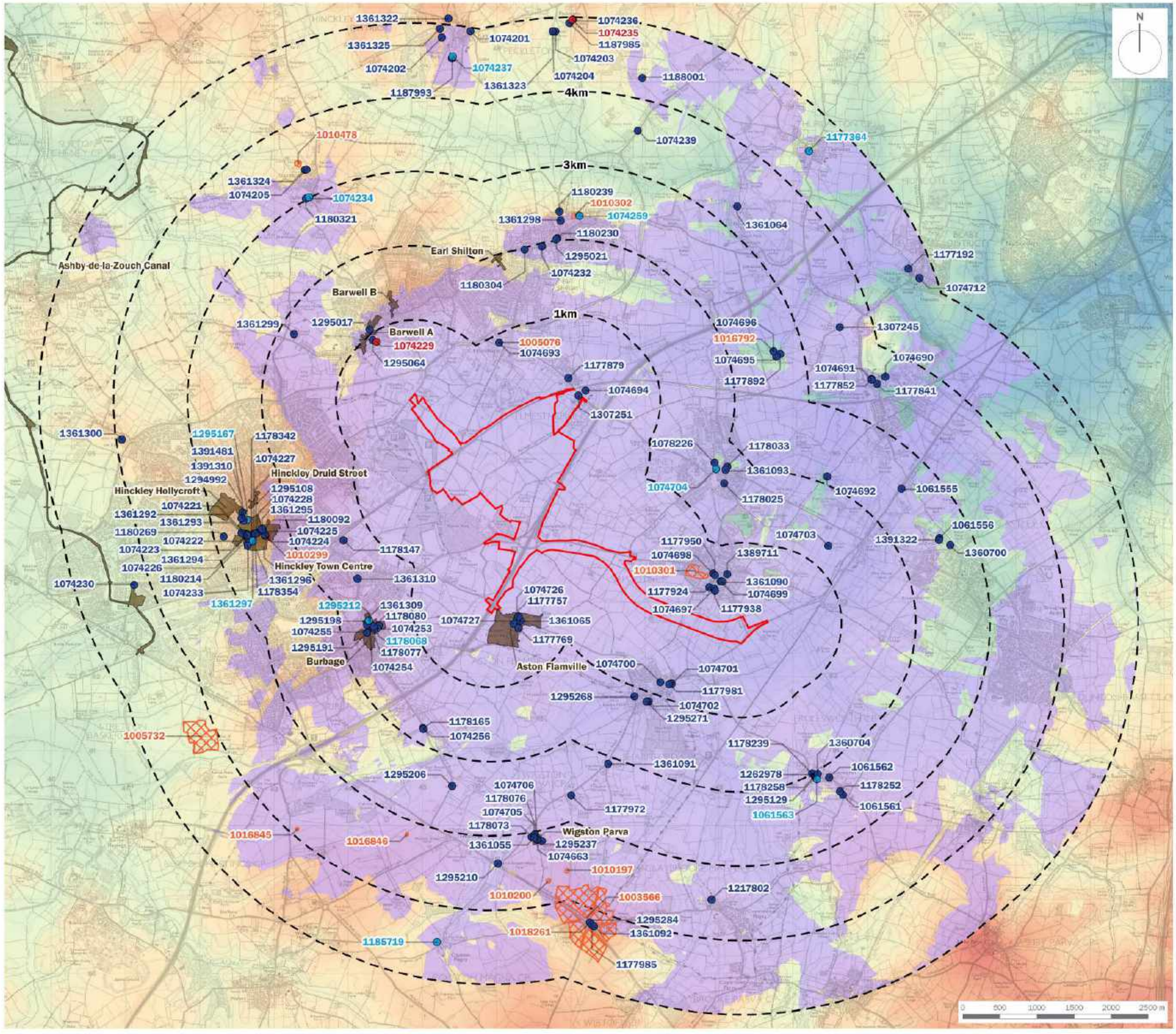

Site Boundary

Range Rings (at 1km intervals)

Listed Buildings

Grade I

Grade II*

Grade II

Scheduled Monuments

Conservation Areas

Zone of Theoretical Visibility (ZTV)

Height (aOD)

60m

78m

96m

114m

132m

150m

NOTE:

Zone of Theoretical Visibility (ZTV) was calculated using a spatial modelling algorithm which considers the following parameters:
- 1.7m Receptor Elevation (Observer Height)
- 30m Proposed Development Locations (Ridge Height)
- 360 Degree Field of View
- OS Terrain 5m Digital Terrain Model (DTM) (vertical accuracy of +/- 2.5m)

client

Tritax Symmetry Ltd

project title

HINCKLEY NATIONAL

RAIL FREIGHT INTERCHANGE

drawing title

Figure 12.2: Designated Heritage Assets and Conservation Areas overlaid on Digital Terrain Modelling and Zone of Theoretical Visibility

date	29 OCTOBER 2020	drawn by	GY
drawing number	edp3267_d086a	checked	ES
scale	1:50,000 @ A3	QA	JTF

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Thirteen ◆ Surface water and flood risk

INTRODUCTION

13.1 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to surface water and flood risk.

13.2 The assessment will be supported and informed through consultations with various stakeholders including the Environment Agency, Leicestershire County Council (in its role as Lead Local Flood Authority), and Severn Trent Water. Reference will also be made to relevant national and local surface water / flood risk planning and legislative policy.

13.3 A standalone Flood Risk Assessment Report will also be prepared, along with a Sustainable Drainage Statement report which will include a proposed Surface and Foul Water Drainage Strategy. These will form appendices to the ES.

RELEVANT LAW, POLICY AND GUIDANCE

13.4 The assessment will be undertaken in accordance with relevant national and local surface water / flood risk planning and legislative policy, specifically:

Water Resources Act

13.5 The Water Resources Act[26] relates to the control of the water environment. The main aspects of the Act which are relevant to the whole project include provisions concerning land drainage, flood mitigation and controlling discharges to watercourses to prevent water pollution. It also outlines the functions and responsibility of the Environment Agency in regulating the water environment.

Flood and Water Management Act

13.6 The Flood and Water Management Act (2010)[27] takes forward some proposals previously published by the UK Government: Future Water,

[26] The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009
[27] Flood and Water Management Act (2010)

making Space for Water and the UK Government's response to Sir Michael Pitt's Review of the summer 2007 floods.

13.7 The Act gives the Environment Agency the strategic overview of management of flood risk in England. It gives upper tier local authorities in England responsibility for preparing and putting in place strategies for managing flood risk from groundwater, surface water and ordinary watercourses in their areas.

13.8 Local flood authorities, district councils, internal drainage boards and highways authorities have a duty to aim to make a contribution towards sustainable development.

National Policy Statement for National Networks

13.9 The National Policy Statement for National Networks sets out the need and Government policies for nationally significant infrastructure rail and road projects for England.

13.10 Paragraphs 5.90-5.115 (related to flood risk) and 5.219-5.231 (related to water quality and resources) includes the requirements to:

- 'take into account the potential impacts of climate change'.
- ensure that 'potential releases can be adequately regulated under the pollution control framework' and 'the effects of existing sources of pollution in and around the project are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable'.
- undertake an appropriate assessment of flood risk, in accordance with the requirements of the 'National Planning Policy Framework' in order to 'avoid, limit and reduce the risk of flooding to the proposed infrastructure and others'.
- assess potential impacts on water quality, water resources, physical characteristics of the water environment, and water bodies or protected areas under the Water Framework Directive.

National Planning Policy Framework

13.11 The National Planning Policy Framework (NPPF)[28] sets out the Government's national policies on different aspects of land use planning, including flood risk.

[28] National Planning Policy Framework, CLG (2019)

13.12 The accompanying Planning Practice Guidance sets out the vulnerability and suitability of different land uses to flood risk. It encourages development to be located in areas of lower flood risk where possible and stresses the importance of preventing increases in flood risk to the wider catchment.

CIRIA Document C753: The SuDS Manual

13.13 The SuDS Manual[29] provides guidance regarding planning, design, construction and maintenance of Sustainable Drainage Systems (SuDS) to assist with the effective implementation within both new and existing developments.

Design Manual for Roads and Bridges HD 45/09 (Road Drainage and the Water Environment)

13.14 This Standard[30] gives guidance on the assessment and management of the impacts that road projects may have on the water environment. These include possible impacts on the quality of water bodies and on the existing hydrology of the catchment(s) through which roads pass. The Standard may also be applied to existing roads, where appropriate.

Water Framework Directive

13.15 The Water Framework Directive (WFD)[31] applies to all European Union (EU) waterbodies and aims to ensure their protection from further deterioration, and that improvements in water quality are made. The assessment and protection of waterbodies is undertaken by implementing River Basin Management Plans. In general terms, there is an onus on developers to protect and, if possible, enhance waterbodies close to proposed developments.

13.16 The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017) transposes the requirements of the WFD into UK law. 11 River Basin Districts have been identified in England and Wales, of which the Study Area falls within the Humber River Basin District. The Regulations include a requirement for surface water bodies to achieve 'good' status with respect to ecology and water chemistry by 2021. Progress is monitored by the Environment Agency in its role as the 'competent authority'. The current plan relevant to

[29] CIRIA C753 The SuDS Manual, B. Woods Ballard, S. Wilson, H. Udale-Clarke, S. Illman, T. Scott, R. Ashley. R. Kellagher (2015)
[30] Design Manual for Roads and Bridges HD 45/09 Road Drainage and the Water Environment. The Highways Agency (November 2009)
[31] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

the Study Area is the Humber River Basin District River Basin Management Plan 2015 - 2021.

13.17 Whilst the implications on European environmental legislation is currently unclear post-Brexit, it is intended that any subsequent / replacement legislation be referenced and consulted in the undertaking of the ES process; or, if not in place, the current legislation continue to be adopted as far as possible, where appropriate.

Leicestershire County Council Preliminary Flood Risk Assessment

13.18 A Preliminary Flood Risk Assessment (PFRA) is an assessment of floods that have taken place in the past and floods that could take place in the future. It generally considers flooding from surface water runoff, groundwater and ordinary watercourses, and is prepared by Lead Local Flood Authorities (LLFA).

13.19 The Leicestershire County Council PFRA[32] was completed in June 2011. The PFRA seeks to assess past and future flood risk and identify areas at significant flood risk.

Leicestershire Local Flood Risk Management Strategy

13.20 A Local Flood Risk Management Strategy (LFRMS) is prepared by a LLFA to help understand and manage flood risk at a local level. The LFRMS aims to ensure that the knowledge of local flood risk issues is communicated effectively so floods can be better managed. The LFRMS also aims to promote sustainable development and environmental protection.

13.21 The Leicestershire LFRMS[33] has been written to assist in the understanding and management of flood risk in the county.

Interim LLFA Guidance Note: Planning and Development in Leicestershire

13.22 The Leicestershire Interim LLFA Guidance Note[34] serves as interim LLFA surface water and flood risk guidance prior to completion of more comprehensive guidance. It aims to enable the design and evaluation of SuDS to meet agreed standards and ensure SuDS are maintainable now and in the future.

[32] Preliminary Flood Risk Assessment, Leicestershire County Council (2011)
[33] Local Flood Risk Management Strategy, Leicestershire County Council (2015)
[34] Interim LLFA Guidance Note: Planning and Development in Leicestershire, Leicestershire County Council (October 2018)

Leicester City and Leicestershire Strategic Water Cycle Study

13.23 The Water Cycle Study[35] was published in 2017 and considered the cumulative impact of the anticipated overall level of growth within Leicestershire to 2050 on the provision of a clean water supply, the safe disposal of wastewater and protection from flooding. It has considered the implications of development in the potential growth areas to assess if large-scale development within these areas would be viable and sustainable in terms of impacts on the 'water cycle'.

Hinckley and Bosworth Borough, Blaby District and Oadby and Wigston Borough Joint Strategic Flood Risk Assessment

13.24 A Strategic Flood Risk Assessment (SFRA) is a study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future.

13.25 The Joint 2 SFRA was completed in October 2014[36]. The SFRA aims to provide an assessment of flood risk from all sources within the three local authority areas. An addendum to the SFRA was published in 2017 which updated the 2014 SFRA based on latest information and guidance.

13.26 A Leicestershire and Leicester City wide SFRA[37] was also completed in 2017. This is a joint SFRA for all local authorities within Leicestershire and Leicester City undertaken to support the Leicestershire Strategic Growth Plan.

13.27 Hinckley and Bosworth Council have published an update to the joint SFRA and the Leicestershire and Leicester City SFRA. Whereas the two previous documents covered multiple local authority areas, the update covered the Hinckley and Bosworth area only and is presented in two parts: a Level 1 SFRA[38] completed in 2019 and a Level 2 SFRA completed in 2020[39].

[35]

[36] Joint Strategic Flood Risk Assessment, Hinckley and Bosworth Borough, Blaby District, and Oadby and Wigston Borough Councils (2014)

[37] Leicestershire and Leicester City Level 1 Strategic Flood Risk Assessment (Leicestershire Local Planning Authorities and Leicester City Council (2017)

[38] Strategic Flood Risk Assessment for Hinckley and Bosworth Borough Council: Final Report, Hinckley and Bosworth Council (July 2019)

[39] Hinckley and Bosworth Borough Council Level 2 Strategic Flood Risk Assessment: Final Report, Hinckley and Bosworth Borough Council (May 2020)

Blaby District Local Plan

13.28 The Blaby Local Plan (Core Strategy)[40] sets out the vision, objectives, strategy and core policies for the spatial planning of the District up to 2029. The key relevant policies from the Local Plan in relation to water resources and flood risk, comprise of CS21 (Climate Change) and CS22 (Flood Risk Management).

13.29 Amongst other aims, these policies require proposed developments to:

- Minimise the risk of flooding to property, infrastructure and people.
- Minimise vulnerability and provide resilience to climate change and flooding by including adaptations such as appropriate shading and planting, green roofs, SUDS, rain water harvesting and storage, and grey water recycling.
- Be preferentially located in areas at lowest risk of flooding within the District.
- Manage surface water run-off to minimise the net increase in the amount of surface water discharged.

13.30 The Blaby District Local Plan (Delivery) Development Plan Document (DPD)[41] was adopted in February 2019. The Delivery DPD includes site allocations and development management policies and sites alongside the adopted Core Strategy.

13.31 The Hinckley and Bosworth Local Plan 2006-2026 includes a Core Strategy DPD and a Site Allocations and Development Management Policies DPD. Policy DM 7 relates to 'Preventing Pollution and Flooding" and required development to demonstrate accordance with a range of criteria.

Humber River Basin Management Plan

13.32 The latest version of the Humber River Basin Management Plan (RBMP)[42] was published in 2015. RBMPs include an assessment of river basin characteristics, a review of the impact of human activities, statuses of water bodies and an economic analysis of water use and progress since the first plan was published in 2009.

[40] Blaby District Local Plan: Local Plan (Core Strategy) Development Plan Document, Blaby District Council (February 2013)
[41] Blaby District Local Plan: Local Plan (Delivery) Development Plan Document, Blaby District Council (February 2019)
[42] Humber River Basin District River Basin Management Plan, Defra and Environment Agency (2015)

Severn Trent Water: Water Resources Management Plan

13.33 The Water Resource Management Plan[43] is a long-term assessment of the likely demand and supply of potable water within the Severn Trent Water supply region. The document also includes an outline of plans in order to balance supply and demand, whilst meeting environmental obligations and climate change uncertainty.

THE 2018 SCOPING OPINION

13.34 A previous application for an EIA scoping opinion for the Hinckley National Rail Freight Interchange (HNRFI) was submitted in March 2018. A Scoping Opinion from the Secretary of State was received in response in April 2018. Table 13.1 summarises the Inspectorate's comments received in relation to Flood Risk and Drainage.

Table 13.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Flood Risk & Drainage (April 2018)

ID	Other Points	Inspectorates comments	Action taken
2	Roads	The Inspectorate notes that the Scoping Report omits reference to the new access road and alterations to the M69. The ES should include an assessment of how the construction of the access road and the alteration of existing roads will affect the assessment of impacts from surface water and flood risk. The approach to this assessment should be discussed with relevant consultees taking into account applicable guidance such as that found within the DRMB HD45 /09.	New roads and alterations to existing roads have been included within this revised report. The approach to assessment will be agreed through consultation with relevant consultees.
3	Flood risk receptor	The Scoping Report states that 'a small portion of the site adjacent to the northern boundary is shown to be in Flood Zone 2' but Figure 13.1 of the Scoping Report shows	Flood Zones have been reviewed and checked for consistency in this revised report.

[43] Water Resource Management Plan, Severn Trent Water (August 2019)

		this area is in Flood Zone 3. The Applicant should ensure that information provided within the ES is accurate and consistent.	
4	Study area	The Scoping Report describes the study area as extending 'to the relevant natural and man-made water resource catchments where necessary' but the location of the catchments has not been stated. Within the ES, the study area should be clearly defined, justified and reflect the anticipated extent of potential impacts.	Justification of the study area is provided within this revised report. The exact area will be refined following feedback from consultation with statutory stakeholders and site visits.
5	Receptors	The list of receptors within the Scoping Report includes flood risk, quantity and quality of surface water, quantity and quality of foul water associated with the Proposed Development and the potential demand on potable water supply. The Scoping Report does not explain how effects on key receptors including existing infrastructure, habitats/sites of ecological value or local residents would be considered. The ES should seek to agree receptors with relevant statutory consultees including the Environment Agency (EA).	This revised report includes details of the methodology proposed for how effects on key receptors will be considered. Consultation will be undertaken with relevant statutory consultees to agree methodology. The final full assessment methodology will be included with the ES chapter.
6	Determination of significance	The Scoping Report does not explain how the significance of effects will be determined. The ES should explain and justify the criteria used to determine the significance of the effects from the Proposed Development on the water environment.	This revised report includes details of how the significance of effects are proposed be determined. The final full assessment methodology will be

			included with the ES chapter.

13.35 The Inspectorate's comments have been taken into account when preparing this revised scoping report.

CONSULTATION FEEDBACK

13.36 The assessment will be supported and informed through consultations with various stakeholders, reference to relevant national and local surface water / flood risk planning and legislative policy, assessment of desk-top information, and the preparation of site-specific hydrological and hydraulic modelling. In addition, a standalone Flood Risk Assessment report will be prepared as well as a Sustainable Drainage Statement report and Surface and Foul Water Drainage Strategy. Stakeholders to be consulted include:

- The Environment Agency
- Leicestershire County Council (as LLFA)
- Highways England
- Severn Trent Water
- Blaby District Council
- Hinckley and Bosworth Borough Council

13.37 Responses to consultation have not yet been received.

13.38 Previous consultations responses received as part of the 2018 Scoping Opinion are summarised in Table 13.2. However, given the length of time that has passed since the 2018 consultation, consultation and agreement on the proposed means of assessment will be undertaken again.

Table 13.2 2018 Consultation Responses to Proposed Means of Assessment

Subject	Response
Blaby District Council	Agreed with principles of proposed scope / methodology, and advised that the comments of the LLFA, Environment Agency, and Severn Trent Water will be 'more detailed and relevant'.
Leicestershire County Council (LLFA)	Agreed with principles of proposed scope / methodology, subject to 'detailed review … after submission'. Particular emphasis placed on the requirement for the proposed development to incorporate Sustainable Drainage System (SUDS) solutions for the management of surface water.
Environment Agency	Agreed with principles of proposed flood risk modelling methodology, and advised that 'Leicestershire County Council, are the appropriate Risk Management Authority for providing advice on ordinary watercourses and surface water for new developments and will be able to provide comments specific to these issues'.
Severn Trent Water	No response received.

BASELINE CONDITIONS AND MAIN ISSUES

Hydrology

13.39 The majority of the development is located within the Thurlaston Brook catchment.

13.40 An unnamed tributary of the Thurlaston Brook flows eastwards across the route of the proposed western link road and immediately beyond the railway line to the north of the HNRFI site.

13.41 An unnamed Ordinary Watercourse flows north-eastward through the southern portion of the main development site before joining the tributary of the Thurlaston Brook just downstream of the railway line. This unnamed Ordinary Watercourse 'issues' within the HNRFI site itself, rather than being fed by an upstream catchment.

13.42 Additionally, within the main site, several field drainages ditches and small ponds also discharge into the tributary of the Thurlaston Brook.

13.43 The Eastern Village By-pass falls within the River Soar catchment. The route of the road crosses several small drainage channels, all of which discharge into the River Soar.

Flood Risk

13.44 The Environment Agency's Flood Map for Planning (Figure 13.1) shows the majority of the site to be in Flood Zone 1 (defined as land having a less than 1 in 1,000 annual probability of fluvial or tidal flooding). However, a small portion of the site adjacent to the northern boundary is shown to be in Flood Zone 3 (defined as land having a 1 in 100 or greater annual probability of fluvial flooding, or a 1 in 200 or greater annual probability of tidal flooding). This risk is associated with the tributary of the Thurlaston Brook.

13.45 The Environment Agency's Flood Map for Planning does not take account of watercourses with a catchment area of less than 3km^2, which is the case of the watercourses within the HNRFI site. As such, the Flood Map for Planning may not be fully representative of flood risk at the HNRFI site.

13.46 The Environment Agency's Risk of Flooding from Surface Water map (Figure 13.2) is considered a better representation of flood risk across the HNRFI site, in this instance, as this mapping includes watercourses with a catchment area less than 3km^2. The mapping shows various areas of the site to be at 'low', 'medium' and 'high' risk of surface water flooding. Areas indicated to be at potential risk of surface water flooding generally correlate with the location of existing surface water bodies.

13.47 The Environment Agency's Flood Map for Planning and Risk of Flooding from Surface Water maps show the Eastern Link Road will cross through areas of Flood Zone 2 and Flood Zone 3 associated with the Thurlaston Brook tributary, and also through areas of surface water flood risk associated with minor field drainage ditches.

13.48 The Eastern Villages by-pass route is shown to be entirely within Flood Zone 1. However, the watercourses in this area fall below the 3km^2 threshold for inclusion in the Flood Map for Planning. The Environment Agency's Risk of Flooding from Surface Water mapping shows area of surface water flooding associated with the streams and ditches over which the by-pass route will cross.

13.49 In accordance with paragraph 5.92 of the national Networks NPS, the DCO application will be accompanied by a Flood Risk Assessment (FRA) which will assess the floodplain and flood risk in more detail.

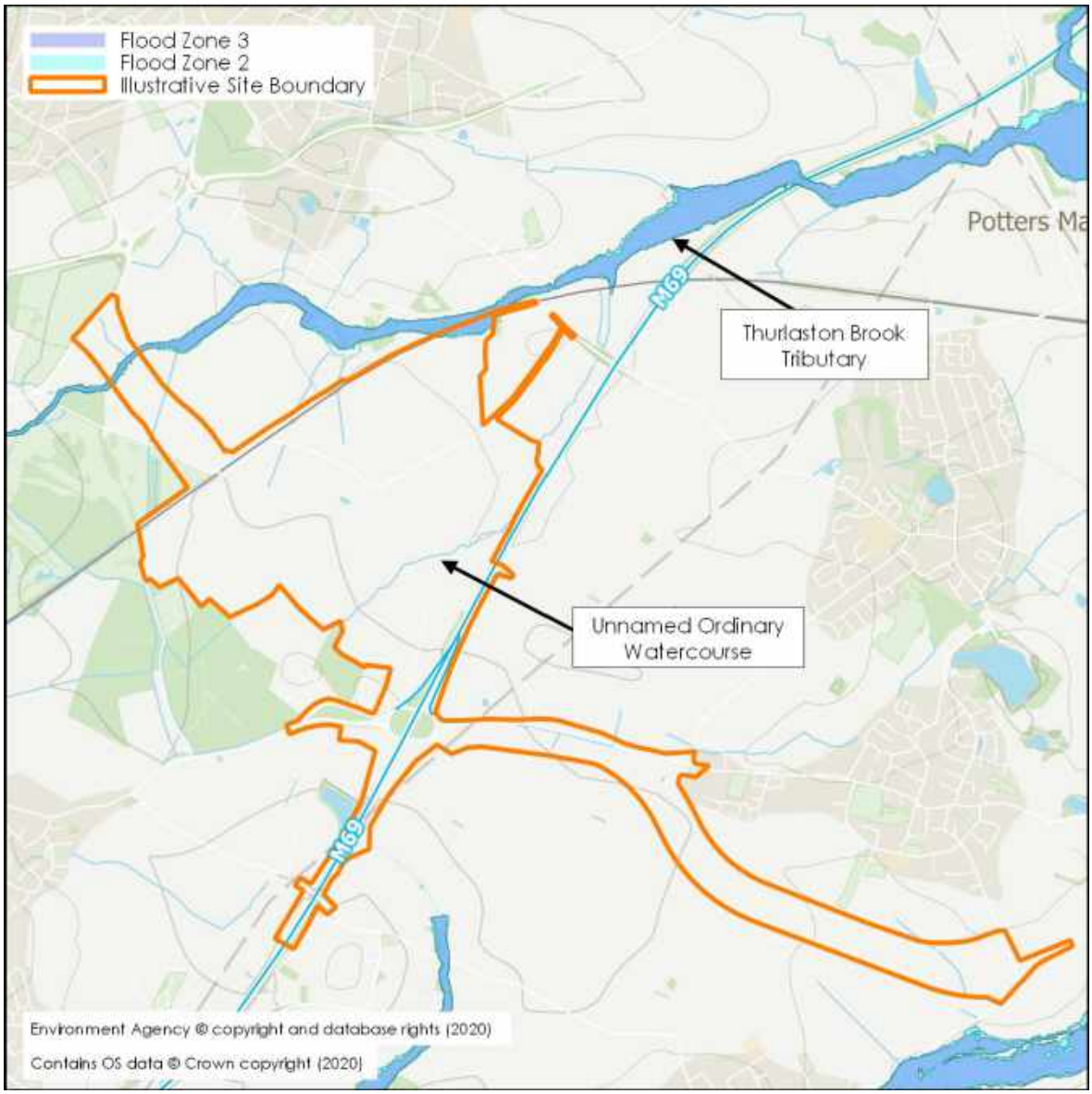

Figure 13.1: Environment Agency's Flood Map for Planning

Surface Water

13.50 Figure 13.2 shows the Environment Agency's Flood Risk from Surface Water map for the site and its surroundings. Currently, the main site and highway works are not understood to be served by a positive surface water drainage system.

13.51 Rainfall is believed to infiltrate into the ground where geological and hydrogeological conditions allow, and then to runoff at surface level once the infiltration capacity of the ground has been exceeded. Any run-off currently generated will likely be directed to local surface water bodies, and ultimately into the tributary of the Thurlaston Brook or the River Soar.

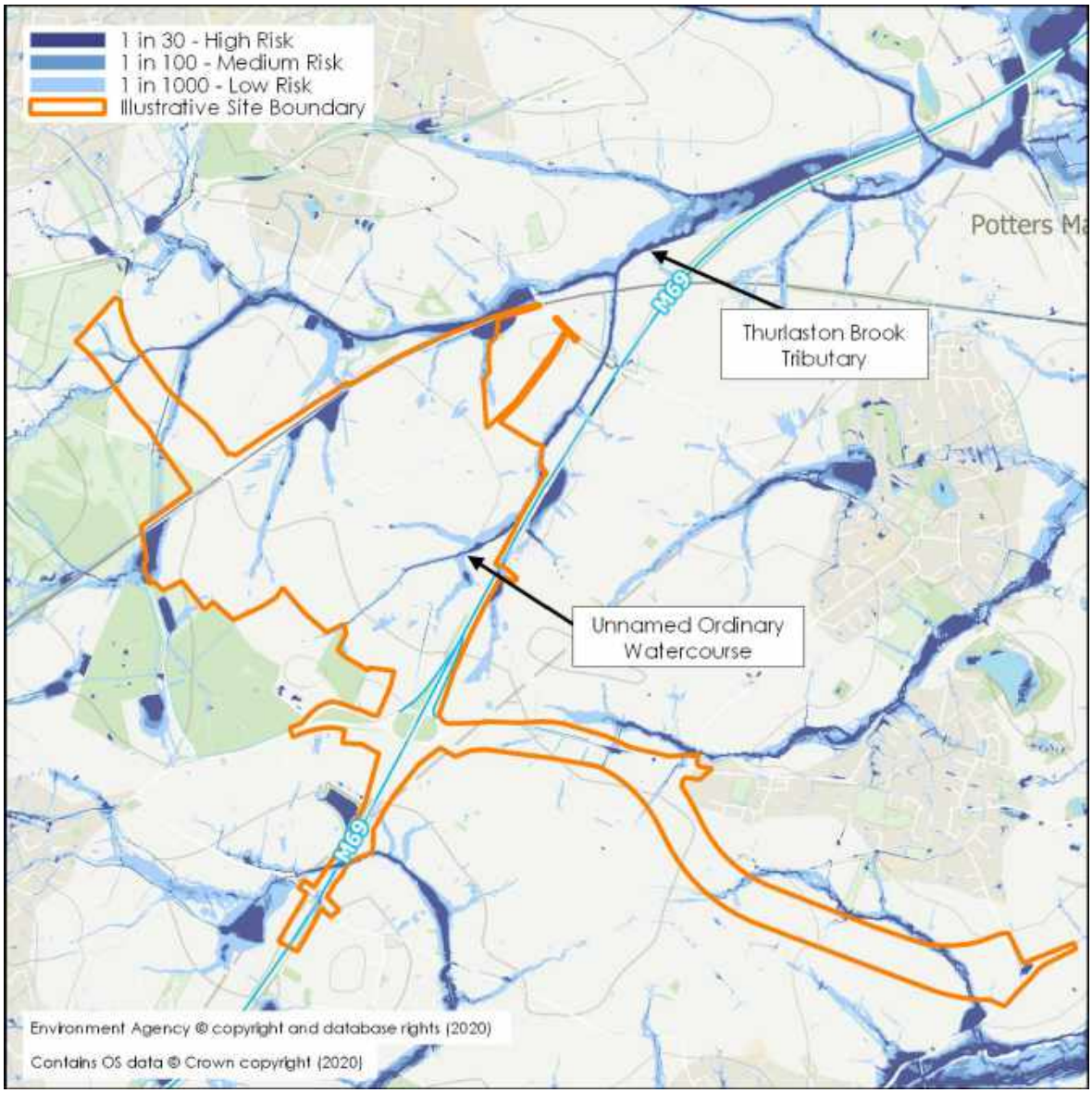

Figure 13.2: Environment Agency's Risk of Flooding from Surface Water map

Water Quality

13.52 The Thurlaston Brook catchment has a Water Framework Directive overall water body quality classification of 'poor', with an ecological status of 'poor' and a 'Fail' chemical status. The catchment has an objective of achieving 'good' overall and ecological statuses by 2027.

13.53 The Soar from Source to Soar Brook catchment has a Water Framework Directive overall water body classification of 'Moderate', with an ecological status of 'Moderate' and a 'Fail' chemical status. The catchment has an objective of achieving 'good' overall and ecological statuses by 2027.

Foul Water

13.54 The site is located within Severn Trent Water's sewerage area, though it is not believed to currently be served by a public foul water drainage system. Foul water from existing properties within the site is understood to currently be disposed to on-site management / disposal systems.

Potable Water Supply

13.55 Potable water is supplied to the area by Severn Trent Water. The Environment Agency classifies the Severn Trent Water region as having a 'moderate' degree of water stress.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

13.56 The proposed development has the potential to have a variety of impacts on surface water and flood risk receptors, as follows:

Flood Risk

13.57 The construction and operational phases of the scheme has potential for encroachment onto the floodplain of watercourses. Without appropriate mitigation, any encroachment could result in the loss of floodplain storage, impedance of overland flood flow routes and loss / disturbance to existing surface water bodies through the temporary or permanent obstruction of stream and ditch channels. Such potential effects could influence the flood risk posed on-site and to downstream third-party land.

Site Discharges – Quantity

13.58 The development will increase the impermeable area and, as such, without appropriate mitigation has the potential to increase rates and volumes of surface runoff, significantly increasing the likelihood of downstream adverse effects, for example, increased flood risk as a result of surcharging water bodies and / or sewerage systems.

13.59 Foul flow loads on the local area will be increased because of the development, which may potentially cause capacity issues in the local sewerage and sewage treatment infrastructure.

Site Discharges – Quality

13.60 The discharge of additional surface and foul water from the site has the potential to adversely affect downstream water quality, if unmitigated. Surface water discharges have the potential to contain pollutants generated as part of construction and operation activities.

13.61 Foul water discharges could adversely affect water quality in receiving water bodies if not appropriately treated.

Potable Water Supply

13.62 The proposed development will involve the use and consumption of potable water, both during construction and operation. This has the potential to adversely affect water resource availability within the region.

APPROACH AND METHODOLOGY

Assessment Area

13.63 The study area for this assessment will include areas within and immediately adjacent to the site, including the western link road and Eastern Villages by-pass. There are potential significant receptors that exist beyond these limits as well as cumulative impacts which will also be included within the assessment. These include flood risk and drainage pathways between the site and potential receptors such as the Thurlaston Brook, River Soar, sewerage system and groundwater.

Approach and Methodology

13.64 The assessment will be supported and informed through consultations with various stakeholders, including the Environment Agency, Leicestershire County Council (in its roles as the LLFA), Blaby District Council and Severn Trent Water.

13.65 The ES chapter will cross-reference an FRA report and a Sustainable Drainage Statement (SDS) report and Surface and Foul Water Drainage Strategy, which will be appended to the ES.

13.66 The significant of potential effects arising from the proposed development will be established through a combination of the identification of receptor sensitivity and assessment of the magnitude of potential effects. Assessment thresholds will be confirmed within the ES chapter.

13.67 It is anticipated that the assessment will consider the construction and operational stages of the proposed development over the lifetime of the proposed scheme, i.e. taking account of the potential influence of climate change on the surface water and flood risk receptors under consideration.

13.68 The significance of each impact is measured through a qualitative assessment of the sensitivity of the resource and the magnitude of the effect. The sensitivity of the resource is assessed according to Table 13.3 using standard methodologies and considers the quality, rarity and sensitivity of the resource changing.

13.69 Impacts will be described as beneficial or adverse, and the potential magnitude of this impact rated from major to negligible / no change (Table 13.4). The significance will be defined using a matrix of the sensitivity and the magnitude of the impact according to Table 13.2.

Table 13.3: Definition of Receptor Sensitivity

Value / Sensitivity	Criteria	Examples
High	• Water environment features with a very high yield, quality or rarity with little potential for substitution. • Water resources supporting human health and economic activity at a regional scale. • Features with a very high vulnerability to flooding.	• Conditions supporting sites with international conservation designations (Special Areas of Conservation, Special Protection Area, RAMSAR) where the designation is based specifically on the water features. • Land use types defined as 'Essential Infrastructure' and 'Highly Vulnerable' in the NPPF flood risk vulnerability classification.
Medium	• Water environment features with a high yield, quality or rarity with a limited potential for substitution. • Water resources supporting human health and economic activity at a local scale. • Features with a high vulnerability to flooding.	• Conditions supporting sites with international conservation designations (SSSI, National Nature Reserve) where the designation is based specifically on the water features. • Relevant supporting elements of the WFD Waterbody status.

		• Land use types defined as 'More Vulnerable' in the NPPF flood risk vulnerability classification.
Low	• Features with a moderate or low yield, quality or rarity with some or good potential for substitution. • Water resources supporting human health and economic activity at household/individual business scale. • Water resources that do not support human health and are of only limited economic benefit.	• Sites with local conservation designations (Local Nature Reserves, County Wildlife Sites) where the designation is based specifically on the water features. • Non-reportable WFD river water bodies. • Land use types defined as 'Less Vulnerable' or 'Water-compatible' in the NPPF flood risk vulnerability classification.

Table 13.4: Definition of Water Environment Magnitude of Change

Magnitude	Criteria	Examples
Major (Adverse)	Loss of or major change to feature, of sufficient magnitude to affects its use, quality or integrity.	• Increase in peak flood level (>100mm). • Loss of a fishery. • Deterioration in surface water ecological or chemical WFD element.
Moderate (Adverse)	Noticeable loss of or change to feature, of sufficient magnitude to affect its use, quality or integrity in some circumstances.	• Increase in peak flood level (>50mm). • Partial loss of a fishery. • Measurable decrease in surface water ecological or chemical WFD quality or flow with potential for deterioration in WFD element status.
Minor (Adverse)	Minor change to feature, with insufficient magnitude to affect its use, quality or integrity in most circumstances.	• Increase in peak flood level (>10mm). • Measurable decrease in surface water ecological or chemical WFD quality or flow

Negligible (Neutral / Not Significant)	Little or no change to feature, with insufficient magnitude to affect its use, quality or integrity.	• Negligible change in peak flood level (< +/-10mm). • Discharges to watercourse which lead to no change in the feature's integrity.
Minor (Beneficial)	Some beneficial impact on the feature or a reduced risk of a negative impact occurring.	• Creation of additional flood storage and decrease in peak flood level (>10mm). • Measurable increase in surface water ecological or chemical quality
Moderate (Beneficial)	Moderate improvement of the feature's quality.	• Creation of additional flood storage and decrease in peak flood level (>50mm). • Measurable increase in surface water ecological or chemical quality or flow with potential for WFD element status to be improved.
Major (Beneficial)	Results in a large improvement of the attributes quality or creation of new feature.	• Creation of additional flood storage and decrease in peak flood level (>100mm). • Increase in productivity or size of fishery. • Improvement in surface water ecological or chemical WFD element.

Table 13.5: Determination of Significant Effects for the Water Environment

	Receptor Value / Sensitivity		
Magnitude	**High**	**Medium**	**Low**
Major	Major	Major	Moderate
Moderate	Major	Moderate	Minor
Minor	Moderate	Minor	Negligible
Negligible	Minor	Negligible	Negligible

13.70 In accordance with the guidance provided in paragraphs 5.92 – 5.97 and 5.221 – 5.223 of the National Networks NPS, it is proposed that the surface water and flood risk chapter of the ES will assess the likely significant effects of the proposed development on the following receptors:

Flood Risk

13.71 The assessment of flood risk will primarily be undertaken within the standalone FRA report. This report will assess flood risk from all sources. The findings of the FRA will present an assessment of the flood risk associated with the proposed development and likely significant impacts of the development on water bodies.

13.72 The detailed FRA will be supported by a bespoke hydrological and hydraulic study of the local watercourses (Thurlaston Brook tributary, Unnamed Ordinary Watercourse, watercourses within the main site, and watercourses crossing the western link road and Eastern Villages by-pass) to confirm their floodplain extents and flood levels, identity the potential impact of future climate change, the potential impact of the development, and test mitigation options, if required. The modelling will also be used to inform levels of structures where passing over watercourses, such as the western link road.

Surface Water (Quantity and Quality)

13.73 The assessment of surface water risk will be undertaken within the standalone SDS report.

- Quantity: the potential effect of the proposed development on the rate and volume of surface water run-off will be determined, and a proposed Surface and Foul Water Drainage Strategy prepared to address any identified adverse impacts.

- Quality: the potential risk of pollutants being generated as a result of the construction and operation of the proposed development will be determined, along with the assessment of potential impacts, and identification of any necessary mitigation measures.

Foul Water (Quantity and Quality)

13.74 The assessment of foul water risk will be undertaken within the standalone SDS report.

- Quantity: consultation will be sought with Severn Trent Water to identity any potential infrastructure capacity issues. The potential impact of the proposed development on available treatment capacity will then be assessed, and mitigation measures proposed, if necessary.

- Quality: the standard of available foul water treatment infrastructure

will be confirmed via consultations with Severn Trent Water. The impact of the proposed development will then be ascertained, and mitigation measures outlined, if necessary.

Potable Water Supply

13.75 The assessment of potable water supply will be undertaken within the standalone SDS report.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

13.76 A Flood Risk Assessment will be prepared to assess the potential impacts of the development and identify appropriate mitigation measures where necessary.

13.77 The development will be arranged to avoid encroaching into the floodplain where possible, and access routes and development levels will be set above flood levels. Finished floor levels of the development will be set appropriately.

13.78 Any loss in floodplain (such as during the formation of new bridge crossings of the watercourses) will be assessed hydraulically to identify the impact, and any detriment will be mitigated through appropriate floodplain storage and conveyance improvements.

13.79 A Sustainable Drainage Strategy will be prepared, detailing the proposed foul and surface water drainage strategies for the site.

13.80 The proposal will seek to attenuate surface water runoff at the equivalent greenfield rate, including the provision of additional water storage to account for the effects of climate change.

13.81 Surface water storage will be provided within the site. Storage will be designed with an allowance for future climate change to ensure its effectiveness now and in the future.

13.82 Sustainable Drainage Systems (SuDS) will be used within the development, to reduce the impact of the development on the natural runoff regime and to also provide treatment to surface water prior to it leaving the site.

13.83 The construction phase will include mitigation measures to ensure appropriate water quality and quantity controls are in place.

UNCERTAINTIES

13.84 At the time of preparation of this Scoping Report, no consultation feedback had been received.

13.85 The Environment Agency's Flood Map for Planning does not include all the watercourses within the vicinity of the site. As such the flood risk from these watercourses is not fully understood. The flood risk will be confirmed through the bespoke hydrological and hydraulic modelling exercise. The full extent of the watercourses to be modelled, and the form in which the modelling will take, will be determined following a site visit.

13.86 To fully assess the local watercourses the proposed bespoke hydraulic flood model will need to extend beyond the site, which will require access and survey of the surrounding watercourses. The full extent of accessible land is currently unknown.

13.87 There is no reported flood history, or records of flood flows or waters levels that could be used to help inform and calibrate the site-specific assessment. Therefore, the assessments will be based upon industry standard flow estimation methods and best practise.

MATTERS TO BE SCOPED OUT

13.88 No matters have been scoped out of the assessment.

13.89 Based on an initial baseline assessment and identification of potential environmental effects, the following receptors are proposed to be 'scoped in' to the surface water and flood risk chapter of the ES:

- Flood risk
- Surface water – quantity
- Surface water – quality
- Foul water – quantity
- Foul water – quality
- Potable water supply

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Fourteen ◆ Hydrogeology

INTRODUCTION

14.1 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to hydrogeology.

14.2 For the purpose of the EIA the term 'hydrogeology' refers to groundwater resources, specifically groundwater quality and quantity. This chapter relates to potential effects on groundwater resources.

14.3 The assessment will be supported and informed through consultations with various stakeholders, including the local authority (lead regulator for land contamination), Environment Agency (local authority consultee for controlled waters issues relating to land contamination and lead regulator for environmental permitting, abstractions and discharge consents). Reference will also be made to relevant national and local groundwater and land contamination planning and legislative policy.

14.4 A standalone phase 1 environmental risk assessment report will also be prepared, which will include a preliminary risk assessment relating to groundwater. Subsequently an intrusive site investigation will be undertaken. These reports will form an appendix to the ES.

14.5 For the purpose of the Water Framework Directive the designations of Principal and Secondary Aquifers are based on the Environment Agency's interactive aquifer designation map. Where aquifers have been mapped and are capable of sustaining a yield of 10 m^3/day of potable water or supplying 50 people on a continuous basis, the Environment Agency has designated a number of Groundwater Bodies to help manage water quality under the River Basin Management Plans. Groundwater bodies are defined based on their support for ecosystems as well as their capacity to supply drinking water. Some localised small aquifers capable of supporting the above supply might be too small to map and can be identified only by investigation.

14.6 Where an aquifer exists and it contains groundwater but is incapable of sustaining the above supply, the groundwater is not part of a Groundwater Body and might not be considered a strategic resource. In which case the groundwater is not a receptor; but can be a pathway to other receptors by virtue of its ability to transport contaminants.

14.7 This chapter should be read in conjunction with chapter 13 *Surface water and flood risk* and chapter 15 *Geology, soils and contaminated land*, both of which provide relevant additional guidance.

RELEVANT LAW, POLICY AND GUIDANCE

14.8 In accordance with the guidance provided in paragraphs 5.221 – 5.223 of the National Networks NPS it is proposed that the hydrogeology chapter of the ES will assess the likely significant effects of the proposed development on the following receptors:

- The Thrussington Member, Wolston Sand and Gravel and Mercia Mudstone Secondary A and B Aquifers.

14.9 Assessment of the impact of the proposed development will also be undertaken in accordance with, but not limited to, the below policies:

- National Planning Policy Framework 2019;
- Blaby District Local Plan (Core Strategy) Development Plan, February 2013;
- National Policy Statement for National Networks, December 2014;
- Environment Agency Groundwater Protection Guidance, https://www.gov.uk/government/collections/groundwater-protection;
- Blaby District Revised Local Development Scheme, 2019;
- Blaby District Local Plan (Delivery) Development Plan Document (DPD) Adopted February 2019.

THE 2018 SCOPING OPINION

14.10 An application for an EIA scoping opinion for the Hinckley National Rail Freight Interchange (HNRFI) was submitted in March 2018. A Scoping Opinion from the Secretary of State was received in response in April 2018. Table 14.1 summarises the Inspectorate's comments received in relation to Hydrogeology.

Table 14.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Hydrogeology (April 2018)

Subject	Response
Study Area	The Inspectorate notes that a description of the study area is omitted from the aspect chapter. Within the ES, the study area should be clearly defined, justified and reflect the anticipated extent of potential impacts.
Operational effects	The aspect chapter makes no reference to potential hydrogeological impacts during the Proposed Development's operational phase. The Applicant should ensure the ES assesses impacts to hydrogeology during all phases of the Proposed Development including during operation, if significant effects are likely.
Baseline assessment	The Scoping Report provides inconsistent information relating to the status of aquifers in the vicinity of the Proposed Development. The ES should be consistent and clearly state the classifications of the aquifers. The ES should also include a figure to depict location of the aquifers likely to be affected by the Proposed Development.
Summary	The Scoping Report states that site remediation may be necessary, although the specific need for such measures has not been previously highlighted in the chapter. If site remediation is necessary, then this should be taken into account in the assessment and details of the proposed remediation should be included within the ES along with a description about how such measures are secured.

CONSULTATION FEEDBACK

14.11 The assessment will be supported and informed through consultations with various stakeholders, reference to relevant national and local contaminated land planning and legislative policy, assessment of desk-top information, and the preparation of site-specific desk study and intrusive ground investigation. Stakeholders to be consulted include:

- The Environment Agency
- Leicestershire County Council (as LLFA)
- Highways England
- Blaby District Council

14.12 Responses to consultation have not yet been received. However, responses received from key consultation bodies as part of the 2018 Scoping Opinion, agreed with the proposed means of assessment. Given the length of time that has passed since the 2018 consultation, consultation and agreement on the proposed means of assessment will be undertaken again.

BASELINE CONDITIONS AND MAIN ISSUES

14.13 The site is underlain in different areas by superficial deposits comprising Alluvium, River Terrace Deposits and several types of Glacial Till. The Glacial Tills include Bosworth Clay (clay and silt), Thrussington Member (sandy, gravelly clay and silt) and Wolston Sand and Gravel (sand and gravel, locally with lenses of silt, clay or peat). Occasionally there are no superficial deposits. The Thrussington Member and Wolston Sand and Gravel are classified as Secondary A or B aquifers. The Bosworth Clay is classified as an unproductive stratum, which comprises deposits with low permeability that have negligible significance for water supply or river base flow.

14.14 Secondary A aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and can be a source of base flow to rivers. Secondary B aquifers are lower permeability layers that might store and yield limited amounts of groundwater, with limited baseflow to rivers, often from fissuring and weathering.

14.15 The solid geology underlying the entire site comprises Mercia Mudstone Group, which is dominantly red, less commonly green-grey, mudstone and subordinate siltstone and sandstone with some halite (salt) bearing units. Beds of gypsum and anhydrite are common. The Mercia Mudstone Group is classed by the Environment Agency as a Secondary B Aquifer.

14.16 Groundwater in these aquifers is a potential receptor, should there be any sources of contamination on site and viable pathways by which the contamination at the sources could migrate to the receptor.

14.17 Understanding of the baseline conditions will be developed further during the phase 1 preliminary risk assessment stage and during the preliminary stages of the ground investigation to establish a conceptual ground model that will include the current groundwater regime and groundwater quality. This will act as a comparison for the potential effects of future changes that could affect the chemical quality of groundwater and surface water.

14.18 The assessment will include a review of existing private water supplies, abstraction licences and discharge consents and any that are proposed as part of the proposed development, and will take into account any significant effects arising from the assessments proposed in chapters 13 and 15 of this EIA scoping report.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

14.19 Potential sources of contamination on site will be identified during the desk study, site inspection and intrusive phases of the ground investigation. Existing groundwater resources will be assessed during the desk study phase, including the potential significance of any groundwater resource value.

14.20 The proposed development has the potential to affect the existing groundwater resource during the construction phase by construction activities, leading to the mobilisation of existing contaminants (e.g. via bulk earthworks, piling or penetrative ground improvement) or via spillages of construction materials or fuels.

14.21 In addition, the development could lead to the sterilisation of land that may have been a significant future resource for groundwater abstraction.

APPROACH AND METHODOLOGY

14.22 The hydrogeological assessment will include the following.

- Identification and confirmation of aquifer status at desk study stage (groundwater receptor).
- Identification of potential contamination sources at desk study, walkover and intrusive investigation stages.
- Identification of any existing private water supplies, abstractions and discharge consents.
- Assessment of potential pathways that might create pollutant linkages.
- Installation of groundwater monitoring instruments and subsequent monitoring, groundwater sampling and laboratory testing to establish groundwater regime and existing quality.

- Should unacceptable risks to groundwater or surface water from contamination linkages be identified, appropriate remedial measures will be assessed and recommended.

14.23 The water quality assessment will be based upon comparison of groundwater monitoring data to appropriate assessment criteria (UK drinking water standards (DWS) and environmental quality standards (EQS)) under the UK's obligations under the European Water Framework Directive (WFD). It includes the most common contaminants for use as a screening exercise. This is known as a generic quantitative risk assessment.

14.24 Should further more detailed assessment be required to understand the potential risks to groundwater resources from specific contaminants, then a detailed quantitative risk assessment will be undertaken using recognised Environment Agency-approved groundwater modelling software.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

14.25 A Phase 1 Preliminary Environmental Risk Assessment and Phase 2 Geo-environmental Assessment will be prepared which will identify the potential impacts to groundwater. Any required remedial works will be set out in a remediation strategy and verification plan.

14.26 The construction phase will include mitigation measures to ensure appropriate water quality and quantity controls are in place, which will be agreed in the Construction and Environmental Management Plan.

UNCERTAINTIES

14.27 At the time of preparation of this Scoping Report, no consultation feedback had been received.

14.28 Intrusive investigation by its very nature only samples a small proportion of soils and unforeseen ground conditions or contamination may be present at the site. There may be other conditions prevailing on the site which have not been disclosed by the investigation and which have not been taken into account by this report.

MATTERS TO BE SCOPED OUT

14.29 No matters have been scoped out of the assessment.

14.30 Based on an initial baseline assessment and identification of potential environmental effects, the following receptors are proposed to be 'scoped in' to the Hydrogeology chapter of the ES:

- The Thrussington Member, Wolston Sand and Gravel and Mercia Mudstone Secondary A and B Aquifers.

14.31 The assessment will be supported and informed through consultations with the local authority and Environment Agency, reference to relevant national and local groundwater and land contamination law, policy and guidance, assessment of desk-top information, and intrusive site investigation, risk assessment and, if necessary, site remediation.

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Fifteen ◆ Geology, soils and contaminated land

INTRODUCTION

15.1 This chapter will consider the likely significance of the environmental impact of the Development on the geology, soils and groundwater beneath the Site and the local area. The environmental impact assessment will be undertaken in accordance with the requirements as set out within the National Policy Statement, and with reference to relevant local plans and mineral safeguarding policies.

RELEVANT LAW, POLICY AND GUIDANCE

15.2 Part IIA of the Environmental Protection Act, (1990)44 describes a regulatory role for Local Authorities in dealing with contaminated land;

15.3 Environment Act, (1995)[45] creates a system whereby Local Authorities must identify and if necessary, arrange for the remediation of contaminated sites. The provisions are set out in Section 57, which inserts Part IIA into the Environmental Protection Act, 1990. In addition to these requirements, the operation of the regime is subject to regulation and statutory guidance;

15.4 Contaminated Land (England) (Amendment) Regulations (2012)[46] - provides a definition of what constitutes 'contaminated land' and sets out the responsibilities of the Local Authority and the EA in the identification and management of contaminated land. Under the Regulations, contaminated land is defined as:

- 'land which is in the opinion of the Local Authority to be in such a condition by reason of substances in or under the land that:
- Significant harm is being caused or there is significant possibility of significant harm being caused; and
- Significant pollution of controlled waters is being caused or there is a significant possibility of significant pollution of controlled waters being caused'.

15.5 Harm is defined in relation to harm to the health of living organisms or other interference with the ecological systems of which they form a part,

[44] Defined in DEFRA (2012). Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance. Her Majesty's Stationery Office, London
[45] Environment Act, (1995)
[46] Contaminated Land (England) (Amendment) Regulations (2012)

and in the case of man includes harm to property. The potential for harm to occur requires three conditions to be satisfied:

- Presence of substances (potential contamination/pollutants) that may cause harm (source of pollution);
- The presence of a receptor which may be harmed e.g. the water environment or humans, buildings, fauna and flora (the receptor); and
- The existence of a linkage between the source and receptor (the pathway).

15.6 Therefore, the presence of measurable concentrations of contaminants within the ground and subsurface environment does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm.

15.7 The nature and importance of both pathways and receptors which are relevant to a particular site will vary according to the intended use of the site, its characteristics and surroundings.

15.8 The National Planning Policy Framework (NPPF)[47] sets out the Government's planning policies for England and supersedes the previous NPPF published in 2012. It makes the following reference to Contaminated Land and ground conditions in the section entitled Conserving and enhancing the natural environment:

"170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans. and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

15.9 It also makes the following references to ground conditions and pollution:

Planning policies and decisions should ensure that:
"178 a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well

[47] National Planning Policy Framework, Ministry of Housing, Communities and Local Government. February 2019

as potential impacts on the natural environment arising from that remediation);
b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.

179. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner."

15.10 Assessment of the impact of the proposed development will also be undertaken in accordance with, but not limited to, the below policies:

- Blaby District Local Plan (Core Strategy) Development Plan, February 2013[48];
- National Policy Statement for National Networks, December 2014[49];
- EA Guidance on Land Contamination Risk Management (LCRM)[50]
- Environment Agency Groundwater Protection Guidance[51],; and
- Blaby District Local Plan (Delivery) Development Plan Document (DPD) Adopted February 2019[52].

THE 2018 SCOPING OPINION

15.11 An application for an EIA scoping opinion for the Hinckley National Rail Freight Interchange (HNRFI) was submitted in March 2018. A Scoping Opinion from the Secretary of State was received in response in April 2018. Table 15.1 summarises the Inspectorate's comments received in relation to Geology, Soils and Contamination.

Table 15.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Geology, soils and contaminated land

Subject	Response
Study Area	The Scoping Report does not describe the study area for the assessment of geology, soils and contaminated land. Within the

[48] Blaby District Local Plan (Core Strategy) Development Plan, Blaby District Council, February 2013
[49] National Policy Statement for National Networks, Department for Transport, December 2014
[50] Land Contamination Risk Management (LCRM), Environment Agency, October 2020 https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[51] Environment Agency Groundwater Protection Guidance, https://www.gov.uk/government/collections/groundwater-protection
[52] Blaby District Local Plan (Delivery) Development Plan Document (DPD), adopted February 2019

	ES, the study area should be clearly defined, justified and reflect the anticipated extent of potential impacts.
Consultation	The Inspectorate notes that no consultation with other parties has been proposed. The Inspectorate is concerned that information relevant to the baseline may be missed unless all the relevant parties are consulted (for instance the EA may have records of old/ abandoned land fill sites which have the potential to be a source of contaminants). The Applicant should ensure that all relevant statutory consultees have been contacted to ensure that the baseline is robust.
Professional Judgement	The Scoping Report states that 'professional judgement' will be used to evaluate all the hazards in terms of possible contaminant linkages. The ES should explain how professional judgement was used to evaluate the hazards and why it is appropriate to do so. Furthermore, the Inspectorate requests that a figure is included in the ES to depict the location of known areas of contamination.
Agricultural land baseline assessment	The intention to assess the soil quality is noted. The ES should assess the degree to which soils are going to be disturbed or harmed as a result of the Proposed Development and the extent of any Best and Most Versatile land that would be lost or affected by the Proposed Development.
Receptors	The descriptions of the receptors within the aspect chapter lacks sufficient detail and it is unclear where 'offsite occupiers of remaining land', 'properties/ buildings' and 'ecological receptors' are located. The ES should include a detailed list of receptors and a figure to clearly depict the locations of the receptors.
Methodology	The Inspectorate notes that a full assessment methodology has not been included within this aspect chapter but reference to other methodologies within certain guidance is included. Within the ES, a complete assessment methodology should be included which clearly explains how significance of effect will be derived.

CONSULTATION FEEDBACK

15.12 The assessment will be supported and informed through consultations with various stakeholders, reference to relevant national and local contaminated land planning and legislative policy, assessment of desk-top information, and the preparation of site-specific desk study and intrusive ground investigation. Stakeholders to be consulted include:

- The Environment Agency
- Leicestershire County Council (as LLFA)
- Highways England
- Blaby District Council
- Hinckley and Bosworth Borough Council

15.13 Responses to consultation have not yet been received. However, responses received from key consultation bodies as part of the 2018 Scoping Opinion, agreed with the proposed means of assessment. Given the length of time that has passed since the 2018 consultation, consultation and agreement on the proposed means of assessment will be undertaken again.

BASELINE CONDITIONS AND MAIN ISSUES

15.14 The geohazard identification process will follow advice provided in the Environmental Protection Act 1990 as to what constitutes significant harm and what constitutes a significant possibility of pollution to evaluate all the hazards in terms of possible contaminant linkages. Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime and legal framework and require either remediation or further assessment.

15.15 In general, the site comprises a large portion of arable and grazing farmland which limits the magnitude and extent of contamination likely to be present. The 2018 ground investigation reported that contamination at the site did not pose a significant risk to human health, or controlled waters though locally low levels of ground gas were identified. The previous reports remain relevant with no significant changes having occurred at the site since the assessment were undertaken. However, additional tiered surveys in accordance with the LCRM methodology will be undertaken for the link roads to the B4668 from the site, north of the railway line and for the link road from the B581 to the B4114 which sit within the revised site demise.

15.16 The land for the Development is predominantly agricultural. The only available agricultural land quality information is provisional MAFF/Defra mapping, which shows the land as grade 3. These maps have a low degree of accuracy and do not differentiate between subgrade 3a (good quality) and subgrade 3b (moderate quality). Further survey work is required to accurately determine the quality of the agricultural land resource.

15.17 1:50,000 British Geological Survey mapping shows surface geology to variously consist of some Alluvium, overlying Glacial Till (including

Bosworth Clay, Thrussington Member and Wolston Sand and Gravel), underlain by Mercia Mudstone beneath the entire site. In local areas there are no superficial deposits. Such variation would be expected to significantly affect soil types and land quality. The national soil map (1:250,000 scale) shows the land to include different soil types, varying in texture and degree of drainage impedance. The land therefore needs to be surveyed in detail to determine the nature of the soil resource, identify potential impacts and propose suitable mitigation. None of the site falls within a Coal Authority reporting area.

15.18 For the purposes of the baseline assessment the land includes more than one agricultural business. The effects of existing contaminant source – pathway – receptor linkages on farm businesses need to be assessed for a full economic impact assessment to be undertaken. This will be considered in the land use and socio-economic effects assessment (see chapter 6, above).

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

15.19 Contaminated land and groundwater may be present because of historical activities at a particular location or as a result of current land uses. The agricultural farm buildings are areas where existing contamination is likely to be most prevalent due to the site activities although there may be other sources of contamination both natural and anthropogenic that need to assessed (e.g. localised industries, old and existing landfill sites, old sewage farms, radon emitting geology) that will be assessed.

15.20 The sterilisation of minerals by the Development would be considered an adverse impact for which mitigation measures will be proposed while potential impairment or destruction of geological sites of interest will be considered

Construction effects

15.21 A fundamental requirement of the project will be to carry out sufficient mitigation or remediation of contamination such that, following construction, there are no continuing significant adverse effects from the contamination during the operational phase of the Development.

15.22 Remediation of contaminated land, and other construction activities, can lead to a number of secondary effects such as potential issues of dust migration and surface water impairment during the remediation and construction processes. Any such effects would be controlled through use of the Construction EMP.

15.23 Where remediation of soil and groundwater is carried out for the Development, this would be regarded as a beneficial effect, as future risks to human health and the wider environment from the pre-existing contamination would be reduced by the remedial works.

Operational Effects

15.24 The major operational sources of contamination will be reviewed and appropriate mitigation measures proposed in line with the tiered LCRM assessment methodology. In addition, during the operational period, monitoring works (such as for groundwater) may continue in order to demonstrate the effectiveness of any remedial works.

APPROACH AND METHODOLOGY

15.25 The EIA will assess the likelihood of existing contamination being encountered during the construction process, such that it could cause significant environmental or health effects if not addressed adequately at the construction and/or operational stages. The construction will entail bringing materials onto site (such as fuel) which if spilt or leaked could result in land or groundwater contamination. Impairment and sterilisation of geological and mineral resources will likewise be addressed.

15.26 A risk based approach in accordance with Defra and the Environment Agency guidance will be taken to assessing contamination which may have a significant effect upon the construction and operation of the Proposed Scheme, or upon the wider environment as a consequence of the Proposed Scheme.

15.27 Any required additional ground investigation will be undertaken following completion of the formal EIA Report and prior to construction works commencing on site in order to provide additional data on which pollutant linkages and ground related risks may exist.

15.28 With regards to sites of geological interest, information will be obtained from Natural England, the British Geological Survey, The Coal Authority and from local authorities (usually county councils) who hold information on such sites.

15.29 The methodology for assessing impacts will follow standard procedures and is expected to involve the following tasks:

- Review of local, regional & national planning strategies and

development plan policies (including, but not limited to, land contamination, Aquifer Protection, Mineral Resources). Review of published documents, current standards, and current best practice guidance.

- The site reconnaissance will be conducted to confirm desk based information and identify and confirm the current state and use of the site.
- Available past Ground Investigation information and historic boreholes will provide site specific factual data upon geology, soils and groundwater and where available and relevant will also be used to support the development of the baseline ground model and assessment of baseline conditions.
- Where gaps in information are identified, and it is considered necessary and possible within existing constraints, further investigative works may be recommended. The information from the additional investigations will then be used to supplement and update reports and confirm the ground model.
- Consultations with the Environment Agency groundwater protection team and Local Authority contaminated land and mineral safeguarding officers and other relevant stakeholders will be undertaken throughout the process.
- It is proposed that the assessment of impacts will be undertaken using Qualitative Risk Assessment Matrices developed from the baseline condition ground model and updated to reflect the impact during both construction and operational phases.
- Where necessary suitable mitigation options will be detailed and their residual impact measured in the same manner using updated and extended qualitative risk assessment matrices to demonstrate the impact, mitigation effects.
- Cumulative impacts will also be considered where other schemes are planned that might affect the same receptors.

15.30 In line with the *Land Contamination Risk Management*, the Preliminary Risk Assessment will include a geo-environmental Hazard Identification, which seeks to list all the suspected contaminant **sources**, the **receptors** that might be harmed by those sources and the **pathways** via which the sources might reach the receptors to cause the harm. The source-pathway-receptor concept is known as a contaminant linkage (formerly a pollutant linkage) and only when a linkage is complete is there any possibility of risk of harm arising. The source-pathway-receptor concept will be assessed through production of a Conceptual Site Model (CSM).

15.31 Information pertaining to relevant local and national policy strategies will be reviewed to confirm the expected effects of the proposed development on the geology, soils and groundwater.

15.32 Existing available investigations and evidence has already been fed into the early masterplanning work of the main site, and further work will be undertaken using background geology and historical mapping and ground investigation data of the area together with a further walkover assessment.

15.33 The information obtained will be used to update and inform the ongoing planning of the Development, and help to confirm the overall baseline conditions across the Development. From this more comprehensive ground modelling data, it will then be possible to predict the potential impacts and receptors resulting from the construction and operational phases of the proposed scheme.

15.34 Positive and negative impacts will then be identified, and options may then be outlined for mitigating any potential negative impacts from the scheme construction and operation allowing the final impact to be confirmed. Cumulative impacts of the proposed scheme in relation to other known proposed schemes will also be addressed where necessary.

Significance criteria

15.35 The approach described above forms the basis of the methodology to be used in the assessment. For contamination to present a significant potential effect a link must first be established within the CSM. The likelihood must be demonstrated with an identifiable source (onsite or off site), a receptors and a viable pathway.

15.36 The sensitivity of potential receptors can be described qualitatively according to the categories shown in Table 20.

Table 15.2 - Criteria for assessing receptor sensitivity

Receptor sensitivity / Value of Resource	Receptor/ Resource
High	Residential areas, schools and playing fields Surface water bodies of high quality and/or Principal aquifers Nationally designated areas e.g. SSSI Major strategic mineral resource areas Strategic underground storage space
Moderate	Retail and business parks (public and work places) Allotments and market gardens

	Surface water bodies of moderate quality, and/or Secondary A Aquifers Regionally designated areas e.g. local nature reserves or LGS Regionally or locally important mineral resource areas (MPA or MSA)
Low	Commercial or industrial development Mineral Areas of Search/ Consultation Areas (MCA) Secondary B and undifferentiated aquifers

15.37 Construction/maintenance workers are not included in the list of receptors as the health and safety of said workers will be covered through project specific health and safety plans and procedures in place prior during the construction phase and within ongoing maintenance plans.

15.38 The magnitude of land contamination effects are assessed by comparing all contaminant linkages at a baseline value (existing condition) to those through construction and post construction. This provides a way of assessing adverse and beneficial effects through the project lifecycle. The magnitude will be assessed using a four-point scale as shown in Table 22.

Table 15.3 - Impact magnitude criteria

Impact Magnitude	Criteria
High	Results in loss of attribute and/or likely to cause exceedance of statutory objectives and/or breach of legislation
Moderate	Results in impact on integrity of attribute/or loss of part of attribute, and/or possibly cause exceedance of statutory objectives and/or breach of legislation
Low	Results in minor impacts on attribute
Negligible	Results in no change or impact on attribute

15.39 The assessment of significance is based on the magnitude of the impact and the importance or sensitivity of the receptors. The significance of the potential effects is identified, as well as those of the residual effects for geological and mineral impacts. Appropriate mitigation measures will be recommended in order to reduce/control any significant adverse effects on sensitive receptors. Once remediated, there should be no residual effects with respect to land contamination issues.

15.40 Effects have the potential to be adverse, beneficial or neutral. For example, in terms of beneficial effects, the Proposed Scheme may

remove a source of contamination or it may break a pathway that currently links a source to a receptor.

15.41 The significance of the effect will be affected by:
- the value of the resource;
- the sensitivity of the receptor;
- the strength and length of the pathway; and
- the size of the area affected.

15.42 Adverse and beneficial effects are further classified as being minor, moderate or major in significance, with only moderate or major significant effects being reported.

Table 15.4 Criteria for assessing effect significance

Significance	Description
Major adverse	Considerable detrimental effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability/legislation/policy standards
Moderate adverse	Limited detrimental effect (by extent, duration or magnitude) that may be considered significant
Minor adverse	Slight, very short or highly localised detrimental effect
Neutral	No appreciable effect
Minor beneficial	Minor reduction in risk (slight, short or highly localised effect)
Moderate beneficial	Moderate reduction in risk
Major beneficial	Major reduction in risk

Survey Boundary

15.43 Generally, a zone extending to 250m from the site boundary including land required for construction of depots, construction/storage sites and other land required for the works will be reviewed. The extent of this zone has been developed using professional judgement on the basis that contamination migration beyond this distance is likely to be minimal or could be mitigated. Groundwater resources over a much larger area will be considered for the water resources study and will be available for assessment of groundwater contamination effects.

Baseline Conditions Study

15.44 The current baseline conditions will be confirmed by means of

undertaking geo-environmental studies for both the main Development site and for the proposed link roads.

- The studies will be broadly undertaken and reported in general accordance withBS 10175:2011[53],relevant parts of BS 5930:1999[54] (now partly superseded), and LCRM (Conceptual Site Model (CSM) and Preliminary Risk Assessment).

15.45 The assessments and study undertaken will include development of a basic ground model which takes account of past and current land uses, geology, hydrogeology, topography and geomorphology and will aim to confirm the sensitivity of the site and surrounding area and confirm existing hazards risks and constraints that might affect the proposed development of the Site. The results of the assessments will be presented within geo-environmental reports.

Receptors

15.46 The anticipated CSM will allow confirmation of all existing environmental receptors. It will also seek to identify all potential construction phase and post development phase environmental receptors.

15.47 The receptors which are likely to be affected in a source – pathway – receptor linkage assessment are:

- human health – future site end users (in a commercial / industrial end use scenario as defined in Land Contamination Risk Management), including off site occupiers of remaining neighbouring land;
- Controlled Waters (surface water and groundwater quality);
- property / buildings;
- ecological receptors.

15.48 Some linkages might be identified that constitute a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'no linkage' and no further action is required. If a linkage is possible, a comparison is made of consequence against probability in accordance with the guidance given in CIRIA Report C552[55], but modified as mentioned below.

[53] BS 10175:2011 "Investigation of potentially contaminated sites - Code of practice"
[54] BS 5930:1999 "Code of practice for site investigations (+A2:2010)
[55] CIRIA Report C552 Contaminated land risk assessment. A guide to good practice (Rudland et al 2001)

15.49 Classification of consequences and probability are given in CIRIA Report C552 Tables 6.3 and 6.4, modified to take into account 'significant harm or significant possibility of significant harm' (SH/SPOSH) in line with current practice.

15.50 The basis of the classification is that 'severe' and 'medium' are likely to result in SH/SPOSH as defined by the EPA 1990, Part 2A, with 'severe' resulting in acute harm. 'Mild' lies below the level of SH/SPOSH but above the level of 'no harm' as implied by the relevant Generic Assessment Criterion (GAC, see below). Minor lies below the 'no harm' level.

Loss of Best and Most Versatile

15.51 The assessment will also set out the technical details of the assessment of Agricultural Land and the way in which it will be reported within the ES.

15.52 Agricultural land within Grades 1, 2 and Subgrade 3a of the Agricultural Land Classification (ALC) is considered the 'best and most versatile agricultural land' (BMV). This is land which is most flexible, productive and efficient in response to inputs. Further details of the ALC system and policy implications are set out by Natural England in its Technical Information Note 049.

Cumulative effects

15.53 The assessment of cumulative effects would be limited to those areas/sites at which contamination remediation is likely to be required and at which construction of the Proposed Scheme would be undertaken at the same time as other nearby construction work within an area of contaminated land.

15.54 Cumulative effects would also need to be taken into account, for example, when assessing the Proposed Scheme impact on mineral resources; effects at a local scale on a number of mineral resources may have a cumulative effect at a regional scale.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

15.55 Where necessary mitigation measures will be identified and their final impacts assessed in the same manner. It is expected that construction effects will be mitigated by means of the development through a range of potential measures and operational practices. The expectation is that this would be framed within a Construction Environmental Management

Plan (CEMP) which would provide a context and framework for a number of issues relating to the potential interactions or impacts of construction and environmental features or receptors. The following issues could feature within the framework provided by the CEMP:

- Construction sequencing and programme;
- Air, noise, dust, light, and odour issues;
- Site Waste Management (from any demolition and from construction);
- Materials management relating to soils reuse and earthworks.

15.56 Appropriate mitigation, including consideration of pollution control technologies, will be promoted where necessary in consultation with the Environment Agency, Leicestershire County Council and other relevant organisations.

15.57 A Phase 1 Preliminary Environmental Risk Assessment and Phase 2 Geo-environmental Assessment will be prepared which will identify and potential impacts to groundwater. Any required remedial works will be set out in a remediation strategy and verification plan.

15.58 The construction phase will include mitigation measures to ensure appropriate water quality and quantity controls are in place, which will be agreed in the Construction and Environmental Management Plan.

UNCERTAINTIES

15.59 Intrusive investigation by its very nature only samples a small proportion of soils and unforeseen ground conditions or contamination may be present at the site, although contingency measures will be in place. There may be other conditions prevailing on the site which have not been disclosed by the investigation and which have not been taken into account by the assessment.

15.60 Remediation of contamination can lead to a requirement for treatment and/or disposal of contaminated materials. Issues of onsite treatment and re-use of contaminated materials will be dealt with in the land quality assessment whereas issues of the disposal of contaminated soils off site are dealt with in Section 16.

MATTERS TO BE SCOPED OUT

15.61 No matters have been scoped out of the assessment.

15.62 Based on an initial baseline assessment and identification of potential environmental effects, the following receptors are proposed to be 'scoped in' to the Geology and Soils and Contaminated Land chapter of the ES:

- human health – future site end users (in a commercial / industrial end use scenario as defined in Land Contamination Risk Management), including off site residents on neighbouring land;
- Controlled Waters (surface water and groundwater quality) Secondary A and B Aquifers;
- property / buildings, on and off site;
- ecological receptors.

◆

Sixteen ◆ Materials and Waste

INTRODUCTION

16.1 This section of the Report describes the scope and methodology that will be used to assess the likely significant environmental effects associated with the management of solid waste arising during the demolition, construction and operation of the Development.

16.2 Liquid waste such as wastewater from dewatering operations is covered in Section 13.

16.3 The consideration of material resources will comprise maximising the beneficial reuse of materials arising from the demolition of existing dwellings and construction of the Development (e.g. excavated material). Only if excavated material is not required or is unsuitable for the Development or specified receiver sites will it become waste.

16.4 The likely significant environmental effects from the use of materials (e.g. aggregate, concrete, brick and steel) for the construction of the Development will not be addressed in the ES as there is no fixed design to assess against or end-user to define requirements.

16.5 The safeguarding and extraction of mineral resources located along the route of the Development will be considered as part of Section 15 (Geology, Soils and Contaminated Land).

16.6 The principal objective of sustainable waste and material resource management is to use material resources more efficiently, thereby preventing and reducing the amount of waste generated as well as minimising the quantity of waste that requires final disposal to landfill. It is proposed that waste and materials will be dealt with in line with the Government's waste hierarchy[56], which is a statutory requirement to sustainable waste and material resource management under regulation 15(1) of the Waste (England and Wales) Regulations 2011.

16.7 The waste hierarchy generally describes a priority order of what constitutes the best overall environmental option for the management of waste. It advocates the use of disposal only as a last resort, due to the range of potential adverse environmental effects associated with its use, such as loss of valuable land resources, greenhouse gas (GHG) emissions, and nuisance effects (e.g. dust and odour emissions).

[56] Department for Environment Food and Rural Affairs, (June 2011); Guidance on applying the Waste Hierarchy.

16.8 The following types of waste to be generated by construction of the Proposed Scheme will be considered in the assessment:

- excavation wastes;
- demolition wastes;
- construction wastes; and
- worker accommodation site waste.

RELEVANT LAW, POLICY AND GUIDANCE

16.9 The Waste (England and Wales) Regulations 2011 SI No. 988 (as amended)[57], which transpose the provisions of the 'EU Waste Framework Directive' (2008/98/EC)[58] into England and Wales. The Controlled Waste (England and Wales) Regulations 2012 SI No. 811 (as amended)[59], which sets out the definition of controlled waste to which regulatory waste management controls apply.

16.10 The Environmental Permitting (England and Wales) Regulations 2010 SI No. 675 (as amended)[60], which provide a consolidated system for permitting of waste operations.

16.11 The Hazardous Waste (England and Wales) Regulations 2005 SI No. 894275 (as amended)[61], which sets out the regime for the control and tracking of the movement of hazardous waste.

16.12 The Government Review of Waste Policy in England 2011[62] sets out the Government's long-term strategy for the prevention and management of waste in England. It follows the waste hierarchy approach set out in the EU Waste Framework Directive.

16.13 The publication of the 'Resources & Waste Strategy' for England confirmed the intention of the Government to put sustainable resource management at the centre of its strategic ambitions on resources and waste. This guidance seeks to echo the ethos of the Strategy, which is designed to '…preserve material resources by minimising waste,

[57] The Waste (England and Wales) Regulations 2011 (SI 2011 No. 988). London, Her Majesty's Stationery Office
[58] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and Repealing Certain Directives
[59] The Controlled Waste (England Wales) Regulations 2012 (SI 2012 No. 811). London, Her Majesty's Stationery Office
[60] The Environmental Permitting (England and Wales) Regulations 2010 (SI 2010 No. 675). London, Her Majesty's Stationery Office
[61] The Hazardous Waste (England and Wales) Regulations 2005 (SI 2005 No. 894). London, Her Majesty's Stationery Office
[62] Department for Environment, Food and Rural Affairs, National Waste Management Plan for England, The Stationery Office; 2013.

promoting resource efficiency and moving towards a circular economy...'. The Strategy also recognises the need to make 'more thoughtful decisions' early in a project lifecycle, encouraging 'resource efficient product design' and increasing recycling rates in construction.

16.14 Since the EU Referendum took place in June 2016, the Government has launched a new Environment Bill, now published[63].

16.15 The Bill sets out resource efficiency and waste reduction as one of four key priority areas. It does this by mandating the management of 'recyclable relevant waste' (glass, metal, plastic, paper and card, and food waste) from household, industry and commercial activities. It also necessitates the provision of more comprehensive information on products manufactured, imported, distributed, sold or supplied. This supports the fact that improvements in data concerning the environmental performance (or impacts) of products is increasingly required across industry, including within environmental assessment.

THE 2018 SCOPING OPINION

16.16 Comment provided in response to the 2018 Scoping Report included are outlined in Table 16.1.

Table 16.1: Planning Inspectorate's comments from EIA Scoping Opinion in relation to Materials & Waste (April 2018)

Focus of Comment	Inspectorate's Comment
Study Area	The Scoping Report has not described the study area for the assessment of materials and waste. Within the ES, the study area should be clearly defined, justified and reflect the anticipated extent of potential impacts.
Methodology	The Inspectorate notes that this aspect chapter in the Scoping Report has not outlined or referenced an assessment methodology. The ES should include a complete assessment methodology explaining how significance of effect is derived.
Introduction	The Scoping Report does not explain what approach will be used to determine if arisings generated during construction will be classed as waste or not. The ES should ensure that any waste arisings likely to occur and with the potential to result in impacts leasing to significant effects are identified and assessed.

[63] [redacted]

Introduction	The Scoping Report states that to characterise soils a 'proprietary web-based tool' will be used but no reference to the web-based tool or further information regarding how it will characterise soils is provided. Within the ES, the method used to characterise soils for the assessment should be clearly explained and with sufficient information to explain the approach to the reader.
Baseline assessment	There is no reference in the Scoping Report to a baseline assessment of the waste infrastructure capacity in the region. The ES should describe and assess the impact the Proposed Development will have on the capacity of regional waste infrastructure during construction.
Baseline assessment	The aspect chapter has not defined the term 'surrounding area' when describing the extent of the baseline assessment. It is therefore unclear how far the baseline assessment will extend. The ES should explain how the area covered by the assessment has been defined.
Baseline assessment	The location and dimensions of the waste storage facilities have not been included within this aspect chapter. The ES should state the location and dimension of the storage facilities and ensure that an assessment of the facilities is included within other aspect chapters, such as the Landscape and Visual Effects chapter.
Potential environmental effects	The Inspectorate notes that as 'the site is a mixture of farmland, small holdings and private dwellings' the small holdings and private dwellings will potentially need to be demolished. If demolition is required, the ES should assess the associated impacts. Furthermore, an estimate of the waste produced from the demolition should be included within the ES.
Transporting waste	The ES should explain how waste generated during construction will be transported off site and assess the impacts associated with this approach.
Significance of effects	The Scoping Report does not explain how the significance of effects would be assessed. The ES must explain the criteria used to determine the significance of effects.

CONSULTATION FEEDBACK

16.17 Following review of the consultation responses to the 2018 opinion, a

number of edits and alterations have been made to scoping.

16.18 Consultation will be undertaken primarily with the Environment Agency (EA) to confirm the previously agreed approach for reuse of excavated material and other materials resulting from construction is applicable to the Development, for example, in scheme-wide landscaping works such as construction of noise and landscape bunds.

16.19 Consultation will also be undertaken with county and district councils (including Waste Planning Authorities) to identify and confirm the following:

- local and regional waste arisings used to inform the baseline and assessment of the likely significant environmental effects of waste;
- availability of local and regional waste infrastructure to be used to inform the baseline and assessment of the likely significant environmental effects of waste; and
- planning, development management and waste management policies to be considered during the assessment process; and particularly with respect to defining any mitigation measures required.
- Potential innovation and mitigation to reduce or reuse material and waste arising from the development.

16.20 This information will be used to establish the baseline waste quantities, understand the future regional disposal capacity and to identify opportunities for reuse and recovery of excavation and demolition materials from the Development.

BASELINE CONDITIONS AND MAIN ISSUES

16.21 At present, the site is a mixture of farmland, small holdings and private dwellings. The site is a source of agricultural and green waste and likely small quantities of commercial waste from Hobbs Hayes Farm and Woodhouse Farm. The exact quantities of waste generated at the site are currently unknown.

16.22 Blaby District Council provides trade waste collection and disposal services for dry waste to businesses throughout the district. The destination for composting, landfill, recyclables, material recovery facilities and any treatment plant are to be determined.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

16.23 The construction of the Development will generate large quantities of excavated material and other aggregate materials mainly associated with the excavation of cuttings, cut and cover tunnels, foundations and drainage. In addition, the demolition of existing residential buildings within the Site will generate demolition materials such as steel, broken concrete, timber, stone and brick. The rebuilding of highways and bridges and the construction of new highways, commercial units and trackside infrastructure will also generate construction waste. Natural, uncontaminated and contaminated excavated material is likely to be generated as a result of construction of the Development. It is likely that the majority of the excavated material will comprise natural and inert soils.

16.24 Waste may also arise from the interaction with operational landfill sites, removal of fly-tipped waste, and management of contaminated land where present. Excavated material that can be used, in its natural state, for site engineering and restoration purposes will be excluded from the assessment of likely significant environmental effects of construction. This is in accordance with the scope of the Waste Framework Directive and also assumed that such materials will meet the requirements of The Definition of Waste: Development Industry Code of Practice.

16.25 Waste will be generated during the operation of the Development by employees, railway staff, business operations (yet to be defined) and maintenance activities. Environmental effects associated with the management of this waste are likely to be relatively small compared with the management of excavated material that is surplus to the requirements of the Development.

APPROACH AND METHODOLOGY

16.26 The proposed assessment methodology is based on best practice guidance (IEMA, 2020)[64], EIA practitioners' professional judgement and experience with the application of EIA to rail-related large scale commercial/industrial infrastructure projects. Best practice guidance notes:

"Organisations and major developments (particularly those subject to a DCO or Transport Works Act Order) may wish to generate and set

[64] IEMA, (2020): Materials and Waste in Environmental Impact Assessment. Guidance for a proportionate approach.

their own criteria and thresholds for assessment, based on historical and industry-specific information they feel is appropriate to the particular conditions and requirements of developments under their control"

16.27 The likely significant environmental effects of solid waste management associated with the Development will be assessed with respect to both the construction and operational phases. These effects may be beneficial or adverse dependent on the measures employed to prevent and/or manage the waste generated.

Spatial scope

16.28 Waste and material resources will be assessed on a site-wide basis having regard to the local and regional jurisdiction in which the Site is located. The latter is significant with respect to historical methods of waste infrastructure planning and capacity reporting.

Temporal scope

16.29 The temporal scope of the assessment shall be // to //, including commissioning, for construction (i.e. the proposed construction period) and DATE for operation (i.e. the first full year of operation of the Development).

Construction effects

16.30 Construction effects will address the permanent, indirect impacts of solid waste that will be generated by earthworks, demolition and construction activities and that will require off-site disposal during the proposed construction period. The scope of the assessment of construction effects will also include waste generation and its off-site disposal for recycling and to landfill associated with the worker accommodation sites during the same time period. The assessment of contaminated soils and materials is addressed in Section 15 (Geology, Soils and Contaminated Land).

16.31 The assessment will identify the types and quantities of solid waste forecast to be generated during each of the demolition, excavation and construction stages of the Development. It will also identify types and quantities of waste forecast to be generated by occupants of the worker accommodation sites during the overall construction programme. Quantification will be on the basis of survey information or using published waste generation rates .

16.32 Assumptions regarding the type and quantity of waste to be diverted

from landfill via reuse, recycling and recovery will be applied. Following this, the type and quantity of demolition materials, excavated material, construction materials and worker accommodation site waste requiring landfill disposal will be assessed in relation to the projected quantity of landfill disposal capacity in the designated local and regional areas throughout the proposed construction period.

Operation effects

16.33 The assessment will identify the types and quantities of solid waste forecast to be generated during the first full year of operation of the Development. This forecast will be based on an assumption of maximum capacity of the Development and any effects will be assumed to be annual. Quantification may be on the basis of existing operational waste management performance data or using published operational waste generation rates for the relevant land use activities.

16.34 Assumptions regarding the type and quantity of waste to be diverted from landfill via reuse, recycling and recovery will be applied. Following this, the type and quantity of station and train waste, track maintenance waste and ancillary infrastructure waste requiring landfill disposal will be assessed in relation to the projected quantity of landfill disposal capacity in the designated local and regional areas throughout the proposed construction period.

16.35 Waste transferred off-site would be handled by a registered waste carrier authorised by the Environment Agency and taken to a permitted or exempt facility authorised to receive and handle that waste under Duty of Care arrangements (i.e. this assessment does not consider the likely significant environmental effects of any illegal waste management and disposal). It has been assumed that all construction and operational activities will be in accordance with the relevant environmental regulatory requirements.

Assessment of Significance

16.36 This section of the guidance describes preferred methods for assessing sensitivity and magnitude of impact from materials and waste, during construction, and operation and maintenance.

Assessing Material Sensitivity

16.37 The sensitivity of materials relates to the availability and type of resources to be consumed by a development. The sensitivity of materials can be determined by identifying where one or more of the criteria from the following thresholds are met.

Table 16.2: Assessing material sensitivity

Sensitivity	Description
Very high	Are known to be insufficient in terms of production, supply and/or stock; and/or Comprise no sustainable features and benefits compared to industry-standard materials.
High	Are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or Comprise little or no sustainable features and benefits compared to industry-standard materials.
Medium	Are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or Are available comprising some sustainable features and benefits compared to industry-standard materials.
Low	Are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or Are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials.
Negligible	Are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials.

Assessing Waste Sensitivity

16.38 The sensitivity of waste relates to availability of regional (and where appropriate, national) landfill void capacity in the absence of the proposed development. Landfill capacity is recognised as an unsustainable and increasingly scarce option for managing waste. The following definitions will be to determine the sensitivity of landfill void capacity for both inert and hazardous wastes.

Table 16.3: Assessing waste sensitivity

Sensitivity	Description (Inert waste)	Description (Hazardous waste)
Very high	…reduce very considerably (by >10%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to	.. reduce very considerably (by >1%); end during construction or operation; is already known to be unavailable; or, would

	be put in place to meet forecast demand.	require new capacity or infrastructure to be put in place to meet forecast demand.
High	...reduce considerably: by 6-10% as a result of wastes forecast.	...reduce considerably: by 0.5-1% as a result of wastes forecast.
Medium	...reduce noticeably: by 1-5% as a result of wastes forecast.	...reduce noticeably: by 0.1- 0.5% as a result of wastes forecast.
Low	..reduce minimally: by <1% as a result of waste forecasts.	..reduce minimally: by <0.1% as a result of waste forecasts.
Negligible	...remain unchanged, or is expected to increase through a committed change in capacity.	...remain unchanged, or is expected to increase through a committed change in capacity.

Assessing Magnitude of Effect (Materials)

16.39 Where the:

- Construction phase is being assessed, the magnitude of impact should be considered from the point at which site access is gained, through demolition, site remediation, enabling works, and construction, to development commissioning.

- Operational phase is being assessed, the magnitude of impact should be assessed over the course of any one full and justifiably representative year within the first three years of commissioning.

Table 16.4 Assessing magnitude of effect (materials)

Magnitude of Change	**Description**
Major	...one or more materials is >10% by volume of the regional* baseline availability; and/or more than one allocated mineral site is substantially# sterilised by the development rendering it inaccessible for future use.
Moderate	...one or more materials is between 6-10% by volume of the regional* baseline availability; and/or one allocated mineral site is substantially# sterilised by the development rendering it inaccessible for future use.
Minor	...one or more materials is between 1-5% by volume of the regional* baseline availability; and/or the development has the potential to adversely and substantially# impact access

	to one or more allocated mineral site (in their entirety), placing their future use at risk.
Negligible	...no individual material type is equal to or greater than 1% by volume of the regional* baseline availability

Assessing Magnitude of Effect (Waste)

16.40 There is no single and unified method for assessing the magnitude of impact from the generation and disposal of waste as it is felt to be too restrictive by comparison with the number and variety of development types potentially subject to environmental assessment.

Assessing Significance of Effect

16.41 The Developments baseline and assessment data and forecasts (the magnitude of change on sensitive receptors) will be compared to evaluate the Developments significance of effect. The potential for significant environmental effects is determined by considering the scale and nature of impacts within the context of the sensitivity of receptors affected, as outline in the Table below.

Table 16.5 Assessing magnitude of effect (waste)

	Magnitude of Effect				
Sensitivity of Receptor		Negligible	Minor	Moderate	Major
	Very High	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral or Slight	Slight	Slight or Moderate	Moderate or Large
	Low	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral or Slight	Neutral or Slight	Slight

16.42 Where effects result in a Moderate to Very Large effect, they will be deemed 'Significant'.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

16.43 Waste arising from the preparation, site removal and construction processes will require management. The Development will result in significant amount of construction and demolition waste being

produced. A Site Waste Management Plan (SWMP) and Materials Management Plan (MMP) will be prepared. This, alongside other construction phase waste management measures, will help to ensure that construction waste is minimised, re-used and recycled wherever possible and will ensure that there are no significant effects on the capacity of the local waste management infrastructure as a result of the development. Preliminary waste targets will be developed alongside the waste management strategy.

UNCERTAINTIES

16.44 Assumptions will be required as to the proportion of solid construction and operational waste that would be diverted from landfill via reuse, recycling and recovery. This will be informed by information gathered at the time of the assessment as to any waste management measures proposed to divert waste from landfill. Alternatively, landfill diversion performance for other similar rail-related commercial/industrial projects, such as Northampton Gateway.

MATTERS TO BE SCOPED OUT

16.45 The assessment of contaminated soils and materials is addressed in Section 15.

◆

Seventeen ◆ Energy and climate change

INTRODUCTION

17.1 Over recent decades, climate change has become an important global environmental, social and economic concern. Consequently, climate change is also seen to be an important consideration in relation to project level assessment and decision-making.

17.2 Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.

17.3 Given the Development will directly or indirectly increase greenhouse gas emissions (GHGs) through heat and power consumption, materials for construction and as a result of increased traffic associated with the Development, mitigation is therefore essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions (GHGs) have already committed the United Kingdom (UK) to a total and continued reduction in GHGs for at least the next 30 years to better both local and international circumstances.

17.4 Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.

RELEVANT LAW, POLICY AND GUIDANCE

17.5 The *Climate Change Act 2008* ('Climate Change Act') (as amended 2019)[65] makes it the duty of the Secretary of State to ensure that the net UK carbon account for all six greenhouse gases (GHG)) is reduced to avoid dangerous climate change. The Climate Change Act committed the UK to a statutory carbon reduction target to reduce emissions by 100% (or net zero) from 1990 levels by 2050.

17.6 The 2017 EIA Regulations (as amended) require:

[65] Order 2019, SI 2019/1056

"*A description of the likely significant effects of the development on the environment resulting from, inter alia: (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change*".

17.7 Section 10(3)(a) of the *Planning Act* (2008)[66] requires the Secretary of State to have regard to the desirability of mitigating, and adapting to, climate change.

17.8 The 'National Policy Statement for National Networks' (NPSNN)[67] (pursuant to Section 9(8) and Section 5(4) of the Planning Act 2008) reaffirms the need for the transfer of freight from road to rail has an important part to play in a low carbon economy and in helping to address climate change. In particular, it outlines how applicants and the Secretary of State should take the effects of climate change into account when developing and consenting infrastructure.

17.9 New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.

17.10 The Government has published a set of UK Climate Projections and has developed a statutory National Adaptation Programme. Any adaptation measures should be based on the latest set of UK Climate Projections, the Government's national Climate Change Risk Assessment and consultation with statutory consultation bodies. Any adaptation measures must themselves also be assessed as part of any environmental impact assessment and included in the environment statement, which should set out how and where such measures are proposed to be secured. Where transport infrastructure has safety-critical elements and the design life of the asset is 60 years or greater, the applicant should apply the UK Climate Projections 2018 (UKCP18) high emissions scenario (high impact, low likelihood) against the 2080 projections at the 50% probability level.

17.11 The Government's Construction Industry Strategy presents the UK's low carbon construction aspirations[68].

17.12 Adaptation measures can be required to be implemented at the time of

[66] https://www.legislation.gov.uk/ukpga/2008/29/contents
[67] Department for Transport (2014): National Policy Statement for National Networks.
[68] HM Government (2013) Industrial Strategy: government and industry in partnership. HM Government, London

construction where necessary and appropriate to do so. Where adaptation measures are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (e.g. coastal processes), the Secretary of State may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (e.g. reserving land for future extension, increasing the height of an existing sea wall, or requiring a new sea wall).

17.13 In 2019 the declaration of a 'Climate Emergency' by Leicestershire County Council prompted a demand for information about climate science and legislation by the general public and local decision makers. Accordingly, the 'Environment Strategy 2018-2030'[69] sets out the council's commitment to carbon neutrality by 2030 and enforces LCC's commitment to "*minimising its environmental impacts, protecting and enhancing the Leicestershire environment and helping to deliver sustainable development by recognising and fostering the links between the environment, people and our economy*". The Strategy sets out their vision, aims, objectives and targets which will be used to drive improved environmental performance.

THE 2018 SCOPING OPINION

17.14 Comment provided in response to the 2018 Scoping Report included are outlined in Table 17.1.

Table 17.1 Planning Inspectorate's comments from EIA Scoping Opinion in relation to Energy and Climate Change

Focus of Comment	Inspectorate's Comment
Baseline assessment	The Scoping Report does not explain how the study area(s) for the assessment will be defined. The ES must explain and justify the study area(s) used in the assessment.
Baseline assessment	It is not clear from the Scoping Report whether the proposed energy and sustainability assessment will be qualitative or quantitative or how it will deal with the inherent uncertainties around the generation of greenhouse gases over the lifetime

[69] Leicestershire County Council (May 2020): Environment Strategy 2018 – 2030: delivering a better future.

	of the Proposed Development. Paragraphs 17.17 and 17.18 of the Scoping Report state that the strategy will be included within a separate document to the ES with the environmental impacts relating to air, land, noise, light and water resulting from buildings and energy generation equipment to be covered under other relevant aspect chapters of the ES. However, elsewhere in the Scoping Report there is no reference to how impacts from the Proposed Development to climate will be assessed. As advised in section 3 of this Scoping Opinion, the ES must assess the effects of the Proposed Development on climate and the vulnerability of the project to climate change. It must clearly explain the reasoning and assumptions behind conclusions reached. It must explain the significance of effect and the criteria used to determine significance. Wherever possible the assessments should be quantitative rather than qualitative.
Use of UKCP09 High Emissions Scenario	The ES should take into account the potential impacts of climate change using the latest UK Climate Projections, this should include the anticipated UKCP18 projections where appropriate.
Scope of energy and carbon dioxide emissions assessment	The Scoping Report states that the scope of the energy and carbon dioxide (CO2) emissions assessment will cover all building and process loads. It is not clear whether this will include emissions during construction or from the traffic movements associated with the operation of the Proposed Development. The ES should include an assessment of the effects of the project on climate where significant effects are likely to occur.

CONSULTATION FEEDBACK

17.15 Following review of the consultation responses to the 2018 opinion, a number of edits and alterations have been made to this section.

17.16 Key stakeholder groups are to be included during the engagement and consultation process for the proposed assessment. The consultees will be identified according to the geographic scope and nature of the issues. The key stakeholder groups include:

- central government departments and agencies;
- non-governmental organisations;
- construction industry stakeholders; and
- rail industry stakeholders.

BASELINE CONDITIONS AND MAIN ISSUES

17.17 The impacts of climate change occur over a broader region than the immediate community area within proximity to the Development. As such, the current climate data and climate change projection data will be sourced for a central regional location; data for central England is therefore considered generally representative of the climate within which the Development would be located.

17.18 The description of the baseline for the Development will be based upon current climate data available and UKCP18 projections for the 50th percentile up to 2080.

17.19 During the construction and operation of the Development (2022 – 2080), the trends within the UKCP18 climate change projections suggest the following changes to longterm, seasonal averages:

- warmer, drier summers,
- milder, wetter winters;
- increase in annual average temperature;
- and fewer days with snow;
- an increase in extreme weather events including more very hot days;
- likely include more intense downpours of rain (particularly in summer); and
- very likely include an increase in dry spells.

PRELIMINARY ASSESSMENT OF POTENTIAL EFFECTS

17.20 The assessment will consider likely in-combination climate change effects for all environmental topics associated with the DCO application.

17.21 Below are detailed some examples of likely significant climate change effects to be considered (please note this is not an exhaustive list):

- Construction:
  - Extreme weather events or climatic events (strong winds, heatwaves, droughts, intense rainfall events) exacerbating health and safety impacts.
- Operation:
  - Change in seasonal patterns of rainfall and temperature resulting in changes in soil moisture levels, length of growing season and irrigation requirements for newly planted trees and green infrastructure;
  - Change in seasonal patterns of rainfall and temperature resulting in changes in quality and quantity of habitats;
  - Change in seasonal patterns of rainfall and temperature resulting in changes in high and low flows in water bodies.

17.22 Key effects of the Development are expected to arise from the following:

- earthworks – includes all excavated material, backfill volumes and any soil treated throughout the construction process. GHG emissions will arise from the energy used by plant equipment in the extraction of material, as well as from logistical operations transporting material along the route of the Proposed Scheme;
- land use change – includes GHG emissions that are either captured or released, resulting from direct human-induced changes in land use during construction and operation;
- construction – covers the embedded carbon of construction materials used in structures such as tunnels, bridges, viaducts, rail lines and supporting infrastructure. This will include the logistical impact of delivering materials to site and removal of waste from site. Depending on data availability, fuel used by plant equipment during construction (such as tunnel boring machines) will also be included;
- operation – covers energy consumption of infrastructure such as building plant and energy consumption;
- rolling stock - energy use, and consequential GHG emissions, from the running of the trains will depend on, but not be limited to, the following factors: train weight, acceleration, traction efficiency, braking performance, regenerative breaking, train resistance, tunnel resistance aerodynamic factors, passenger loads and speed;
- maintenance – covers the day-to-day upkeep of the site (such as landscaping) and buildings;
- energy supply – will be informed by the 'Energy/ Sustainability Strategy' considering potential on-site generation; and
- modal shift - considers the likely impact on road, conventional rail and domestic air travel GHG emissions.

APPROACH AND METHODOLOGY

17.23 For purposes of clarity, this section addresses the three climate change topic assessments separately, except for the sub-section on stakeholder engagement and consultation processes. The likely significant environmental effects to be considered within the ES are as follows:

1. The vulnerability of the Development to climate change;
2. The influence of the Development on climate change; and
3. The in-combination climate change impacts assessment.

17.24 It is proposed to address the request for a climate change chapter with a focussed quantitative and qualitative approach, proportionate to meet outline planning requirements, that will draw on recognised climate change projections, existing guidance and emerging good practice[70,71] as well as being informed by relevant information presented in other chapters of the ES and further documents which form part of the application. As such, an effective balance between the assessment of GHG emissions emitted by the project and consideration in the absence of detailed design information required to fulfil a comprehensive GHG assessment of the construction process and buildings functions (as set out in paragraphs 17.32 to 17.37) has been recommended. Nevertheless, where it is not possible to quantify effects, the practitioner, will qualitatively define the boundaries of the GHG assessment and identify where the majority of emissions are likely to arise from and outline appropriate mitigation strategies to inform later design practice.

17.25 Adopting a precautionary approach to the assessment, recommendations will be made to reduce unmitigated emissions and incorporate mitigation measures (such as renewable energy sources and low carbon materials) into the Development's design where appropriate. Where a qualitative assessment has been deemed unfeasible, the consultant will recommend that further assessment is conditioned at Reserved Matters to ensure minimum target reductions are achieved.

Assessment of the vulnerability of the Development to climate change

17.26 The vulnerability of the Development to climate change considers effects on the Development as a receptor. In contrast the other two assessments consider effects on environmental receptors as a result of

[70] IEMA (2020): Assessing Greenhouse Gas Emissions and Evaluating their Significance
[71] IEMA (2020): Climate Change Resilience and Adaptation

the Development.

17.27 The study area considered for the assessment of vulnerability of the Development to climate change will consist of the infrastructure within the site boundary (the Site), looking at changes over the planned lifetime of the 60 years from commissioning. Information on climate trends and projections at the national and local scale (where available) will also be utilised. Climate trends and projections are published by the Met Office through the UK Climate Projections website and provide the most up to date assessment of how the climate of the UK may change over this century.

17.28 Due to the short-term nature of the construction (<10 years) of the Development, it is not considered to be vulnerable to climate change[72] and so we propose to 'scope out' these for further consideration. As such, the resilience of the Development to climate change will take account of climate projections and give consideration as to whether or not the design of the Development is likely to affect its ability to adapt to climate change in relation during operations to the following:

- flood risk, hydrology and drainage;
- ecology and nature conservation;
- transport and access;
- the welfare of the population; and
- air quality.

17.29 Assessing the significance of potential effects on the Development will apply a risk-based methodology for identifying potential climate impacts and assessing their severity (IEMA 2020) and can be summarised into the following steps:

- identifying potential climate change risks to a scheme or project;
- assessing these risks (potentially prioritising to identify the most severe); and
- formulating mitigation actions to reduce the impact of the identified risks.

17.30 As with most EIA methodologies, the assessment of risk will include assessing the likelihood (or probability) and magnitude (or severity) of the impacts identified. Definitions of likelihood and magnitude may vary as the scheme evolves however Table 17.2 sets out the indicative assessment criteria.

[72] Mean temperature rise in the 50th percentile under the RCP 8.5 scenario in the 2030s is 1.3 degrees in summer with mean precipitation rising 8% during winter.

Table 17.2 Indicative Assessment Criteria

Likelihood Category	Description (probability and frequency of occurrence)
Very high	The event occurs multiple times during the lifetime of the project (60 years), e.g. approximately annually, typically 60 events.
High	The event occurs several times during the lifetime of the project (60 years), e.g. approximately once every five years, typically 12 events.
Medium	The event occurs limited times during the lifetime of the project (60 years), e.g. approximately once every 15 years, typically 4 events.
Low	The event occurs during the lifetime of the project (60 years), e.g. once in 60 years.
Very low	The event may occur once during the lifetime of the project (60 years)

17.31 Assessment of the magnitude of impacts will take into account factors including:

- the acceptability of any disruption in use if the project fails;
- its capital value if it had to be replaced;
- its impact on neighbours;
- the vulnerability of the project element or receptor; and
- if there are dependencies within any interconnected network of nationally important assets on the new development.

Table 17.3 Magnitude of Effects

Consequence of Impact	Description (probability and frequency of occurrence)
Very large adverse	National-level (or greater) disruption to strategic route(s) lasting more than 1 week.
Large adverse	National-level disruption1 to strategic route(s) lasting more than 1 day but less than 1 week OR Regional level disruption to strategic route(s) lasting more than 1 week
Moderate adverse	Regional level disruption to strategic route(s) lasting more than 1 day but less than 1 week
Minor adverse	Regional level disruption to strategic route(s) lasting less than 1 day.
Negligible	Disruption to an isolated section of a strategic route lasting less than 1 day.

Assessment of the influence of the Development on climate change

17.32 The GHG assessment relates to the effects of the Proposed Scheme on GHG emissions contributing to climate change. The Proposed Scheme will be assessed within the context of the UK's evolving carbon agenda as set-out above.

17.33 GHGs will be considered as part of the Transport Assessment relating to traffic impacts, and with regard to the benefits of enabling a shift from road to rail. A direct assessment of carbon emissions is understood not to be required for non-highway NSIPs and given the absence of detailed design information required to fulfil a comprehensive and meaningful GHG assessment of buildings. The application will include instead include a separate 'Energy/ Sustainability Strategy' which will include details re: energy minimisation and efficiency.

17.34 Scenarios of current and future baselines will be built on the changing travel patterns and modal shift for operational circumstances. Baseline transport data will be based on the latest PLANET Framework Model (PFM). The PFM transport model reports on travel patterns by mode (road and rail) on the route of the Proposed Scheme, and will also consider air travel. Transport efficiency improvements over time will also be considered. The impact that the Proposed Scheme has on freight will be assessed separately.

17.35 As there is no specific standard for reporting infrastructure GHG emissions in EIA, it is proposed to undertake a quantitative appraisal identifying causes of, and where possible, limiting the potential for effects from direct (emissions associated with vehicle movements during the construction phase). An indicative assessment for vehicular emissions will be determined for each scenario using applicable traffic data and DEFRAs Emission Factors Toolkit (EFT) v 9.0 (2VC), deemed suitable for large scale and high-level applications. Depending on data availability the reporting unit will be in tonnes of carbon dioxide equivalents (tCO2e).

17.36 The study area for the assessment of the influence of the Development on climate change will consider GHG emissions. Reference will also be made to the global context as appropriate.

Assessment of the in-combination climate change impacts assessment

17.37 The in-combination climate change impacts assessment relates to the combined effect of the impacts of the Proposed Scheme and potential climate change impacts on the receiving environment.

17.38 In line with IEMA guidance, the combined effect of the impacts of the Proposed Scheme and potential climate change impacts on the receiving environment are referred to as 'in-combination impacts' and 'in-combination effects'.

17.39 Suitable mitigation measures to address adverse effects on the ability of resources and receptors to adapt to climate change will be developed by other topical specialists contributing to the ES. For example, for in-combination climate change impacts relating to flood risk, climate change projections based on current Environment Agency guidance will be used in the relevant flood risk assessment. The assessment of potential climate change impacts on the effects associated with the Proposed Scheme will be undertaken in accordance with timeframes outlined in the methodologies for each topic.

PROPOSED AVOIDANCE AND MITIGATION MEASURES

17.40 Mitigation, in the short-term and medium-term, can substantially reduce climate change impacts in the latter decades of the 21st century. Benefits from adaptation can be realised now to address current risks, and can be realised in the future to address emerging risks. Innovation and investments in environmentally sound infrastructure and technologies can both reduce GHG emissions and enhance resilience to climate change.

17.41 Both EC and IEMA guidance[7374] on Integrating Climate Change into EIAs include climate change related guidance for screening and scoping, analysing evolving baseline trends, identifying alternative and baseline measures, monitoring and adaptive management. They also provide approaches to defining and identifying mitigation for climate change impacts and suggest potential mitigation measures.

17.42 Key considerations in developing mitigation will include:

- favouring flexible mitigation options over options which are locked and cannot be modified in future (adaptive management);
- allowing for safety margins in developing the project design, or in mitigation designs to ensure resilience of the project or proposed mitigation to climate change;
- delaying elements of the project with high risk/ uncertainty until a later date when the risk associated with uncertainty is likely to be less; and

[73] European Commission, (2013); Integrating Climate Change and Biodiversity into Environmental Impact Assessment; [redacted]

[74] IEMA ,(2020): Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation.

- identifying who (which party) will be responsible for delivering the mitigation measure (e.g. designer, contractor, developer).

UNCERTAINTIES

17.43 Scientific evidence shows that our climate is changing; however, there are significant uncertainties in the 'magnitude', 'frequency' and 'spatial occurrence' either as changes to average conditions or extreme conditions. Such uncertainties generally make it difficult to assess the impacts of climate change in relation to a specific project[75].

17.44 An added consideration is the fact that climate change projections are based on global models simulating a range of greenhouse gas emission scenarios and look (generally) at regional responses to climate change. In comparison, almost all EIAs look at specific sites compared to regional/national-level climate change models, and the uncertainty of predicting future climate effects on such a small spatial area is potentially large.

17.45 The direct effects of the Development will be assessed for the operational phase. As life-span emissions are dependent on the design and ends user requirements, the following indirect factors for assessment will not be defined for construction and operation and therefore not available for assessment;

- Total number of commercial units;
- Volume (m3) of construction materials;
- Specific type of construction material (e.g. concrete, imported fill, steel, gravel);
- Transport distances (km) of construction material; and
- Life-span of design element;
- Construction site GHG emissions relating to fuel and energy use by plant equipment will be calculated using appropriate assumptions.

MATTERS TO BE SCOPED OUT

17.46 The challenge at scoping is that there is often limited information available from the design team at this early stage resulting in a qualitative based decision and professional judgment from the practitioner[76]. As discussed, subject to agreement with the appropriate authority, given in the absence of detailed design information required to fulfil a comprehensive and meaningful GHG assessment of buildings, it is proposed that direct and indirect emissions of the project, which

[75] IEMA (2020): Assessing Greenhouse Gas Emissions and Evaluating their Significance
[76] IEMA (2020): Assessing Greenhouse Gas Emissions and Evaluating their Significance

are from all lifecycle stages of the Project delivery, are scoped out of the assessment and conditioned to the Reserved Matters stage. These comprise the following:

- Embodied carbon in building materials;
- Transportation of building materials and staff to and from the Sites at both Enabling works and Construction stages;
- Transportation and disposal of waste at both Enabling works and Construction stages;
- Emissions arising under operational circumstances such as energy consumption; and
- Service vehicle movements during operation (e.g. deliveries and refuse collection).

17.47 Due to the short-term nature of both the construction stage (<10 years) of the Development, it is not considered to be vulnerable to climate change and it is proposed to 'scope out' this for further consideration with respect to its resilience.

17.48 Tritax Symmetry Ltd have adopted a Net Zero Carbon in Construction pledge which will be considered throughout the development.

◆

Eighteen ◆ Cumulative and transboundary effects

INTRODUCTION

18.1 This section of the scoping report sets out how it is intended to approach the cumulative effects assessment (CEA) in accordance with the Planning Inspectorate's (PINS) guidance advice note seventeen and its suggested methodology.

18.2 The requirement for cumulative effects assessment is set out in Article 4(3) and Article 5(1) of the Environmental Impact Assessment (EIA) Directive and under the Planning Act 2008 for NSIPs and implemented through the EIA Regulations 2017.

18.3 Schedule 4 of the EIA Regulations 2017 provides relevant information for inclusion in environmental statements. At Schedule 4(5) the regulations state that *'the description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.'*

18.4 The cumulative impact comprises the combined effects of the proposed development with other existing and/or approved development. No detailed definition is provided in the EIA Regulations to clarify what existing and/or approved development should consist of. In the current context it is considered appropriate to consider other developments that have been allocated in a plan, developments that have been consented or remain under formal consideration in the planning process.

18.5 The ES for the HNRFI will consider which other developments have the potential for cumulative effects on the same receptors as the project within a defined geographical area known as the Zone of Influence (ZOI). The significance of the cumulative effects needs to be considered with regard to the effects on specific environmental receptors, which will include the characteristics of the natural environment as well as the neighbouring residents/communities.

BASELINE ASSESSMENT

18.6 The baseline assessment will be defined by the effects of the proposed

development on the environmental receptors as set out in the technical chapters of the ES in conjunction with other projects that are expected to be completed before construction of the project. This baseline position will be used to compare the significance of the impact on environmental receptors when taking into account the cumulative impact of the proposed development and the shortlisted other development in the ZOI.

POTENTIAL ENVIRONMENTAL EFFECTS

18.7 It is not intended to address every individual receptor contained within the technical chapters of the ES for potential cumulative environmental effects. The receptors to be considered in the context of cumulative impact will be those that are identified as sensitive to the cumulative effects of the shortlisted development to be taken forward for CEA within the ZOI.

18.8 EIA topics with potential for cumulative and transboundary effects are the socio-economics and transport and traffic. Most of the technical analyses in the ES are considered likely to identify effects sensitive to site only or in the immediate locality, such that they will not be affected or influenced cumulatively by other development. It is proposed that these latter topics will be scoped out of the CEA, with appropriate justification given in the ES.

PROPOSED SCOPE OF THE ASSESSMENT

18.9 Given the scale and nature of the project it is acknowledged that a broad spatial and temporal ZOI is generally expected. The Planning Inspectorate has provided in advice note seventeen a methodology to approaching CEA in the context of NSIPs. PINS encourage applicants to follow this methodological approach where it is appropriate to do so and it is intended to adopt this approach where possible.

18.10 This scoping report provides the first step of stage 1 of PINS suggested methodology to establish the projects ZOI in respect of each of the technical chapters of the ES.

Table 18.1: Zones of influence to be employed in the assessment of cumulative effects - summary table

Environmental Topic	Zone of Influence (ZOI)
Socio-economic	The ZOI will be the primary impact area surrounding the development site defined as the area within commuting distance of the

	proposed development. The site will be accessed from the M69, with public transport services and local footpath and cycleways provided, so workers will be able to access the site using a number of modes of transport. The ZOI will be determined in conjunction with the transport consultants accounting for the predicted catchment area the workers would commute from. 2011 census travel to work data will inform the ZOI. Consideration will be given to any relevant major employment sites or commitments within the ZOI.
Transport and Traffic	The defined study area of the highway network will be used to determine the ZOI for considering cumulative effects. It is anticipated that the Leicester and Leicestershire Integrated Transport Model will form an initial assessment of the change in traffic flows arising from the development proposals across the network. This will identify the change in traffic flows and therefore the extent of the area to be considered as the ZOI to consider cumulative effects of other development.
Air Quality	The AQMAs will be defined in the area. Blaby District Council has four declared although none of these is located within close proximity of the site. The ZOI will be defined by the TA in considering commuting distances and any cumulative impact expected from traffic generation, distribution and associated emissions from other strategic development in the ZOI.
Noise and Vibration	Highly site specific, with assessments and ZOI limited to within 1km of the site.
Landscape and Visual Effects	The landscape will be defined in accordance with GLVIA guidelines and following reference

	to defined landscape character areas and an assessment of the site surroundings, topography and characteristics a ZOI will be defined. The ZOI will be informed by the Zone of Theoretical Visibility. Given the relatively flat nature of the site and the intended design of the buildings it is considered likely that the ZOI on landscape can be refined to 5km from the site.
Ecology and Biodiversity	Assessment will be focussed on site specific effects and the ZOI will take into account strategic developments within 2km of the site. The distance from the closest European site at 11km considered in conjunction with the nature of the development is considered sufficient to scope this out of the ZOI.
Cultural Heritage	Buried archaeology is highly site specific with the ZOI limited to the site only. Given the location of above ground heritage assets within defined settlements and the topography of the site there is very limited scope for the development to significantly influence the setting of cultural heritage. It is therefore considered appropriate to refine the ZOI for consideration of cumulative effects of the project and other development on cultural heritage to within 2km of the identified heritage asset.
Surface Water and Flood Risk	Assessments based on the development site, with due regard to impacts on wider catchments of water courses. Flood risk and drainage issues will be managed on site within existing limits in accordance with best practice and as such there will be no cumulative effects with other development.
Hydrogeology	Assessments based on the development site, with due regard to contaminant impacts on wider catchments of water courses. Any risks to hydrogeology will be managed on site in

	accordance with best practice and as such there will be no cumulative effects with other development.
Geology, Soils and Contaminated Land	Highly site specific, with assessments and ZOI limited to the site only.
Materials and Waste	Highly site specific, with assessments and ZOI limited to the site only.
Energy and Climate Change	Highly site specific, with assessments and ZOI limited to the site only.

18.11 It is intended to develop a list of 'other development' as required by Stage 1 through desk based studies including the following.

- Planning Register searches of Blaby District Council and Hinckley and Bosworth Borough Council.
- Review of Development Plan Documents of Blaby District Council and Hinckley and Bosworth Borough Council.
- Leicester and Leicestershire 2050: Our Vision for Growth – Strategic Growth Plan
- PINS's on-line NSIPs register.

18.12 At this stage of scoping, the significant projects already identified as part of Stage 1 and to be taken forward to the shortlisting process of Stage 2 include:

- Daventry International Rail Freight Terminal (DIRFT) – Approximate distance from the project: 21km
- East Midlands Gateway Rail Freight Interchange (EMGRFI) – Approximate distance from the project: 33km
- Northampton Gateway Rail Freight Interchange (NGRFI) – Approximate distance from the project: 49km
- West Midlands Interchange – Approximate distance from the project: 55km

18.13 A planning application (local planning application reference number 17/01043/HYB) has recently been made for land east of J1 of the M69, 4 km to the south-west of the site. The application is for a 29,563 sq m storage and distribution facility, a 49,470 sq m industrial / storage and distribution unit and other associated uses. The cumulative effects of this application will be considered in the HNRFI air quality assessment.

18.14 The list of other developments identified will then be categorised into tiers based upon PINS methodology, which focuses on the level of certainty that can be attributed to each development. The following categories will be used:

- Tier 1 – Under construction, permitted or application under consideration – Greatest level of certainty.
- Tier 2 – Projects on PINS's Programme of Projects where a scoping report has been submitted – Less certainty.
- Tier 3 - Projects on PINS's NSIP register, where a scoping report has not been submitted, identified in a relevant development plan or identified in other plans and programmes where it is reasonably likely to come forward – Greatest level of uncertainty.

18.15 Stage 2 will then consider the temporal scope, scale and nature of these other developments as well as any other relevant factors to determine which developments should be taken forward to stage 3 and be subject to CEA. It is expected that many of the other developments identified, including other rail freight interchange projects, will be scoped out of the CEA due to their remoteness from the HNRFI site. Under these circumstances, justification will be provided for the exclusion of sites from the shortlist of other developments taken forward to CEA.

18.16 Stages 3-4 will be undertaken alongside preparation of the ES after the formal scoping opinion has been received. In summary, stage 3 would consist of information gathering and documentation in respect of the shortlisted developments and will be used to inform the CEA before Stage 4 and the assessment process. The assessment process will consider the shortlisted other developments and document whether cumulative effects may arise. Any adverse effects will be documented and appropriate mitigation plans will be developed and submitted as part of the DCO submission documentation.

18.17 The proposed method of assessing cumulative effects is in accordance with PINS' Advice Note 17 (Version 1): *Cumulative Effects Assessment* published August 2019. This Advice Note, however, predates the

current EIA Regulations. If Advice Note 17 is revised, the assessment of cumulative effects will follow PINS' up to date advice.

SUMMARY

18.18 The CEA will consider the cumulative effects of other development on representative receptors within a zone of influence of the project. This scoping report seeks to identify an agreed scope for identifying other developments which will also be discussed and agreed with the relevant local planning authorities as part of ongoing discussions in respect of the development proposals. Following agreement of a shortlist of 'other development' to be taken forward to CEA, the cumulative effects of the project in combination with the identified other development on receptors sensitive to cumulative impact will be considered in the ES. ◆

Nineteen ◆ Conclusions

TOPICS TO BE SCOPED OUT

19.1 This report has set out the Applicant's existing knowledge of the environment in the site and its surroundings, provided a description of the proposed HNRFI development and identified the anticipated likely significant environmental effects of the project during construction and operation. On the basis of existing knowledge it is concluded that no environmental topics should be 'scoped out' of the EIA at this stage.

19.2 Should this conclusion change materially in the light of accumulating knowledge, TSH will seek to receive a revised EIA scoping opinion from the Secretary of State.

REQUEST FOR A SCOPING OPINION

19.3 This report comprises TSH's formal request under Regulation 10(1) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 for an opinion as to the scope and level of detail, of the information to be provided in the environmental statement for the HNRFI project.

19.4 The applicant considers that it has complied with the requirements of Regulation 10(3) of the same Regulations concerning the information to be supplied with an EIA scoping opinion request.

PRELIMINARY ENVIRONMENTAL INFORMATION

19.5 TSH will produce a Preliminary Environmental Information Report (PEIR) to inform its statutory pre-application consultations about the project. According to Regulation 12 (2) of the EIA Regulations, preliminary environmental information is defined as information that has been compiled by the applicant and is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development).

19.6 The PEIR should enable specialist and non-specialist consultees to understand the likely environmental effects of the proposed development and should help to inform their consultation responses on

the proposed development. There is no requirement for the PEIR to replicate or be a draft of the Environmental Statement that will ultimately accompany the DCO application. However, TSH considers that it is appropriate to structure the PEIR in this way.

ENVIRONMENTAL STATEMENT FOR THE DCO APPLICATION

19.7 TSH's DCO application will be accompanied by an ES that complies with the EIA Regulations. The ES will reflect the scoping opinion here requested from the Secretary of State.

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