

A46 Newark Bypass

TR010065/APP/7.3

7.3 Draft National Policy Statement for National Networks Accordance Tables

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A46 Newark Bypass Development Consent Order 202[x]

DRAFT NATIONAL POLICY STATEMENT FOR NATIONAL NETWORKS ACCORDANCE TABLES

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1 Introduction

- 1.1.1 This Draft National Policy Statement for National Networks (NPSNN) Accordance Table (this "draft Accordance Table") relates to an application made by National Highways (the "Applicant") to the Secretary of State for Transport via the Planning Inspectorate (the "Inspectorate") under the Planning Act 2008 (the "2008 Act") for a Development Consent Order (DCO). If made, the DCO would grant consent for the A46 Newark Bypass (the "Scheme"). A detailed description of the Scheme can be found in Chapter 2 (The Scheme) of the Environmental Statement (ES) (TR010065/APP/6.1).
- 1.1.2 The Government published a draft NPSNN for consultation in March 2023. The consultation period ended in June 2023. The draft NPSNN may be subject to change following the consultation before being published in its designated form. Although this is currently in draft it is still a material consideration for the Secretary of State when determining whether to consent the DCO for this Scheme. This draft Accordance Table forms part of a suite of application documentation and is included in the application in compliance with Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the "APFP Regulations") which require "any other documents considered necessary to support the application". This draft Accordance Table provides an assessment of the Scheme's strategic alignment and conformity with the draft NPSNN. The Accordance Table is set out as follows:
 - Table 2.1: Scheme's Conformity with draft NPSNN Chapter 4 General policies and considerations; and
 - Table 2.2: Scheme's Conformity with draft NPSNN Chapter 5 Generic Impacts.
- 1.1.3 Each relevant paragraph in the draft NPSNN is set out with commentary as to the extent of compliance by the Scheme with its terms.
- 1.1.4 This draft Accordance Table references other relevant documentation as part of the Application and provides a summary where appropriate. The following documents have been used to inform the completion of this draft Accordance Table.
 - Draft Development Consent Order (TR010065/APP/3.1).
 - Consents and Agreements Position Statement (TR010065/APP/3.3).
 - Consultation Report (TR010065/APP/5.1) and Appendices (TR010065/APP/5.2).
 - Environmental Statement (TR010065/APP/6.1) (including Appendices (TR010065/APP/6.3) and Figures (TR010065/APP/6.2).
 - Environmental Statement Non-Technical summary (TR010065/APP/6.4).



- First Iteration Environmental Management Plan (EMP) (TR010065/APP/6.5).
- Habitats Regulations Assessment (TR010065/APP/6.6).
- Statement Relating to Statutory Nuisances (TR010065/APP/6.7).
- Case for the Scheme (TR010065/APP/7.1).
- Transport Assessment (TR010065/APP/7.4).
- Scheme Design Report (TR010065/APP/7.5).



2 Draft National Policy Statement for National Networks Accordance Tables

Table 2.1: Compliance with draft NPSNN Chapter 4

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4.2	Subject to the detailed policies and protections in this National Policy Statement (NPS), and the legal constraints set out in the Planning Act 2008, there is a presumption in favor of granting development consent for national networks Nationally Significant Infrastructure Projects (NSIPs) that fall within the need for infrastructure established in this NPS. The statutory framework for deciding NSIP applications where there is a relevant designated NPS set out in section 104 of the Planning Act 2008.	Chapter 3 and Chapter 4 of the Case for the Scheme (TR010065/APP/7.1) outlines the need for the Scheme. The A46 at Newark is a notable 'missing link' in the provision of a 143-kilometre high-quality dual carriageway route from Warwick to Lincoln, running along the A46, M69 and M1 around Leicester. The 6-kilometre single carriageway section at Newark acts as a bottleneck and causes congestion and delays, not only on the A46, but also on the A1 at its junction with the A46.
4.3	In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account: • its potential benefits, including faster and more reliable journey times, the facilitation of economic development,	 The current objectives of the Scheme are set out below: Improve safety through Scheme design to reduce collisions for all users of the A46 Scheme. Improve journey time and journey time reliability along the A46 and its junctions between Farndon and Winthorpe, including



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	including job creation, reducing geographical disparities, connectivity, housing, social and environmental improvement, and any long-term or wider benefits. • its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate, or compensate for any adverse impacts.	 all approaches and A1 slip roads. Accommodate economic growth in Newark-on-Trent and the wider area by improving its strategic and local connectivity. Deliver better environmental outcomes by achieving a net gain in biodiversity and improve noise levels at Noise Important Areas along the A46 between Farndon and Winthorpe junctions. Build an inclusive Scheme which improves facilities for WCH users where existing routes are affected. There is a strong needs case for the Scheme to address the significant existing congestion on the A46 at Newark, which is detailed in the Case for the Scheme (TR010065/APP/7.1) and the TA (TR010065/APP/7.4). As summarised in Chapter 5 of the Case for the Scheme (TR010065/APP/7.1) the results of the economic appraisal indicated that the Scheme is forecast to generate economic efficiency transport user benefits of £248.5 million. The greatest benefit relates to business users and providers, giving a benefit of £175.6 million.



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		This is predominantly resulting from business users, representing the highest proportion of trips benefiting from the improvements.
		The ES (TR010065/APP/6.1) also looks at the beneficial and adverse effects arising from the Scheme including potential cumulative effects and sets out the proposed mitigation measures required to avoid or reduce any significant adverse effects and any enhancements that are proposed.
		Mitigation measures required to avoid or reduce any significant adverse effects and enhancements proposed are set out in the ES (TR010065/APP/6.1).
		Measures required to mitigate the effects of the scheme has been considered throughout the design process. Mitigation includes both embedded and essential mitigation measures. Embedded mitigation measures are detailed within Section 2.5 of Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). Essential mitigation has also then been identified within the topic chapters (Chapters 5 to 15) of the ES (TR010065/APP/6.1). These essential



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		mitigation measures are included in the Register of Environmental Actions and Commitments (REAC) which forms part of the First Iteration Environmental Management Plan (EMP) (TR010065/APP/6.5), to be developed into a Second Iteration EMP prior to construction commencing. The mitigation measures within the Second Iteration EMP are secured and committed under Requirement 3 of the draft Development Consent Order (DCO) (TR010065/APP/3.1). Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan is secured by Requirement 12 of the draft DCO (TR010065/APP/3.1).
4.4	Should the Secretary of State decide to grant development consent for an application where details are still to be finalised, this will need to be reflected in appropriate requirements in the Development Consent Order. If development consent is granted for a proposal and a later stage the applicant	The requirements of the draft DCO (TR010065/APP/3.1) make provision, where appropriate, for consideration of elements of the detailed design of the Scheme in accordance with the Works Plans (TR010065/APP/2.3) and Engineering Plans and Sections (TR010065/APP/2.6).



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	wishes, for technical or commercial reasons, to construct it in such a way that it is outside the terms of what has been consented (for example, because its extent will be greater than has been provided for in terms of the consent), it will be necessary to apply for a change to be made to the Development Consent Order. The application to change the consent should be in line with the government's guidance on the procedures for making a change to a Development Consent Order for NSIPs and may need to be accompanied by environmental information to supplement that which was included in the original environmental assessment.	
4.5	Applications for road and rail projects (with the exception of those for strategic rail freight interchanges, for which the position is covered in paragraph 4.8 below)) will normally be supported by a business case prepared in accordance with Treasury Green Book principles and the Department's Transport Business Case guidance and Transport Analysis Guidance. Transport Appraisal Guidance assesses the costs, benefits, and risks of	The business case has been prepared in accordance with the Department for Transport's guidance on the assessment of major transport investments and Transport Analysis Guidance (TAG) and is aligned with His Majesty's Treasury Green Book principles. Chapter 5 of the Case for the Scheme (TR010065/APP/7.1) presents the anticipated economic case. These impacts are monetised in order to estimate the Scheme's economic



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	alternative ways to meet government objectives. It helps decision makers to understand the potential effects, trade-offs, and overall impact of options by providing an objective evidence base for decision making. The purpose of the economic dimension of the business case is to identify the proposal that delivers best public value to society, including wider social and environmental benefits; however, the economic case is one of five cases that comprise the business case, and government decisions are based on all five. The information provided will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the benefits and adverse impacts of a proposed development. It is expected that schemes brought forward through the Development Consent Order process by virtue of section 35 of the Planning Act 2008, should also meet this requirement.	 Key figures are set out below: The results of the economic appraisal indicate that the Scheme is forecast to generate transport user benefits of £248.5 million. The greatest benefit relates to business users and providers, giving a benefit of £175.6 million. This is predominantly resulting from business users representing the highest proportion of trips benefiting from the improvements. The Scheme will also lead to an increase in tax revenues, giving a benefit of £7.1 million. This is primarily due to an increase in fuel consumption as more vehicles move at a faster speed. The Scheme will provide safety benefits equivalent to £29.3m over the 60-year appraisal period; translated into 8.6 fewer fatalities, 81.6 fewer serious accidents and 594.3 fewer slight injuries The Scheme results in journey time reliability benefits of £29.4 million over the 60-year appraisal period.



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		 The Scheme is forecast to achieve wider economic benefits of £67.5 million. The noise impacts are positive, with the Scheme providing benefits of £5.106 million. However, GHG and air quality impacts are negative, with the Scheme providing disbenefits of -£56.416 million and -£1.747 million respectively. It should be noted this relates solely in relation to the economic assessment, in EIA terms neither are anticipated to result in significant effects this is further set out in Chapter 5 (Air Quality) and Chapter 14 (Climate and Carbon) of the ES (TR010065/APP/6.1).
4.6	The Department's Transport Appraisal Guidance is updated regularly. This is to allow the evidence used to inform decision-making to be up to date. Where updates are made during the course of preparing analytical work, the updated guidance is only expected to be used where it would be material to the investment decision and in proportion to the scale of the investment and its impacts.	The base model development process has been undertaken in line with the Department for Transport's guidance on the assessment of major transport investments and Transport Analysis Guidance (TAG).



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4.7	Applications for road and rail projects should be supported by a local transport model to provide sufficiently accurate detail of the impacts of a project. The modelling will usually include national level factors around the key drivers of transport demand such as economic growth, demographic change, travel costs and labour market participation, as well as local factors. The Examining Authority and the Secretary of State do not need to be concerned with the national methodology and national assumptions around key drivers of transport demand. An assessment of the benefits and costs of schemes under a range of scenarios should reflect future uncertainty, in addition to the core case. The modelling should be proportionate to the scale of the scheme and include appropriate sensitivity analysis to consider the impact of uncertainty on project impacts.	Chapter 6 of the TA (TR010065/APP/7.4) provides a summary of the transport models and their development. The modelling used throughout the Scheme is based on the Midlands Regional Transport Model 2 (MRTM2). The MRTM2 is one of five Regional Transport Models (RTM's) developed by the Applicant. The model is referred to as the A46 Traffic Model (A46TM) and was originally developed at the early stages of the development of the Scheme to assess the options being considered to address the issues experienced on the A46 Model composition and software is based on the MRTM2 and keeps the same structure of a highway supply model built using Simulation and Assignment of Traffic to Urban Road Networks (SATURN) software and a variable demand model system which uses a combination of the DfT's Dynamic Integrated Assignment and Demand Modelling (DIADEM) Variable Demand Modelling software and a bespoke graphical user interface (GUI) known as the National Highways Integrated Demand Interface (HEIDI).



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		The traffic model has been developed to analyse the impact of the Scheme on traffic flows and journey times on the road network. The model has a focus on the area immediately affected by the Scheme, but it also covers the whole of Great Britain. It includes a representation of the road network and looks at where the demand for trips starts and ends, split into five user classes.
		Understanding patterns of travel for different user classes allows for the way the Scheme provides benefits to businesses and individuals to be assessed. The model is used to inform traffic forecasts in the operational phase of the Scheme for three modelled years: 2028, 2043 and 2061.
		The forecast traffic model years have been defined based on information provided for the Scheme's construction and data availability for predicting future demand:
		 2028 (the year the Scheme is open to traffic). 2043 (an intermediate year, representing fifteen years after Scheme opening).



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		 2061 (a horizon year – the last year for which National Trip End Model data is available which forecasts the growth in traffic).
		The following forecasts have been produced for each forecast year:
		 Do Minimum forecasts – these use forecast future year trip matrices and future transport networks that exclude the Scheme option along the A46 corridor. Do Something forecasts – these replicate the Do Minimum forecasts, but also include the Scheme.
		High and low growth scenarios have been modelled as sensitivity tests to consider the impact of uncertainty on the Scheme.
4.10	NSIP applications need to include an environmental assessment. This assessment is undertaken under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) framework which requires	The ES (TR010065/APP/6.1) has been prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations).
	projects to be accompanied by an Environmental Statement. Regulation 14 of and Schedule 4 to the Environmental	The ES (TR010065/APP/6.1) presents a description of the Scheme, the likely significant effects (both beneficial and adverse) on the



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	Impact Assessment (EIA) Regulations set out the information that should be included in the environmental statement.	environment and, where necessary, provides mitigation to avoid, prevent, reduce or, if possible, offset any significant adverse effects. Regulation 14(3) of the EIA Regulations requires the ES (TR010065/APP/6.1) to be based on the most recent Scoping Opinion adopted. The ES (TR010065/APP/6.1) is based on the EIA Scoping Opinion (TR010065/APP/6.10) received from the Secretary of State in October 2022. A description of how each of the Scoping Opinion comments have been taken into account within the ES is contained within Appendix 4.1 (Scoping Opinion Schedule of Comments and Responses) of the ES Appendices (TR010065/APP/6.3).
4.11	A key part of the environmental assessment is the consideration of cumulative effects. The applicant should provide information on how the effects of the proposal would combine and interact with the effects of other development, where relevant. For most practical purposes this means that the applicant should consider the impact of other	Chapter 15 (Combined and Cumulative Effects) of the ES (TR010065/APP/6.1) considers the cumulative effects of the Scheme. Two types of cumulative effects have been considered: • Cumulative effects – effects that occur either as a result of changes caused by other developments reasonably acting cumulatively with the effects of the Scheme; and



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	existing and committed developments within an appropriate geographical area and assess the additional impact of their own development. Other evidence, for example, from a Transport Business Case, appraisals of sustainability of relevant NPSs or strategic environmental assessment of development plans, may assist the Secretary of State in reaching decisions on proposals and on mitigation measures that may be required. The Secretary of State should consider how the accumulation of, and interrelationship between, effects identified in the environmental assessment might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place.	Combined effects – effects from the combined effect of several different impacts acting together on a single receptor, such that the combined effect would be more significant than the individual effects. The approach to the assessment within the ES (TR010065/APP/6.1) aligns with the standards outlined in the DMRB LA 104 Environmental assessment and monitoring, and the Inspectorate Advice Note Seventeen: Cumulative Effects Assessment.
4.12	Under the Habitats Regulations, the Secretary of State must consider whether it is possible that a plan or project could likely have a significant effect (either alone or in combination with other plans or projects) on a protected site which forms part of the UK National Site Network	The Habitats Regulations Assessment (HRA) (TR010065/APP/6.6) is included within the DCO application. This considers whether the Scheme has the potential to result in significant effects on European sites which, in accordance with Regulation 3 of the Habitats Regulations, includes sites designated as part of Natura



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	(Special Areas of Conservation and Special Protection Areas) or on any site to which the same protection is applied as a matter of policy (i.e. listed or proposed Ramsar sites, potential Special Protection Areas, possible Special Areas of Conservation, and sites used to compensate for adverse effects of habitat sites). The term 'habitat sites' is used to refer collectively to such sites throughout this NPS. Such an assessment should be made with due regard to the conservation objectives of any relevant habitat site(s).	2000, or European marine sites and European offshore marine sites for the purposes of any of the retained transposing regulations. For ease of expressions and in line with the Inspectorate's Advice Note 10¹, the terms 'European Site(s)' has also been used throughout the HRA when referring to Ramsar sites, Special protection Areas (SPAs and Special Areas of Conservation SAC). The Screening (Stage 1) assessment identified the potential for likely significant effects associated with the temporary severance of lamprey migration routes (via artificial lighting) and the entrapment/isolation of lamprey individuals within the Farndon East flood compensation area (FCA) and Farndon West FCA, during flood events occurring within the lamprey migration and breeding period. An Appropriate Assessment (Stage 2) was undertaken with regards to the pathways with the potential to give rise to likely significant effects. Appropriate mitigation including more

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¹ Infrastructure Planning Commission (2022) Advice Note 10: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects [online] available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/ (last accessed June 2023).



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		detailed control of artificial lighting during night- time bridge works and the inclusion of fish escape passages within Farndon East FCA and Farndon West FCA are considered to prevent, or sufficiently reduce, the impact upon lamprey to achieve a negligible residual impact. No adverse impacts upon the integrity of the Humber Estuary SAC/Ramsar are therefore anticipated as a result of the Scheme.
		Embedded measures and essential mitigation measures detailed within the Stage 1 Screening and Stage 2 Appropriate Assessment respectively in the HRA (TR010065/APP/6.6) are considered to achieve an overall negligible residual effect upon lamprey. Likely significant effects associated within the Scheme, either alone or in-combination with any other projects or plans, can be ruled out. Therefore, there is no requirement to proceed to Stage 3 (Derogation).
4.13	The applicant should seek early advice of the appropriate Statutory Nature Conservation Body and provide the	See response to draft NPSNN paragraph 4.12 above.
	Secretary of State with such information as the Secretary of State may reasonably require, to determine whether or not the	Details of the topics and dates on which Natural England has been engaged are detailed in Chapter 8 (Biodiversity) of the ES



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	plan or project should proceed to the Appropriate Assessment stage of the Habitats Regulation Assessment.	(TR010065/APP/6.6), A scoping response by Natural England highlighted the potential for hydrological connection between the project site and the Humber Estuary SAC, and for consideration to be given to potential hydrological changes and water quality. Natural England has raised no objections to the methodology, mitigation and results of Stages 1 and 2 of the HRA process presented to them. An Environmental Technical Working Group (TWG) has been established to support continued and collaborative engagement with the Environment Agency, Natural England, Nottinghamshire County Council and Newark & Sherwood District Council. Engagement with the Environment Agency regarding the HRA (TR010065/APP/6.6) has informed the design of fish escape passages to reduce risk of fish entrapment in Farndon West FCA and Farndon East FCA, detailed in Environmental Masterplan of the ES Figures (TR010065/APP/6.2). Engagement with stakeholders is detailed in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) and in the HRA (TR010065/APP/6.6),



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4.14	Where a proposed plan or project is considered likely to have a significant effect on a habitats site, the applicant must provide sufficient information with the application to enable the Secretary of State to make an appropriate assessment of these likely effects in view of the site's conservation objectives. The assessment may consider the effect of any mitigation measures and the Statutory Nature Conservation Body must be formally consulted on the assessment and its advice considered. The applicant should also consider agreeing an Evidence Plan with the Statutory Nature Conservation Body to help determine the information required.	The HRA (TR010065/APP/6.6) is included within the DCO application, in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended), so that the Secretary of State can make an 'Appropriate Assessment' of the implications of the Scheme. Please also see response to draft NPSNN paragraph 4.12 above.
4.15	Such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, notwithstanding a negative assessment, there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest. The applicant must demonstrate that they have sought advice from the Statutory Nature Conservation Body on whether any	See response to draft NPSNN paragraph 4.13 above. Embedded mitigation measures are detailed within Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1), essential mitigation and compensation measures are detailed in Chapters 8 (Biodiversity) of the ES (TR010065/APP/6.1). These essential mitigation and compensation measures are



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	proposed compensation is appropriate to maintain the overall coherence of the National Sites Network. They must also show that the compensation is secured or provide an indication as to how it can be secured to maintain the overall coherence of the National Sites Network. Provision of such information will not be taken as an acceptance of adverse effects on integrity and if an applicant disputes the likelihood of adverse effects, it can provide this information without prejudice to the Secretary of State's final decision on the effects of the potential development on the habitats site. If, in these circumstances, the applicant does not supply information required for the assessment of a potential derogation, there will be no expectation that the Secretary of State will allow the applicant the opportunity to provide such information following the examination.	included in the REAC which forms part of the First Iteration EMP (TR010065/APP/6.5), to be developed into a Second Iteration EMP prior to construction commencing. The mitigation measures within the Second Iteration EMP are secured and committed under Requirement 3 of the draft DCO (TR010065/APP/3.1). Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan is secured by Requirement 12 of the draft DCO (TR010065/APP/3.1).
4.17	Applicants should comply with all legal requirements, and any policy requirements set out in this NPS, on the assessment of alternatives. For example, current requirements include:	Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) examines the complete suite of design variations of the Scheme design, including "a description of the reasonable alternatives (for example in terms of development design, technology, location, size



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	 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires projects with significant environmental effects to include 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; There may also be other specific legal requirements for the consideration of alternatives, for example, under the Conservation of Habitats and Species Regulations 2017 (as amended) and Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads, and Areas of Outstanding Natural Beauty (AONB) – where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives 	and scale) studied by the Applicant, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects", in line with the EIA Regulations. The Scheme development process has been informed by the requirements of legislation and policy (as detailed in Section 3.1) of Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1), consultation with stakeholders and the general public, and iterative environmental assessment. The FRA contained in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) has been undertaken because the majority of the Scheme is within Flood Zones 2 and 3. as the Scheme alignment passes through Flood Zone 3, therefore the Scheme does not automatically pass the Sequential Test. As the Scheme is utilising an existing highway route that passes through Flood Zone 3, it is not viable to relocate the works in a zone with a lower probability of flooding or to avoid crossing the A1, the River Trent and the other Watercourses. The Scheme



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	considered, in compliance with these requirements and in a proportionate manner.	alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during Options Selection of the Scheme. The Scheme is classed as Essential Infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be, and has been, assessed against the Exception Test. Further details are set out in the FRA contained in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3).
		Outstanding Natural Beauty (AONB), a National Park, or the Broads.
4.18	National road or rail schemes that have been identified in relevant Road or Rail Investment Strategies will have been subject to an options appraisal process where relevant in line with existing Transport Appraisal Guidance, and proportionate consideration of alternatives will have been undertaken as part of the investment decision making process. The options appraisal may include other viable options for achieving the objectives of the project, including (where appropriate) other	The Department for Transport's (DfT) Road Investment Strategy 2 2020-2025 (RIS2) recognises "the role of the A46 in connecting the Midlands, running from Lincoln to Gloucestershire via Leicester and Coventry" and states that "much of this road is already high-quality dual carriageway, and by filling in key sections it would be possible to create a coast-to coast highway without the need for major new roadbuilding across open countryside. The single greatest gap in this route is the A46 at Newark". The Scheme has



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	modes of travel, regulation, or other ways of influencing behavior in line with Department for Transport guidance. The Examining Authority and the Secretary of State should satisfy themselves that the options appraisal process has been undertaken.	been through an options appraisal process in line with Transport Appraisal Guidance and proportionate consideration of alternatives has been undertaken as part of the investment decision making process. Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) sets out the main alternatives considered by the Applicant and how the preferred option was determined through consideration of environmental effects at different stages in the design development process.
		An Alternative Modes Assessment was carried out in 2021 by the Applicant, which confirmed that the existing public transport network does not generally offer comparable alternatives to car for most movements. Small traffic flows were distributed over a large area and therefore are not suited to be catered for by public transport. Local demand in aggregate accounts for a sizeable proportion of traffic using the A46 at Newark. Therefore, a review of the largest public transport flows (represented by local bus services) suggested that there was no obvious non-highways interventions that could cater to



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		any substantial proportion of these flows.
4.19	Where an options appraisal process has been undertaken, it should not be necessary to consider alternatives except where para 4.17 applies or in the wholly exceptional circumstances where case law would require consideration of alternatives as the proposed development involves such obvious adverse effects that the possibility of an alternative site or an alternative location within the site proposed by an applicant avoiding such adverse effects becomes a relevant planning consideration. In those exceptional circumstances where alternatives might be relevant, consideration of them should be proportionate. Where alternative schemes proposed are vague or inchoate, or have no real possibility of coming about, they are either irrelevant, or where relevant, will be given little or no weight, and the extent to which they are considered should be determined accordingly.	An options appraisal assessment has been undertaken. Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) examines the complete suite of design variations of the design and sets out the full options appraisal process.
4.20	Biodiversity net gain is an approach to development that delivers measurable	Whilst the Scheme will achieve an overall net gain in habitat units within the Order Limits



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	improvements for biodiversity by creating or enhancing habitats in association with developments. Applicants should therefore not just look to mitigate direct harms, but also identify and deliver appropriate opportunities for nature recovery and wider environmental opportunities by providing net gains for biodiversity.	there is an exception to this regarding the areas of impact and compensation for lowland meadow. Impacts to lowland meadow will need to be agreed separately with Natural England through a bespoke compensation agreement. Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices (TR010065/APP/6.3).
4.21	Applicants should use the most appropriate version of the Department of Environment, Food and Rural Affairs (Defra) biodiversity metric (as advised by Defra) to calculate their biodiversity baseline and inform their biodiversity net gain outcomes, and to present this data as part of their application. Biodiversity net gain should be applied in conjunction with the mitigation hierarchy and does not change or replace existing environmental obligations.	To calculate the percentage change in 'habitat units' from the Scheme, the pre-development (baseline) and post-development (proposed) value of the habitats within the Scheme were entered into the Natural England Biodiversity Metric 3.1 calculation tool. Although Biodiversity Metric 4.0 was published on 19 April 2023, the Natural England webpage for Biodiversity Metric 4.0 states that users of Biodiversity Metric 3.1 should continue to use the 3.1 metric for the duration of the Scheme. This approach was agreed with Natural England, the Environment Agency and the Nottinghamshire County Council (NCC) County Ecologist and is set out in the BNG Technical Report in Appendix 8.14 of the ES Appendices (TR010065/APP/6.3).



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		The Statutory Biodiversity Metric was published on 12 February 2024 mandating BNG for major developments, except for nationally significant infrastructure projects which will come into force from late November 2025. The same justification applies for the application of Biodiversity Metric 3.1, instead of a newer revision.
4.22	Biodiversity net gain can be delivered onsite or wholly or partially off-site and should also be set out within the application for development consent. When delivering biodiversity net gain off-site, development should do this in a manner that best contributes to the achievement of relevant wider strategic outcomes, for example, by increasing habitat connectivity or enhancing other ecosystem service outcomes. Reference should be made to any Local Nature Recovery Strategy (which should be the primary reference point for those delivering biodiversity net gain off-site) and other relevant national and local plans and strategies, such as green infrastructure strategies, used to inform Biodiversity net gain delivery.	In addition to onsite habitat creation, compensation is currently anticipated to be provided offsite at Doddington Hall located approximately 13 kilometres north-east of the Scheme (or another suitable solution), as detailed in the BNG Technical Report in Appendix 8.14 of the ES Appendices (TR010065/APP/6.3). This would involve enhancement of an existing area of woodland. The specific type and amount of habitat required off site is hard to come by in a single land holding (i.e., without needing to enter numerous agreements with different landowners to achieve the requirements). The habitat enhancement described above would be secured through a legal agreement with the landowner. This would include the initial works to allow the habitat enhancement to commence as well as



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		management over a 30 year timescale. The Government's Environmental Improvement Plan 2023 for England describes an ambition to halt the decline in our biodiversity so we can achieve thriving plants and wildlife. This ambition is supported by the National Planning Policy Framework (NPPF)² which makes general provisions for the delivery of BNG. The NPPF states that "plans shouldidentify and pursue opportunities for securing measurable net gains for biodiversity" although no numerical definition of "net gains for biodiversity" is provided. Local planning policy relevant to BNG includes the Newark & Sherwood Amended Core Strategy (Adopted March 2019). Spatial Policy 9 includes the requirements that development should: Not impact on sites that are designated nationally or locally for their biodiversity and give preference to sites of lesser environmental value, avoid impact on biodiversity and provide net gains in biodiversity wherever possible. The

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² Department for Levelling Up, Housing & Communities (December 2023). National Planning Policy Framework [online] available at: National Planning Policy Framework - GOV.UK (www.gov.uk) (last accessed December 2023)



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		Nottinghamshire Biodiversity Action Plan (BAP) outlines the approach to biodiversity in Nottinghamshire and sets out the habitats and species of conservation concern in the county. Habitat Action Plans and Species Action Plans are set out for these local priorities including targets for protection, enhancement and creation of habitats.
		There is currently no existing Local Nature Recovery Strategy (LNRS) which covers the area of the Scheme; however, the Scheme will be located within the Nottinghamshire and Nottingham LNRS when it is published (anticipated to be 2025). The following paragraph shows how the Applicant has contributed to the aforementioned goals. The proposed locations for woodland enhancement form part of a network of approx. 2.6ha of woodland within the Doddington Hall Estate. The proposals will increase habitat quality in two key locations within a continuous belt of woodland around the estate's southern perimeter. Enhancements in the locations selected will provide a strong benefit in increasing populations and strengthening habitat connectivity for woodland dependent



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		the Greater Lincolnshire Local Nature Partnership (LNP) to undertake habitat restoration in the area between Doddington Hall Estate and Whisby Nature Park, an area of high-quality habitats created from mineral site restoration to the south. The proposed woodland enhancement will support the goals of the LNP by improving habitat quality in an adjoining area thereby also contributing to habitat connectivity at a larger scale. The proposals also provide social benefit by improving the quality of the natural environment in areas that are accessible to the public through rights of way and cycle tracks. They are in close proximity to the urban center of Lincoln including the Birchwood area across the A46 and can be accessed by over 250,000 visitors per year to Doddington Hall.
4.23	A government Biodiversity Gain Statement will set out the concept for Biodiversity net gain for NSIPs. The Secretary of State will need to be satisfied that the biodiversity gain objective in any relevant biodiversity gain statement has been met.	Please refer to draft NPSNN paragraph 4.20 above
4.24	Applicants should include design as an integral consideration from the outset of a proposal. Applying good design to national	The Applicant has prepared a Scheme Design Report (TR010065/APP/7.5) which summarises the design policy context and which discusses



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	network projects should not be limited to general aesthetics. High quality and inclusive design goes far beyond aesthetic considerations. It demonstrates an understanding of context, local needs, history and culture, enhances local landscape character and is adaptable to future needs and technologies. The National Infrastructure Design Principles describes good design as: • a key aspect of sustainable development. It includes opportunities to enable decarbonisation, incorporates flexibility, and builds resilience against climate change. The functionality of projects, including fitness for purpose, resilience, and sustainability, is equally important. • helping to improve the quality of life for local communities. It promotes inclusion, cohesion and increases accessibility. It creates safe spaces with clean air that improve health and wellbeing. • giving places a strong sense of identity, creating a sense of place, connecting communities, addressing	the overarching design principles to respond to the design objectives set out in the NPSNN, The Road to Good Design, Design Principles for National Infrastructure and Technical Design Standards for the Scheme. The Scheme Design Report (TR010065/APP/7.5) demonstrates how 'good design' was considered across the Scheme design and how this design minimises social and environmental impacts. The Scheme Design report also sets out the climate change adaption measures designed into the Scheme including the design of the attenuation ponds. The ES (TR010065/APP/6.1) sets out the effects of the Scheme and the measures designed to mitigate likely significant environmental effects arising from the Scheme. Where specific design, mitigation and enhancement measures have been applied, these are reported under each individual technical chapter of the ES (TR010065/APP/6.1) and are summarised in the ES Non-Technical Summary (TR010065/APP/6.4). Environmental commitments and key



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	community severance, and integrating into its surroundings. It makes a positive contribution to the local landscapes within and beyond the project boundary. Good design enhances local culture and character and supports local ecology, delivering net biodiversity net gain, while protecting wildlife corridors and irreplaceable nature assets and habitats. • adding value by defining issues clearly from the outset. Good design also finds opportunities to add value beyond the main purpose of the infrastructure to consider the wider benefits savings on cost, the environment, materials, and space. It is efficient in the use of natural resources, sustainable materials and energy used in construction.	performance indicators contained within RIS2, and its associated Strategic Business Plan and Delivery Plan have been considered throughout the Scheme design-development and EIA process to date. These have helped to minimise social and environmental impacts of the Scheme and promote improvements in quality of life. The design of the Scheme is described in Chapter 2 (The Scheme) of the Environmental Statement (ES) (TR010065/APP/6.1) along with the mitigation embedded within it. Mitigation measures to minimise any resulting social and environmental impacts are presented in the REAC) which within the First Iteration EMP (TR010065/APP/6.5). Examples of embedded mitigation include: • Visual appearance: Careful integration of earthworks into the landscape, shaping the new landform sympathetically to integrate the Scheme into the receiving landscape. • Functional: Access in and around the new junctions to accommodate WCH users as required.



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		 Fitness for Purpose: Road restraint systems providing protection from features which may present a hazard, such as high embankments. Traffic signs at appropriate locations to provide route and destination information. Sustainable: Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to Local Wildlife Sites (LWSs) and priority habitats. Cost: A Design for Resource Efficiency (D4RE) online workshop to identify opportunities to improve resource efficiency during the design stage. This would ensure cost savings are maximised by considering waste minimisation initiatives and identifying opportunities to reduce, reuse or recycle waste materials and improve resource efficiency. For example, the following opportunities have been incorporated into the Scheme design: Repair and reuse of drainage along the existing carriageway.



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		 Retain as much soil as possible utilising soil restoration for carbon sequestration.
		 Recycle road pavement that is removed.
		Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) details the mitigation hierarchy implemented to protect habitats of ecological value and the wildlife they support, irreplaceable nature assets (e.g., lowland meadow habitat of principal importance (HPI). Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) details the planting design for the continuous provision of wildlife corridors along the A46 carriageway, with enhancement to existing hedgerows to provide connectivity surrounding landscape, planting of attenuation ponds for biodiversity (including stepped-ledges along the water's edge), creation of wetland areas in Farndon West and East burrow pits with integrated fish escape passages to prevent fish entrapment.
		Table 3-11 of Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) also summarises the design developments that have taken place following the statutory



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		consultation and the targeted consultation to produce the design which forms the application for development consent. Further information on how the Applicant has responded to the feedback received at statutory consultation is detailed in the Consultation Report (TR010065/APP/5.1) and Consultation Report Annexes (TR010065/APP/5.2).
4.25	A good design should meet the principal objectives of the scheme by applying the mitigation hierarchy to avoid, eliminate or substantially mitigate the identified problems and existing adverse impacts, by improving operational conditions, simultaneously minimising adverse impacts and contributing to the conservation and enhancement of the natural, built and historic environment. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into economic, social, and environmental impacts.	See response to draft NPSNN paragraph 4.24 above. The Scheme Design Report (TR010065/APP/7.5) outlines how the Scheme design was an iterative process, undertaken by an integrated design team to adhere to the principles of the design and mitigation hierarchy outlined in DMRB LA104 Environmental Assessment and Monitoring. The first principle of the design and mitigation hierarchy outlined in DMRB LA 104 is to avoid potential adverse effects, if at all possible, before seeking to minimise or mitigate any unavoidable impacts through a well-developed mitigation strategy. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the ES



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		(TR010065/APP/6.1). In addition, the Scheme Design Report (TR010065/APP/7.5) outlines how the Scheme meets National Highways' ten principles of good road design, including good road design being long-lasting. For example, all structures have been designed with due regard to the long-term maintenance requirements and in accordance with DMRB CD350 'The design of highway structures'. All structures have been designed to a design life of 120 years.
		How the Scheme meets the key objectives of the Scheme is set out in Chapter 3, Table 3.1 of the Case for the Scheme (TR010065/APP/7.1), of which one of the key objectives is to deliver better environmental outcomes.
4.26	In light of the above, scheme design will be a material consideration in decision making. The Secretary of State needs to be satisfied that national networks infrastructure projects are sustainable, having regard to appropriate industry good design guidance, and the applicant has considered, as far as possible, both	The Scheme Design Report (TR010065/APP/7.5) outlines in Annex A the Design Principles of the Scheme. The Report also outlines how the Scheme meets appropriate industry good design guidance and sets out how independent advice from Design: Midlands' Design Review service on the design aspects of the Scheme have been considered.



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	functionality (including fitness for purpose and sustainability) and aesthetics (including the scheme's contribution to the quality of the area in which it would be located).	The Applicant has considered, as far as possible functionality and aesthetics. The finish to new bridges and culverts would generally be similar to the existing adjacent structures and where possible wing walls would be formed with split block facing in a stretcher bond layout. At Cattle Market the split block facing would—have a red coloured lower section to link in with the adjacent Smeaton red brick parapet walls with the introduction of local artwork to the walkway/cycleway route abutment wall being considered during the detailed design stage. Further details ae set out Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
4.27	Applicants should have regard to the National Design Guidance, National Model Design Code, Local Nature Recovery Strategies, Local Air Quality Plans, the purposes of National Parks, Areas of Outstanding Natural Beauty, the Broads and any local design codes.	The Scheme Design Report (TR010065/APP/7.5) outlines consideration for national and local design policy including the National Planning Policy Framework design polices, National Policy Statement for National Networks design policies and the Newark and Sherwood LDF design policies. This is set out Chapter 3 (Policy Context) of Scheme Design Report (TR010065/APP/7.5). All of the chapters within the ES



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		(TR00065/APP/6.1) set out the principal legislative and planning policy context for the assessments, for each topic assessed.
		Section 8.3 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) outlines principal legislative and planning context for the assessment of the environmental effects of the Scheme on biodiversity, including local policy.
		Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) outlines principal legislative and planning context for the assessment of the environmental effects of the Scheme on air quality, including local policy.
		The Scheme is not located within an AONB, a National Park, or the Broads.
4.28	In their application, applicants should be able to demonstrate how the design process was conducted, effective engagement with communities and stakeholders and how the proposed design evolved to maximise design outcomes. Where a number of different designs were considered, applicants should set out the	Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) examines the complete suite of design variations of the preferred option, including "a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the Applicant, which are relevant to the proposed project and its specific
	reasons why the favoured choice has been	relevant to the proposed project and its specific characteristics, and an indication of the main



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	selected with a clear articulation of its benefits. The Examining Authority and the Secretary of State should consider the ultimate purpose of the infrastructure and the operational, safety and security requirements which the design must satisfy.	reasons for selecting the chosen option, including a comparison of the environmental effects", in line with the EIA Regulations. This demonstrates the rationale and decisions made for the final preliminary design to be submitted as part of the DCO application. Following the presentation of the Scheme at Statutory Consultation in October to December 2022, the Scheme design evolved as a result of the feedback received during Statutory Consultation and discussions held with consultees (including statutory and other environmental bodies) as part of the Technical Working Groups. Details on how the Applicant has responded to the feedback received during the Statutory Consultation is detailed in the Consultation Report (TR010065/APP/5.1) and the Consultation Report Annexes (TR010065/APP/5.2).
		Table 3-11 of Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1) also summarises the design developments that have taken place following the Statutory Consultation and the further targeted



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		consultation to produce the design which forms the application for development consent. These design developments have been integrated into the current Scheme presented and therefore the design that has been assessed within the ES (TR010065/APP/6.1). Detail on the design process and how it has evolved is also set out in the Scheme Design Report (TR010065/APP/7.5).
4.29	Applicants should consider taking independent professional advice on the design aspects of a proposal. A project board level design champion could be appointed, and a representative design panel used to maximise the value provided by the infrastructure. Also, the Design Council can be asked to provide design review for NSIPs, and applicants are encouraged to use this service.	The Applicant sought independent advice on the design aspects of the Scheme from Design: Midlands, utilising their Design Review service. The Design: Midlands Panel comprises a wide range of experts from the built environment field, i.e., architects, urban designers, landscape architects, surveyors, sustainability experts, heritage experts etc. who provide expert, independent and impartial advice. The Design Review Panel was led by the Design Panel Manager and joined by representatives from National Highways and the Principal Contractor Further details on this review is set out in section 6.3 of the Scheme Design Report (TR010065/APP/7.5).
		The scope of the design review was to look at



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		the design of the Scheme and to provide views in the context of 'The Road to Good Design' ten principles of good road design.
4.32	Article 7 of the Paris Agreement establishes a global goal on adaption – of enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change in the context of the temperature goal of the Agreement. It aims to significantly strengthen national adaption efforts, including through support and international cooperation.	Section 14.3 of Chapter 14 (Climate) of the ES (TR010065/APP/6.1) presents the principal legislation and planning context for the assessment of the environmental effects of the Scheme on climate and the vulnerability of the Scheme to climate change, covering the requirements of the Paris Agreement. The remainder of the chapter includes the methodology to assess, the assessment results and mitigation for the Scheme to improve the resilience of the Scheme.
4.33	To support planning decisions, the government produces a set of UK Climate Projections and has developed a National Adaption Programme. In addition, the government's Adaption Reporting Power invites authorities (a defined list of public bodies and statutory undertakers, including National Highways, Network Rail and the Office for Rail and Road) to assess the risks presented by a changing climate, include policies and actions to address climate risk and set out progress made.	The assessment on the vulnerability of the Scheme to climate change has included the UK Climate Projections (UKCP18) and where appropriate, mitigation measures through the design have considered these projections. Details on the projections and the mitigation are presented in Chapter 14 (Climate) of the ES (TR010065/APP/6.1). Enhancement measures for resilience of the Scheme to climate change will further be considered as part of the detailed design



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4.34	In certain circumstances, measures implemented to ensure a scheme can adapt to climate change may give rise to additional impacts. For example, as a result of protecting against flood risk, there may be consequential impacts on coastal change (see paragraphs 5.95 to 5.110). If	development. Measures to improve the resilience of the Scheme to climate change, are embedded into the design through consideration of future climate change in the critical aspects, for instance the drainage design has considered a 30% uplift to account for climate change. As these measures are embedded in the design
	this happens, the Secretary of State should consider the impact of the latter in relation to the application as a whole and the impacts guidance set out in chapter 5 of this NPS.	they are inherently included in the environmental assessment and the measures specifically result in minor changes to design. Therefore, the measures implemented through the design to improve the resilience of the Scheme to climate change, as detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1), are not considered to result in additional impact due to the nature of the measures being embedded in the design
4.35	In preparing measures to support climate change, adaptation applicants should consider whether nature-based solutions could provide a basis for such adaptation. In addition to avoiding further greenhouse gas emissions when compared with some more traditional adaptation approaches, nature-based solutions can also result in	and the sensitivity of the surrounding area. The use of Sustainable Urban Drainage Systems (SuDS) is the key driver of the drainage and flood risk strategy, utilising nature based solutions to minimise flood risk and maximise additional benefits. Details of the drainage strategy are within the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3). Further to



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	biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere (see also paragraphs 5.170 to 5.194) on the role of green infrastructure).	the use of SuDS, the landscape design has provided additional habitat creation and enhancement which has resulted in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1). Examples of nature based solutions detailed in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) include reinstatement of grass banks along Slough Dyke following its realignment (rather than hard infrastructure within the channel), provision of reedbeds and connected ponds within Farndon West and East FCAs and planting of attenuation basins for biodiversity.
4.36	New national networks infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the direct (e.g., flooding of road or rail infrastructure) and indirect (e.g., flooding of other parts of the road or rail network) impacts of climate change when planning the location, design, build, operation and maintenance. The Secretary of State will	The climate projections can be found within Chapter 14 (Climate) of the ES (TR010065/APP/6.1). The future climate baseline for the Scheme has been derived from the Met Office United Kingdom Climate Projections 2018 (UKCP18) tool which provides projections for future climate change across the UK against a range of future climate scenarios.



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	need information on how the proposal will take account of the projected impacts of climate change and remain resilient.	Given the 120-year design life of the Scheme, and using the approach described above, the following climate change scenarios for given time periods has been chosen for this assessment:
		 UKCP18 probabilistic projections, 1981-2000 baseline, RCP8.5, 10th, 50th and 90th percentile, 2040-2059 (2050s) and 2080-2099 (2090s). UKCP18 probabilistic extreme projections, RCP8.5, 10th, 50th and 90th percentile, 1 in 20, 1 in 50 and 1 in 100-year return periods, 2055 and 2095.
		The assessment concluded no significant effects are anticipated for the resilience of the Scheme to climate change, due to the embedded mitigation measures in the design and the sensitivity of the area. Mitigation measures include:
		Structural design in line with standards considering the impacts of future climate change on wind load and thermal action.



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		 A 40% climate challenge allowance, or uplift to for the drainage design sensitivity checks.
		A 30% increase in rainfall considered for the highway's drainage design. Further details on mitigation are set out within Chapter 14 (Climate) of the ES (TR010065/APP/6.1).
4.37	The Secretary of State should be satisfied that applications for new national networks infrastructure have taken into account the potential direct and indirect impacts of climate change. This should include using the latest UK Climate Projections and associated research and expert guidance (such as the Environment Agency's Climate Change Allowances for Flood Risk Assessments) applicable at the time the environmental assessment was prepared as part of their Development Consent Order application, to ensure they have identified mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure, with a high level of climate resilience built-in from the outset. The applicant should also be able to demonstrate how proposals can be	See response to draft NPSNN paragraphs 4.34 and 4.36 above.



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	adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario. Should a revised set of UK Climate Projections or associated research be applicable after the preparation of environmental assessment, the Examining Authority should consider whether they need to request further information from the applicant.	
4.38	The Secretary of State should be satisfied that there are no features of the design of new national networks infrastructure critical to its safety or operation which may be seriously affected by more radical changes to the climate. Beyond that projected in the latest set of UK climate projections and taking account of the latest credible scientific evidence on, for example, sea level rise. The Secretary of State should also be satisfied that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime.	The assessment in relation to climate change can be found within Chapter 14 (Climate) of the ES (TR010065/APP/6.1). This also sets out how there are no critical features of the design or new national networks infrastructure which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections, as such no further action is deemed necessary. The Principal Contractor is to engage the subcontractors and suppliers to support the development of the Carbon Management Plan on the provision of the following:
		Low/zero carbon solutionsCompetency/training requirementsReporting expectations



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		Collaboration requirements
		A construction Carbon Management Plan will be completed by the Principal Contractor as part of the Second Iteration EMP and will include the following topics:
		 Procurement Materials and resource management on site Change process for low/zero carbon solutions Low/zero carbon plant and management Construction techniques and competency Training matrix
		The Scheme has been designed to ensure the lifetime operation is as efficient as possible, ensuring whole-life low carbon, supporting the Applicant's ambitions.
		Opportunities identified during the design and construction of the Scheme for during operation will be captured within the Opportunities Log which will be updated by the Principal Contractor and handed over to the maintenance provider to pursue as part of the Third Iteration EMP. The Third Iteration EMP will be



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	developed from the Second Iteration EMP following completion of construction and will detail those commitments and measures to mitigate the impacts of the Scheme during operation, which are included in the First Iteration EMP (TR010065/APP/6.5). The development and implementation of the Third Iteration EMP is secured by requirement 4 of the draft DCO (TR010065/APP/3.1).
Any adaptation measures should be based on the latest set of UK Climate Projections, the government's latest UK Climate Change Risk Assessment, when available and in consultation with the Environment Agency's Climate Change Allowances for Flood Risk Assessments. Any adaptation measures must themselves also be assessed as part of any environmental assessment, which should set out how and where such measures are proposed to be secured.	Measures to improve the resilience of the Scheme to climate change, are embedded into the design through consideration of future climate change based on the future climate projections. The drainage design includes climate change allowances which have been consulted on with the Environment Agency. The measures are embedded in the design and as such have been assessed as part of the environmental assessment of the design. The mitigation measures and assessment were based on the UKCP18 scenarios and are detailed within Chapter 14 (Climate) of the ES (TR010065/APP/6.1).
Adaptation measures should be required to be implemented at the time of construction	See response to draft NPSNN paragraph 4.34.
	Any adaptation measures should be based on the latest set of UK Climate Projections, the government's latest UK Climate Change Risk Assessment, when available and in consultation with the Environment Agency's Climate Change Allowances for Flood Risk Assessments. Any adaptation measures must themselves also be assessed as part of any environmental assessment, which should set out how and where such measures are proposed to be secured. Adaptation measures should be required to



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	However, where they 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 (for example, 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 (for example, reserving land for future extension or increasing the height of existing, or requiring new, sea walls). In these circumstances, the applicant should make a case to justify implementing adaptation measures later, set out clearly how the design could be adapted and have mechanisms in place (such as Development Consent Order requirements) for monitoring and implementing of these future adaption measures.	
4.43	Issues relating to discharges or emissions from a proposed project which lead to other direct and indirect impacts on air quality, water quality and land quality, or which include noise, light and vibration,	The Consents and Agreements Position Statement (TR010065/APP/3.3) details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.



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	may be subject to separate regulation, under the pollution control framework or other consenting and licensing regimes. Relevant permissions will need to be obtained for any activities within the development that are regulated under those regimes before the activities can be operated.	
4.44	Pollution from industrial sources in England and Wales is controlled through the Environmental Permitting (England and Wales) Regulations 2016 (the Environmental Permitting Regulations). Some projects covered by this NPS may	The Consents and Agreements Position Statement (TR010065/APP/3.3) details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.
	be subject to the Environmental Permitting Regulations regime, which also incorporates operational waste management requirements for certain activities. When an applicant applies for an Environmental Permit, the relevant regulator (usually the Environment Agency but sometimes the local authority) requires that the application demonstrates that processes are in place to meet all relevant Environmental Permit requirements.	The Scheme is subject to the Environmental Permitting Regulations, as the Scheme is not seeking to disapply this consent as part of the draft DCO (TR010065/APP/3.1), as requirements are largely dependent on the final detailed design, the detailed construction site set up and methodologies, and discussions with the consenting authorities from whom consents may be required. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the draft DCO (TR010065/APP/3.1). Therefore, a number of



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		Environmental Permits will be sought post consent under the Environmental Permitting (England and Wales) Regulations 2016, these are detailed in Appendix A of the Consents and Agreements Position Statement (TR0100065/APP/3.3).
		Discussions with the Environment Agency and Local Authority (where applicable) will take place post DCO consent, in advance of construction works requiring such permits to confirm the need and requirements for these permits.
4.46	Applicants are encouraged to begin preapplication discussions with relevant regulators, such as the Environment Agency and the Marine Management Organisation, as early as possible. Where applicants wish to parallel track Development Consent Order and Environmental Permit applications, applicants should start work towards submitting the permit application at least 6 months prior to the submission of an application for a Development Consent	The Applicant has engaged with statutory environmental bodies (the Environment Agency, Natural England and Historic England) and there will be ongoing engagement as the Scheme progresses. Information on engagement that has taken place, and areas of agreement and disagreement identified during pre-application consultation with the relevant Consultee, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the Development Consent



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	Order. This will help ensure the applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the Examining Authority.	Order examination. Further details on the engagement undertaken can be found in Chapter 3 Table 3.2 of the Consultation Report (TR010065/APP/5.1). The Consents and Agreements Position Statement (TR010065/APP/3.3) details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained including any permits required from the Environment Agency. There is no engagement with the Marine Management Organisation required- see response to draft NPSNN paragraph 4.47 below.
4.47	Applicants must consult the Marine Management Organisation on national network NSIPs which could affect any relevant marine areas as defined in the Planning Act 2008 (as amended by section 23 of the Marine and Coastal Access Act 2009). Applicants are encouraged to consider the relevant marine plans in advance of consulting the Marine Management Organisation. The Secretary	The Scheme will not affect any relevant marine areas as defined by the Planning Act 2008 (as amended by section 23 of the Marine and Coastal Access Act 2009) and therefore the Applicant has not consulted the Marine Management Organisation.



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	of State's consent may include a deemed marine licence and the MMO will advise on what conditions should apply to the deemed marine licence. The Secretary of State, the Examining Authority and the Marine Management Organisation should co-operate closely to ensure that national networks NSIPs are licensed in accordance with legislation.	
4.49	The Secretary of State should be satisfied that development consent can be granted taking full account of environmental impacts. Working in close cooperation with the Environment Agency and/or the pollution control authority, and other relevant bodies, such as the Marine Management Organisation, the Statutory Nature Conservation Bodies, Drainage Boards, and water and sewerage undertakers, the Secretary of State should be satisfied early in the process and through parallel tracking of the Development Consent Order and Environmental Permits, before consenting any potentially polluting developments, that:	The Applicant has engaged with statutory environmental bodies (the Environment Agency, Natural England and Historic England) and there will be ongoing engagement as the Scheme progresses. Information on engagement that has taken place, and areas of agreement and disagreement identified during pre-application consultation with the Consultee, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the Development Consent Order examination. Further details on the engagement undertaken can be found in Chapter 3, Table 3.2 of the Consultation Report (TR010065/APP/5.1). A number of meetings with the Environment Agency have been held, this is summarised in



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	 the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework. the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits. 	Section 13.4 of Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1) to discuss the WFD Compliance assessment methodology and outcomes, and the proposed surface water quality monitoring strategy (as outlined in Appendix 13.5 (Surface Water Quality Monitoring Report (of the ES appendices (TR010065/APP/6.3). In addition, numerous Flood and Drainage Steering Group meetings have been held throughout 2022 and 2023. These are outlined in the overarching consultation for the ES in Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1). These meetings include discussions on the development of the drainage strategy (including pollution controls) as outlined in Appendix 13.4 (Flood Risk Assessment) of the ES Appendices (TR010065/APP/6.3), including discussions on pollution control measures. Proposals relating to locations, parameters and frequency of monitoring of water quality that has been agreed with stakeholders are outlined within Appendix 13.5 (Surface Water Quality Monitoring Report (of the ES appendices



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		(TR010065/APP/6.3).
		The First Iteration EMP (TR010065/APP/6.5) has been prepared for the Scheme. The First Iteration EMP details mitigation measures required during construction and operation to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. The First Iteration EMP includes requirements for the Contractor to develop a Pollution Prevention Plan (including an Incident Control Plan), Erosion and Sediment Management Plan, Invasive and Non-Native Species Management Plan, and an Emergency Response Plan for Flood Events.
		Chapter 6 (Air Quality) of the ES (TR010065/APP/6.1) concludes no significant adverse air quality effects are anticipated as a result of the Scheme.
		Cumulative effects are also considered in Chapter 15 (Assessment of Combined and Cumulative Effects) of the ES (TR010065/APP/6.1). No additional mitigation on top of the individual mitigation specified in



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		the ES (TR010065/APP/6.1) is considered necessary, as no permanent Significant Adverse cumulative effects are predicted during operation. In terms of the residual combined effect, construction of the Scheme is anticipated to result in significant adverse combined effects for 3 receptors. These are significant but temporary in nature. For construction-related combined effects, no additional mitigation measures above those presented in the First Iteration EMP (TR010065/APP/6.5), relevant assessment chapters and described in Section 15.3 of Chapter 15 (Assessment of Combined and Cumulative Effects) of the ES (TR010065/APP/6.1) are considered applicable or proportionate for short-term temporary combined effects. On that basis, no monitoring of significant effects is proposed. The Consents and Agreements Position Statement (TR010065/APP/3.3) details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained.
4.50	The Secretary of State should not refuse consent because of pollution impacts	The majority of consents and all the powers required have been included, or addressed,



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raragraph No.	unless there is good reason to believe that any relevant necessary operational pollution control permits or licences, or other consents would not be granted.	within the draft DCO (TR010065/APP/3.1) as permitted by the provisions of the 2008Act. However, the draft DCO proposes to disapply the Trent Valley Internal Drainage Board's Byelaws 2018 made under Section 66 Land Drainage Act 1991, as well as The Severn-Trent Water Authority Land Drainage Byelaws 1975 which are now operated by the Environment Agency. The permits, consents and agreements that may need to be sought separately from the draft DCO (TR010065/APP/3.1) are identified in Appendix A of the Consents and Agreements Position Statement (TR010065/APP/3.3). It Is likely that a pollution permit will be required for the crushing and screening on site, but this will be applied for at a later stage. The content of Appendix A is largely dependent on the final detailed design, the detailed construction site set up and methodologies, and discussions with the consenting authorities from whom consents may be required. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not
		practicable to include them within the draft DCO



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		(TR010065/APP/3.1).
4.53	It is very important that, during the examination of a nationally significant infrastructure project, possible sources of nuisance under section 79(1) of the Environmental Protection Act 1990, and how they might be mitigated or limited, are considered by the Examining Authority so that they can recommend appropriate requirements that the Secretary of State might include in any subsequent order granting development consent. More information on the consideration of possible sources of nuisance is at paragraphs 5.111 to 5.119.	The Statement Relating to Statutory Nuisances (TR010065/APP/6.7) has considered the potential for the Scheme to cause a statutory nuisance under section 79(1) of the of the Environmental Protection 1990 Act (EPA). With the essential mitigation measures set out in the First Iteration EMP (TR010065/APP/6.5) in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.
4.55	Highways developments provide an opportunity to make significant safety improvements and significant incident reduction benefits when they are well designed. Some developments may have safety as a key objective, but even where safety is not the main aim of a development, the opportunity should be taken to improve safety, including introducing the most modern and effective safety measures where proportionate. Consideration should also be given to	The Case for the Scheme (TR010065/APP/7.1) provides an overview of the assessment of the impact of the Scheme on road safety, in accordance with Transport Appraisal Guidance (TAG). This assessment forecasts that over the 60-year assessment period the Scheme will provide an accident reduction benefit of £13.6 million, with a reduction in all types of accidents, including 8.6 fatal, 81.6 serious and 594.3 slight accidents saved. A key objective of the Scheme is to improve



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	wider transport objectives, including expanding active travel, creating safe and attractive walking, wheeling and cycling environments, enabling modal shift to sustainable transport options including public transport and decarbonisation. In developing road schemes, the applicant should have due regard to the needs of drivers and the imperative to ensure driver safety. Schemes should be developed with a mindset that accounts for need for drivers to rest, particularly Heavy Goods Vehicle drivers who need safe and secure roadside facilities that also cater for their welfare needs including the appropriate provision of high-quality washrooms, a catering offer and access to alternative fuel and digital infrastructure.	safety through Scheme design to reduce collisions for all users of the Scheme. The Scheme is subject to all safety governance processes including a Stage 1 Road Safety Audit (RSA). A Stage 1 RSAs are undertaken at the completion of preliminary design and normally before planning consent is granted. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the TA (TR010065/APP/7.4). The Scheme Design Report (TR010065/APP/7.5) outlines how the design of the junctions and new structures have been considered to create safe environments for both road users and those who will maintain these assets. Using the accident rates and traffic flows for each scenario, the Cost and Benefit to Accidents – Light Touch (COBALT) assessment set out in the TA (TR010065/APP/7.4) forecasts the number of accidents and casualties in the



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		Do Minimum (without the Scheme) and Do Something (with the Scheme) scenarios over a 60-year appraisal period. The number (and severity) of accidents and casualties is monetised by the software using default costs per accident and casualty specified in the DfT's Transport Analysis Guidance (TAG). By comparing the Do Minimum and Do Something results, the impact of the Scheme is identified, in terms of impacts on the number and severity of accidents and casualties as well as the economic costs.
		Overall, the results of the COBALT assessment indicate a forecast saving over the 60 year appraisal period of nearly 500 Personal Injury Accidents (PIAs), a reduction in casualties of all severities (including 8.6 fatal casualties) The overall impact is positive with a forecast reduction in both accidents and a reduction in casualties of all severities.
		The analysis overall concludes that the Scheme will have a positive impact on road safety. Further details on the analysis undertaken into the impacts of the Scheme on road safety in the local area and further afield including the



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		COBALT assessment can be found in Chapter 8 (Road Safety) of the TA (TR010065/APP/7.4).
		As outlined within Chapter 3 (Assessment of Alternatives) of the ES (TR010065/APP/6.1), beside the function and form of the preferred option, the options considered during the early development of the Scheme were assessed against the safety of the user, the pedestrian/cyclist, the construction worker, and the general safety of the route. Throughout the design process, options were developed and screened to identify preferred solutions based on a comparison of the options performance against safety, environmental, engineering, transportation and economic criteria. This process was supplemented by feedback from consultation with stakeholders and the public.
		The Scheme provides an opportunity to improve conditions for walking, cycling and horse-riding (WCH) through the provision of new routes and improved crossings. Information relating to temporary diversions can be found in Appendix 12.2 (Population and Human Health Supplementary Information) of the Environmental Statement Appendices



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		(TR010065/APP/6.3) while Section 7.2 of the TA (TR010065/APP/7.4) sets out design improvements to the WCH design.
		It is considered no additional facilities are required for Heavy Goods Vehicles drivers. The A46 already has a lorry park with the facilities suggested at Cattle Market Junction, the Applicant does not consider that any further provisions are required.
4.56	The applicant should undertake an objective assessment of the impact of the proposed development on safety including the impact of any mitigation measures. This should use the methodology outlined in the guidance from the Department for Transport's Transport Appraisal Guidance and from National Highways. They should also put in place arrangements for undertaking the road safety audit process and ensuring their implementation. Road safety audits are a mandatory requirement	The Scheme is subject to all safety governance processes including a Stage 1 Road Safety Audit, as set out in the DfT's Transport Appraisal Guidance. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the TA (TR010065/APP/7.4).
	for highway improvement schemes in the UK (including motorways). Road safety audits are intended to ensure that operational road safety experience is applied during the design and construction	Also, see response to draft NPSNN paragraph 4.55 above.



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	process so that the number and severity of collisions is as low as reasonably practicable.	
4.57	The applicant should be able to demonstrate that their scheme is consistent with the national Strategic Framework for Road Safety and with the National Highways Safety Framework for the Strategic Road Network. Applicants will wish to show that they have taken all steps that are reasonably required to: • minimise the risk of death and injury arising from their development. • contribute to the overall reduction in road casualties. • contribute to the overall reduction in the number of unplanned incidents. • contribute to improvements in road safety for walkers and cyclists.	The Scheme was designed in accordance with the technical documents produced by the DfT and National Highways which include the DMRB. The Scheme Design Report (TR010065/APP/7.5) outlines how the design of the junctions and new structures have been considerate to create safe environments for both road users and those who will maintain these assets. An assessment of accident impacts has been completed using COBALT, the assessment forecasted a reduction in accidents across the extent of the Scheme. Overall, the results of the COBALT assessment indicate a forecast saving over the 60 year appraisal period of nearly 500 Personal PIAs, a reduction in casualties of all severities (including 8.6 fatal casualties) and provides a monetised benefit of over £29 million. The overall impact is positive with a forecast reduction in both accidents and a



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		reduction in casualties of all severities. Further details on the analysis undertaken into the impacts of the Scheme on road safety in the local area and further afield including the COBALT assessment can be found in Chapter 8 (Road Safety) of the TA (TR010065/APP/7.4).
		The Scheme incorporates new and improved WCH provision, as described in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). A Walking, Cycling and Horse-riding Assessment and Review (WCHAR) has been undertaken to consider the impacts of the Scheme on WCH facilities. The purpose of the WCHAR process is to facilitate the inclusion of all WCH modes in the Scheme design from the earliest stage, enabling opportunities for new/improved facilities and their integration within the local and national networks. A WCHAR was completed in June 2023 on the basis of the
		preliminary design for the Scheme and is available at Appendix C of the TA (TR010065/APP/7.4). A further WCHAR will follow at the detailed design stage to ensure that the needs of WCH continue to be



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		considered as the design progresses. The Scheme is subject to all safety governance processes including a Stage 1 RSA. The findings of the audit have been fully reviewed by qualified Highway Designers, and audit recommendations have been accepted where appropriate. Further Road Safety Audits will be carried out as the design progresses in compliance with Highways England and DfT requirements. Details on the Road Safety Audit can be found in Appendix B (Road Safety Audit and Designers Response) of the TA (TR010065/APP/7.4).
4.58	 They will also wish to demonstrate that: they have considered the safety implications of their projects from the outset. They are putting in place rigorous processes for monitoring and evaluating safety. 	Safety considerations are set out in the Scheme Design Report (TR010065/APP/7.5), this also sets out the design progression and how safety was and continues to be considered. Also see response to draft NPSNN paragraph 4.55 above. A stage 1 road safety audit (RSA) was undertaken to assess the safety of the preliminary design. A Stage 2 RSA will be done during the detailed design and a Stage 3 RSA on site prior to opening. A Stage 4 will be done



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		after the Scheme has been operating for 1 year to monitor and evaluate any safety issues once operational.
4.66	Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in	The security considerations are set out in the Scheme Design Report (TR010065/APP/7.5). Fencing will be provided at the highway
	the project development. Where applications for development consent for infrastructure covered by this NPS relate to potentially critical infrastructure, there may be national security considerations.	boundary for safety and security. With the exception of where alternatives have been agreed with neighbouring landowners or a noise barrier has been specified for environmental mitigation, timber post and rail fence will be provided in accordance with Manual of Contract Documents for Highway Works standard details.
		No national security implications have been identified.
4.71	As described in the relevant sections of this NPS, where the proposed project has an effect on human beings, the applicant should assess these effects, identifying any potential adverse health impacts, and identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. Enhancement opportunities	Chapter 12 (Population and Health) of the ES (TR010065/APP/6.1) sets out the assessment methodology used to examine the effects of the Scheme on human health. The assessment considers the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces



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	should be identified by promoting local improvements for active travel and horse riders driven by the principles of good design to create safe and attractive routes to encourage health and wellbeing; this includes potential impacts on vulnerable groups within society i.e., those groups within society which may be differently impacted by a development compared to wider society as a whole.	and recreational areas and human health outcomes, and sets out the mitigation measures including the embedded mitigation that has been considered from the outset. This is summarised in section 12.10 of Chapter 12 (Population and Health) of the ES (TR010065/APP/6.1) including measures to avoid, reduce or compensate for health impacts as appropriate. The assessment concludes that during construction, the Scheme is likely to have an overall adverse impact on the development land and businesses, agricultural land, and WCH provision as a result of both permanent and temporary land take and reduced access during construction. However, once operational, the Scheme is expected to have a beneficial impact on access to private property and housing; development land and assets; green space, recreation and physical activity due to reduced congestion and improved journey times that the Scheme will deliver. Mitigation measures to be provided during construction are included within the First Iteration EMP (TR010065/APP/6.5), and



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		include:
		 The implementation of a Traffic Management Plan (TMP) to be developed from the Outline TMP (TR010065/APP/7.7) submitted with the application; A Construction Communications Plan to be prepared for the Scheme to ensure stakeholders and local people are kept up to date and informed during construction. This has been secured as part of the First Iteration EMP (TR010065/APP/6.5); and Provision of appropriate signage for temporary WCH diversions, including wayfinding and duration of works.
		 Mitigation measures to be provided during operation include the following: Provision of appropriate signage for new or permanently diverted WCH routes; and Access to all affected residential properties, agricultural land, businesses and areas of open space and recreation will be maintained.
		In addition to the above mitigation, the following enhancement measures for the construction



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		and operation of the Scheme have been included in the design:
		 Opportunities to rectify existing severance problems in the area and encourage greater use of WCH routes; and Access in and around new junctions to accommodate walking, cycling and horseriding as required.
		The Equality Impact Assessment (EqIA) (TR010065/APP/7.6) sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development, including design, communication and consultation.
4.73	The government's strategy for achieving equal access for disabled people is set out in the Inclusive Transport Strategy. The government expects applicants to improve access, wherever possible, on and around the national networks by designing and delivering schemes that take account of the accessibility requirements of all those	The design and delivery of the Scheme has been developed in line with the Equality Act 2010 and the needs of disabled users, and all reasonable opportunities to deliver improvements in accessibility on and to the existing national road network have been taken where practicable.
	who use, or are affected by, national networks infrastructure, including disabled users.	The Equality Impact Assessment (EqIA) (TR010065/APP/7.6) sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development,



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		including design, communication and consultation. The EqIA was informed by the Equality, Diversity and Inclusion Tool (EDIT); a sifting tool developed by the Applicant to support informed decision making on how equality, diversity and inclusion are relevant to the development and delivery of schemes. It identified key elements of the Scheme which could disproportionately affect vulnerable groups. These are as follows: • The Scheme is located in: • an equality hotspot area (those parts with concentrations of all categories - people, equality groups and destinations); • an area with high population density (those parts with the largest numbers of people from equality groups (those parts with the largest numbers of people from particular groups); • an area with high proportions of people from equality groups (those parts with the largest proportion of



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		 an area with a large number of destinations used by members of equality groups.
		 The Scheme is likely to have an impact on Walkers, Cyclists and Horse-riders (WCH). The Scheme is likely to have impacts on people and communities during construction phase.
		Mitigation and enhancement measures to be provided to help address the identified inequalities are set out in Section D (Full Assessment) of the EqIA (TR010065/APP/7.6) and include measures such as those to reduce the impact of construction (for example the use of best practise construction measures (identified in the First Iteration EMP (TR010065/APP/6.5) which will be developed into the Second Iteration EMP prior to and for implementation during construction), and ongoing engagement with identified groups (including landowners and businesses impacted) and measures to reduce the impact on WCH, such as the use of signage for new and/or diverted WCH routes.



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4.74 – 4.75	Applicants must comply with any obligations under the Equality Act 2010. Public Authority applicants are reminded of their duty to promote equality and to consider the needs of disabled people as part of their normal practice. The Public Sector Equality Duty requires that public authorities have due regard to the need to:	The Equality Impact Assessment (EqIA) (TR010065/APP/7.6) sets out how the requirements of the Equality Act 2010 have been embedded in the Scheme's development, including design, communication and engagement strategy, and mitigation strategies.
	 eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act. advance equality of opportunity between people who share a protected characteristic and people who do not share it. foster good relationships between people who share a protected characteristic and people who do not share it. 	
	All applicants are also reminded that the Secretary of State must have regards to the Public Sector Equality Duty when exercising their functions.	
4.76	As set out in paragraphs 4.5 to 4.6, applicants for road and rail projects	An Equality Impact Assessment (EqIA) (TR010065/APP/7.6) has been undertaken for



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	(excluding SRFIs) will normally be supported by a business case prepared in accordance with Transport Business Case guidance. This includes distributional analysis, including assessments stemming from the Equality Act public sector equality duty, where appropriate.	the Scheme using National Highway's Equality, Diversity and Inclusion sifting Tool (EDIT). This identified the potential for equality related impacts upon customers, staff and stakeholders based on the following categories: • Age - specifically children and older people • Disability • Ethnicity and Traveller Communities • Pregnancy and Maternity • Religion and beliefs • Sex, Gender Identification and Sexual Orientation • Deprivation An overall EDIT score of 77% was generated for the Scheme at preliminary design This means that equality, diversity and inclusion issues are likely to be a factor in the effective delivery of the Scheme. Key provisional findings identified relating to the Protected Characteristic Groups (PCGs) considered in this EqIA were:
		Children and older people are more likely to be adversely affected by noise and air quality impacts arising from the construction and operation of the Scheme.



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		These groups are more likely to be sensitive to visual stimuli resulting from changes in landscape. It is noted that several educational and community facilities used by these groups are within an affectable distance of the Scheme. • Changes in noise and air quality may adversely affect those with long term health problems or disabilities. Short-term changes to the local and strategic road network, particularly during the construction of the Scheme such as congestion and roadworks, could act as a barrier for disabled individuals to access certain services. • Gypsy and traveller communities may be at increased risk of harmful health effects from noise due to the location of some communities situated close to the A46. • Those who are pregnant living in areas with poor air quality are at risk of giving birth to a baby with a low birthweight. The current general fertility rate within Newark and Sherwood district is 57.3 live births per 1,000 females, which is in line with the rate of 55.3 for England as a whole.



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		 Access to religious institutions may be impacted throughout the construction period.
4.77	Applicants should demonstrate the following where relevant:	See response to draft NPSNN paragraphs 4.73, 4.74 and 4.75 above.
	 All reasonable opportunities to deliver improvements in accessibility on and to the existing national road network, should be taken, including improvements for non-motorised users. Severance can be a problem in some locations; where appropriate, applicants should seek to deliver improvements that reduce community severance and improve accessibility. National Network infrastructure should 	Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) assesses the impact of the Scheme on community severance and social networks. The assessment considers the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces and recreational areas and human health outcomes.
	incorporate good design, as expanded on in paragraphs 4.24 to 4.29 which includes improving accessibility of infrastructure for users and inclusive design.	The operation of the Scheme is expected to have a beneficial impact on access to private property and housing; development land and businesses; community land and assets; green space, recreation and physical activity; and for WCHs due to the reduced congestion and improved journey times that the Scheme will deliver.



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		Provisions have been included in the Scheme to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are used by pedestrians and cyclists, the objective being to ensure continued connectivity is provided for WCH between communities and routes within the wider PRoW network.
		For example, historically there was a PRoW that ran north to south between Winthorpe and the Newark Showground. This has been severed by the existing A46 with FP2 ending at the northern boundary of the A46 and FP3 ending at the southern boundary. The Scheme will reconnect these two PRoWs via a new footway/cycleway that links with FP2 to the north and runs parallel to the proposed dual carriageway before crossing beneath it alongside the A1. On the south side of the new dual carriageway, it will cross the existing A46 via a new signalised crossing and join the existing PRoW network that provides a connection with FP3.



Table 2.2: Compliance with draft NPSNN Chapter 5

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5.11 – 5.12	Where a project is likely to have adverse effects on air quality and/or where a project could lead to a deterioration in air quality in an area or lead to a new area where air quality breaches any national air quality limits or statutory air quality objectives, the applicant should undertake an assessment as part of their Development Consent Order application.	Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) addresses the requirement for the Applicant to undertake an assessment of the impacts of the Scheme on air quality. The baseline air quality conditions are presented in Section 5.8 of Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) whilst the baseline conditions at human health receptors and designated habitats in the opening year of the development, without the Scheme in place (DM scenario), are presented in Table 5.12 and 5.13.
	 any air pollutant emissions, that would lead to a deterioration in air quality and their mitigation, distinguishing between the project stages, including construction and operation, and taking account of emissions such as from any road traffic generated by the project. the predicted absolute emissions levels of the proposed project 	A qualitative assessment of potential dust effects for the Scheme has been undertaken, based on a review of likely dust raising activities and identification of sensitive receptors within 200 metres of the study area. Potential dust impacts would be suitably controlled using the best practice mitigation measures set out within the First Iteration EMP (TR010065/APP/6.5) which will be developed into the Second Iteration EMP prior to and for implementation during construction. A qualitative assessment of the impacts associated with the construction traffic management measures



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	after mitigation methods have been applied. • existing air quality levels, how they are monitored and the relative change in air quality from existing levels. • any potential impacts on nearby protected habitats from air pollutant emissions.	has also been undertaken and concluded that due to the temporary nature of the measures, there are not expected to be significant air quality effects at nearby receptors during the construction phase. An assessment has been undertaken to assess the air quality impact during the operation of the Scheme at receptors, using an atmospheric dispersion model. The model has been verified against air quality monitoring data and has been used to estimate the air quality impacts of changes in traffic associated with the Scheme. Concentrations across human health receptors are expected to be well below the NO ₂ , PM ₁₀ and PM _{2.5} air quality objectives (40ug/m³ for NO ₂ and PM ₁₀ , and 20ug/m³ for PM _{2.5}). The predicted effects from the operation of the Scheme on local air quality at human health receptors are therefore concluded to be not significant so no mitigation measures are proposed. The Scheme also would not affect the UK's reported ability to comply with the Air Quality Directive in the shortest timescales possible. Ecological receptors that have the potential to be adversely affected by changes in nitrogen



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		deposition have been assessed by the competent expert for Biodiversity in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) which found that changes caused by the Scheme were not significant.
		The full assessment of the impacts of the Scheme has been presented in Sections 5.9 and 5.11 of Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1).
		The Statement Relating to Statutory Nuisances (TR010065/APP/6.7) has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the EPA. With the essential mitigation measures set out in the First Iteration EMP (TR010065/APP/6.5) in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.
5.13	Defra publishes future projections of UK air pollutant emissions based on evidence of future emissions, traffic and vehicle fleet. Projections are updated as the evidence base changes. The applicant's assessment should be consistent with this but	Predicted background pollutant concentrations published by Defra have been used in the assessment, which have been adjusted based on monitored background concentrations, to ensure they are representative of local background conditions.



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	may include more detailed modelling to demonstrate local impacts. If the latest future projections do not reflect the latest available evidence base at the assessment stage, applicants should still provide an assessment using the latest future projections published by Defra. If an applicant believes they have robust additional supporting evidence that is likely to change the projected emissions, they should include this in their representations to the Examining Authority.	Long-term trend gap analysis factors in accordance with DMRB LA105 have also been applied to uplift opening year concentrations in order to address the uncertainty relating to predictions of future emissions. Further details are set out in Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1).
5.14	Mitigation measures may affect the project design, layout, construction, operation and/or may consist of measures to improve air quality in pollution hotspots beyond the immediate locality of the Scheme. Measures could include, but are not limited to, changes to the route of the new Scheme, changes to the proximity of vehicles to local receptors in the existing route, physical means including barriers to trap or better disperse emissions,	Section 5.10 of Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) sets out the mitigation measures. These are summarised below: Mitigation measures – construction Construction works would be carried out in accordance with the best practicable means, as defined in Section 79(9) of the EPA 1990, to reduce fumes or emissions which may impact upon air quality. As a minimum, the following measures are required to prevent significant effects during the construction phase. These measures are included within the First Iteration EMP



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	and/or speed control. Applicants should routinely look for opportunities within the design of the proposed development to embed nature-based solutions, such as urban woodlands and trees to assist with pollutant reduction and dispersal along major transport corridors. In addition to avoiding further greenhouse gas emissions when compared with some more traditional approaches, nature-based solutions can also result in biodiversity benefits as well as increasing absorption of carbon dioxide from the atmosphere (see also paragraphs 5.171 to 5.195 on the role of green infrastructure).	 (TR010065/APP/6.5) and would be implemented by the Principal Contractor through the Second Iteration EMP: Avoid double handling of materials. Minimise height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. Locate stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. Ensure that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed. Provide a means of removing mud and other debris from wheels and chassis of vehicles leaving the site. This may involve a simple coarse gravel running surface or jet wash, or in the case of a heavily used exit point, wheel washers. Maintain a low speed limit on site to prevent the generation of dust by fast moving vehicles. Damp down surfaces in dry conditions. Water to be sprayed during cutting/grinding operations.



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		All vehicle engines and plant motors to be switched off when not in use. High dust generating activities within site compounds should be located as far away from nearby receptors as possible. Mitigation measures – operation The results of the air quality assessment
		completed for this Scheme, presented in Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) demonstrate that the Scheme would not have a significant effect on air quality. This is because there will be no exceedances of the air quality objectives, no significant impacts at designated habitats or human health receptors and the Scheme would not affect reported compliance with the Air Quality Directive. On the basis of these
		conclusions no design, mitigation or enhancement measures such as nature-based solutions and changes to the Scheme design and layout are required for impacts on air quality during operation.
		The air quality assessment does not consider the effects of tree cover on air quality in any modelled scenario, as this is not a requirement of DMRB LA 105 and quantification of the interaction between air quality and vegetation is still subject to ongoing



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		research. However, tree belts that would be planted along the A46 carriageway for other purposes, such as providing habitats for wildlife and acting as visual screening, can have a beneficial impact on air quality.
5.15	The Secretary of State should consider whether mitigation measures are needed both for	See response to draft NPSNN paragraph 5.14 above.
	operational and construction emissions over and above any which may form part of the project application. In doing so the Secretary of State should have regard to the Air Quality Strategy or any successor to it and should consider relevant advice within Local Air Quality Management guidance.	Relevant legislation and policy such as the Air Quality Strategy and the requirements set out within guidance issued for Local Air Quality Management have been taken into account in the air quality assessment, set out in Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1). The results presented in the air quality assessment demonstrate that the Scheme is consistent with national and local planning policy with respect to air quality whilst accounting for advice set out within Local Air Quality Management guidance.
5.16	The proposed mitigation measures should ensure that the net impact of the project does not delay the point at which a zone will meet compliance timescales.	See response to draft NPSNN paragraph 5.14 above. The Scheme would not affect the UK's reported ability to comply with the Air Quality Directive in the shortest timescales possible, meaning it would not
		result in a deterioration of air quality within a



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5.20	Where a project is likely to lead to a breach of such limits or objectives, the applicant should work with the relevant authorities to secure appropriate mitigation measures to avoid any breach and allow the proposal to proceed. Where a project is located within, or in close proximity to, a Local Air Quality Management Area or Clean Air Zone, applicants should engage with the relevant local authority to ensure the project is compatible with the local Air Quality Plan.	zone/agglomeration. The results of the air quality assessment completed for this Scheme, are presented in Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) and demonstrate that there are no exceedances of the air quality objectives and there are no Air Quality Management Areas or Clean Air Zones within or in close proximity to the Scheme. The Scheme would not have a significant effect on air quality.
5.22	Where the increase in air pollutant emissions resulting from the proposed scheme would significantly impact the government's ability to comply with a statutory limit or statutory air quality objective, the Secretary of State should refuse consent.	The Scheme would not affect the UK's reported ability to comply with the Air Quality Directive in the shortest timescales possible. The Scheme would not cause an exceedance of the air quality objectives.
5.23	The Secretary of State should refuse consent where, after taking into account	The Scheme would not affect the UK's reported ability to comply with the Air Quality Directive. It would not cause a zone/agglomeration which is



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	mitigation, the air pollutant emissions resulting from the proposed scheme will either: • result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Standards Regulations 2010 becoming non-compliant eaffect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the Examining Authority at the examination.	currently compliant to become non-compliant and would not affect the ability of a non-compliant area to achieve compliance in the shortest timescales possible.
5.24	The Secretary of State should give positive weight to projects that embed nature-based solutions to assist with pollutant reduction and dispersal along major transport corridors.	Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) presents a conservative assessment of the operational phase which does not consider the effects of tree cover on air quality in any modelled scenario, as this is not a requirement of DMRB LA 105 and quantification of the interaction between air quality and vegetation is still subject to ongoing research. As the assessment presents a worst-case scenario and impacts are concluded to be not significant, no mitigation measures are required for impacts on air quality during operation.



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5.00		Nonetheless, tree belts that will be planted along the A46 carriageway for other purposes, such as providing habitats for wildlife and acting as visual screening, can have a beneficial impact on air quality.
5.29	A whole life carbon assessment should be used to measure greenhouse gas emissions at every stage of the proposed development to ensure that emissions are minimised as far as possible as we transition to	The assessment of significance, in the ES (TR010065/APP/6.1) follows DMRB LA 114 Climate as this is currently the relevant methodology for highways schemes on the strategic road network (SRN).
	net zero. This includes the construction, maintenance, operation and use of the asset across its entire lifecycle. This is critical at early stages of project planning, for example, the conception stage, because the ability to reduce whole life carbon emissions is increasingly more limited as the project passes through detailed design and enters construction.	The assessment considers the whole life carbon emissions through construction and operation of the Scheme. Construction includes emissions from materials, construction plant and transport to/from site. Operation includes emissions from road users, energy requirement, renewal and maintenance, and land use change (changes to habitat in line with the BNG and landscape design). Assessments were undertaken to determine a baseline at the time of the Preferred Route Announcement and through the design.
		Further information is also set out in Chapter 14 (Climate) of the ES (TR010065/APP/6.1).



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5.30	All proposals for national network infrastructure projects should include a whole life carbon assessment at critical stages in the project lifecycle, for example, the submission of a major business case. This should be conducted according to the guidance, standards and methodologies set out in Transport Appraisal Guidance Unit A3. Also refer to the Environmental Assessment at paragraphs 4.10 to 4.11 for more information about cumulative assessment.	Chapter 14 (Climate) of the ES (TR010065/APP/6.1) provides an estimated whole life carbon assessment of the Scheme undertaken in line with TAG, including the aspects noted in response to draft NPSNN Paragraph 5.29 above
5.31	Having regard to current knowledge, a carbon management plan should be produced as part of the Development Consent Order submission and include: • an explanation of the steps that have been taken to drive down climate change impacts at each of those stages. • how operational emissions and, where applicable, emissions from maintenance activities, have been reduced as much as possible through the application	Chapter 14 (Climate) of the ES (TR010065/APP/6.1) assessed the greenhouse gas emissions associated with the Scheme together with the Scheme's vulnerability and resilience to climate change. In line with National Highways Carbon Management System, throughout the development of the Scheme there have been efforts to reduce carbon emissions. Mitigation measures and the assessment which includes the assessment of significance of the residual emissions by comparing these against the UK Carbon Budgets are detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1). There is no intention to offset the residual emissions in line



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	of best available technology for that type of technology (recognising that in the case of road projects while the developer can estimate the likely emissions from road traffic, it is not solely responsible for controlling them). • whether and how any residual carbon emissions will be (voluntarily) offset or removed using a recognised framework. • Where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level, if statutory sectoral targets are developed and come into force.	with National Highways strategy. A Carbon Management Plan would be produced as part of the Second Iteration EMP, secured by requirement 3 of the draft DCO (TR010065/APP/3.1).
5.32	Applicants should look for opportunities within the design of the proposed	In line with National Highways Carbon Management System, through the development of the Scheme there have been efforts to reduce



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	development to embed nature-based or technological solutions to mitigate, capture or offset the emissions of construction	carbon emissions. Mitigation measures and the assessment which includes the details of the residual emissions are detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1). There is no intention to offset the residual emissions in line with National Highways strategy. The landscape design has provided additional habitat creation and enhancement which has resulted in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1).
5.33	Steps taken to minimise, capture and offset emissions in design and construction, should be set out in a Greenhouse Gas Reduction Strategy secured under the Development Consent Order. This Strategy could include, for example, mitigation through woodland creation on or adjacent to the site and registered with the Woodland Carbon Code, contributing significantly to offsetting residual emissions. Applicants may wish to refer to the Institute of	The Greenhouse Gas Reduction Strategy is a document required by this draft NPSNN paragraph and is not a requirement of the existing NPSNN and, as such no such strategy has been produced for the Scheme. However, the key aspects referred to in the draft NPSNN paragraph that would be included within a Greenhouse Gas Reduction Strategy have been included within the carbon assessment set out within Chapter 14 (Climate) of the ES (TR10065/APP/6.1). Chapter 14 (Climate) of the ES (TR010065/APP/6.1) outlines the steps taken to minimise emissions through design, and where the
	Environmental Management and Assessment Greenhouse Gas	minimise emissions through design, and where the design will deliver increased sequestration to



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	Management Hierarchy guidance when drafting their Greenhouse Gas Reduction Strategy.	capture and offset a small proportion of the operational emissions.
		The assessment follows the methodology as per DMRB LA 114 as the standard required to be followed as the relevant guidance for a road project in the UK. DMRB LA114 aligns with the six assessment steps advised by IEMA. IEMA advises that the crux of significance is "whether it contributes to a comparable baseline consistent with a trajectory toward net zero". The only relevant trajectory to net zero is that set by the national carbon budgets, which is the trajectory advised by DMRB LA114: "The assessment of projects on climate shall only report significant effects where increases in GHG emissions will have a material impact on the ability of Government to meet its carbon reduction targets."
		An iterative design process has been undertaken to maximise reuse and refurbishment throughout the Scheme's life as well as to identify opportunities to manage ecological assets (retention, creation, and enhancement) to provide carbon sinks. These opportunities are to be further investigated and explored during detailed design to reduce emissions further. Key opportunities for



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		inclusion are:
		 Detailed exploration of the reuse of existing office area as the site compound and the refurbishment to be in line with future uses for the site; Confirmation of the level of inclusion of Hydrogenated Vegetable Oil and Electric Plant; Maximise use of recycled aggregate including collaboration with other schemes in the area; Ensure best practice construction processes followed for greatest durability; Provision or procurement of renewable energy for the compound.
		Mitigation measures to be implemented during construction are included within the REAC which forms part of the First Iteration Environmental Management Plan (EMP) (TR010065/APP/6.5), to be developed into a Second Iteration EMP prior to construction commencing. The mitigation measures within the Second Iteration EMP are secured and committed under Requirement 3 of the draft Development Consent Order (DCO) (TR010065/APP/3.1).
		A Carbon Management Plan would be produced as



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	part of the Second Iteration Environmental Management Plan and will include the following topics:
	 Procurement Materials and resource management on site Change process for low/zero carbon solutions Low/zero carbon plant and management Construction techniques and competency Training matrix
The Secretary of State must be satisfied that the applicant has as far as possible assessed the greenhouse gas emissions at all stages of the development.	Greenhouse gas (GHG) emissions have been considered as part of the development of the Scheme. Chapter 14 (Climate) of the ES (TR010065/APP/6.1) assesses GHG emissions during the construction and operation of the Scheme. As per DMRB LA 114 decommissioning is excluded from the assessment due to the length of the asset operational phase. The construction and operation of the Scheme is anticipated to result in an overall increase of 683,200 tCO ₂ e in GHG emissions. However, the contribution of the Scheme to the UK's carbon budget for the relevant carbon budget periods is less than 0.007%, and therefore it can be
	The Secretary of State must be satisfied that the applicant has as far as possible assessed the greenhouse gas emissions at all stages of the



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		its legally binding carbon reduction targets, in accordance with the current NPSNN, and so no significant effect is anticipated in line with DMRB LA 114.
5.35	S.1(1) of the Climate Change Act 2008 reflects and puts into effect the UK's Nationally Determined Contributions as set out in the Paris Agreement and sets out that the carbon budgets are the mechanism by which the net zero target is to be achieved. Consequently, it can reasonably be concluded that an applicant who assesses the carbon impacts of its scheme against the carbon budget is to be taken as also to have assessed the carbon impacts of the scheme against the net zero target in the Climate Change Act 2008 and the UK's Nationally Determined Contributions, where the carbon budget is consistent with the Climate Change Act 2008 carbon target and the Nationally Determined Contributions.	See response to draft NPSNN paragraph 5.29 above.
5.36	The Secretary of State should be content that the applicant has taken	Chapter 14 (Climate) of the ES (TR010065/APP/6.1) provides an estimated whole



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	all reasonable steps to reduce the total greenhouse gas emissions from a whole life carbon perspective. The Secretary of State should also give positive weight to projects that embed nature-based or technological processes to mitigate or offset the emissions of construction and within the proposed development. However, the important role national network infrastructure plays in supporting the process of economy wide decarbonisation, the Secretary of State accepts that there are likely to be some residual emissions from construction of national network infrastructure.	life carbon assessment of the Scheme and outlines the consideration of carbon reduction through all phases of the Scheme. The landscape design would provide additional habitat creation and enhancement which would result in a net benefit to carbon sequestration when compared to the baseline scenario, results of this assessment are detailed in Chapter 14 (Climate) of the ES (TR010065/APP/6.1). Chapter 14 (Climate) of the Environmental Statement (TR010065/APP/6.1) reports a 44% reduction in emissions compared to the initial baseline assessment presented in the <i>Preliminary Environmental Information Report</i> . No significant effects on climate are anticipated. The construction and operation of the Scheme would result in an overall increase of 683,200 tCO ₂ e in the greenhouse gas emissions as outlined above. However, the contributions of the Scheme to the United Kingdom UK's carbon budget for the
		relevant carbon budget periods are not significant, less than 0.007%, and therefore it can be concluded that the greenhouse gas emissions impact of the Scheme would not have any material impact on the United Kingdom Government



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		meeting its legally binding carbon reduction targets.
		This reduction is the result of significant efforts to minimise the greenhouse gas emissions associated with the Scheme design and identify opportunities to improve resource efficiency and reduce carbon, such as reuse of existing carriageway infrastructure, use of precast materials where possible and provision of renewable energy for the site compound. The carbon management and mitigation approach for the Scheme aligns with <i>PAS 2080</i> best practice, via an iterative system which repeatedly evaluates the Scheme, for example, the use of low carbon solutions or techniques that reduce resource consumption. The output is a Scheme which is optimised as far as reasonably practicable.
5.37	Operational greenhouse gas emissions from some types of national network infrastructure cannot be totally avoided. Given the range of non-planning policies aimed at decarbonising the transport system, government has determined that net increase in operational greenhouse	The assessment, as presented in Chapter 14 (Climate) of the ES (TR010065/APP/6.1), includes operational emissions encompassing emissions from road users, energy requirement, renewal and maintenance, and land use change (changes to habitat in line with the BNG and landscape design).



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	gas emissions is not, of itself, reason to prohibit the consenting of national network projects or to impose more restrictions on them in the planning policy framework. Any carbon assessment will include an assessment of operational greenhouse gas emissions, but the policies set out in chapter 2 of the NPS, apply to these emissions. Operational emissions will be addressed in a managed, economy wide manner, to ensure consistency with carbon budgets, net zero and our international climate commitments. Therefore, approval of schemes with residual carbon emissions is allowable and can be consistent with meeting carbon budgets, net zero and the UK's Nationally Determined Contribution.	DMRB LA 114 states that 'projects shall only report significant effects where increases in GHG emissions will have a material impact on the ability of Government to meet its carbon reduction targets'. It also notes that the current NPSNN reports that 'it is very unlikely that the impact of a road project will, in isolation, affect the ability of Government to meet its carbon reduction plan targets' and that in this context 'it is considered unlikely that projects will, in isolation, conclude significant effects on climate'. The assessment includes a comparison of estimated GHG emissions arising from the Scheme with UK carbon budgets in line with DMRB LA 114. The results of this comparison are presented in Table 14.21 of the Chapter 14 (Climate) of the ES (TR010065/APP/6.1), following the format of Table 3.18 in DMRB LA 114. Further information is also set out in Chapter 14 (Climate) of the ES (TR010065/APP/6.1).
5.41	The applicant should consider the full range of potential impacts on ecosystems (including habitats and protected species) and provide	Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) considers the likely significant effects of the Scheme on internationally, nationally and locally designated sites of ecological



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	environmental information proportionate to the likely impacts of the infrastructure on biodiversity and nature.	 importance, on protected species, and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The Scheme will achieve a net gain in habitat units within the Order Limits of the Scheme with the exception of the areas of impact and compensation for lowland meadow. Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices (TR010065/APP/6.3). The assessment concludes the following: It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC and Ramsar during construction. A Moderate Adverse effect is anticipated on Great North Road Grasslands LWS during construction. A Slight Adverse effect is anticipated on Dairy Farm Railway Strip, Newark LWS, Newark (Beet Factory) Dismantled LWS, Old Trent Dyke LWS and Newark Trent Grassland LWS during construction. A Slight Adverse effect is anticipated on HPI and non HPI during construction. A Slight Adverse effect is anticipated on



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		 three veteran trees during construction. The Scheme is anticipated to have a Slight Adverse effect during construction on badger, bats, breeding and wintering birds, fish, reverting to Neutral once operational. The Scheme is anticipated to have a Slight Adverse effect on barn owls during construction and operation. The Scheme is anticipated to have a Slight Adverse effect during construction on invertebrates (aquatic and terrestrial) and water vole. The Scheme is anticipated to have a Slight Beneficial effect on reptiles during construction. The Scheme is anticipated to have a Neutral effect on otter during construction and operation. With mitigation, no significant effects upon biodiversity are likely during construction and operation.
		Chapter 9 (Geology and Soils) of the ES (TR010065/APP/6.1) considers the likely significant effects of the Scheme on designated areas of geological importance.



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5.42	The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geographical conservation interests as well as consider how their proposal will deliver Biodiversity net gain in line with the requirements in a Biodiversity Gain Statement as set out in paragraphs 4.20 to 4.23 above.	The Scheme has taken into account the locations of valuable and priority habitats, including important connective habitats (i.e., hedgerows, watercourses and treelines) and the location of any protected species. The mitigation hierarchy has been followed to modify the design to avoid impacts to these features where practicable. Whilst the Scheme will achieve an overall net gain in habitat units within the Order Limits there is an exception to this regarding the areas of impact and compensation for lowland meadow. Impacts to lowland meadow will need to be agreed separately with Natural England through a bespoke compensation agreement. Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of
F 40	To avoid have as disturbance in line	the Environmental Statement Appendices (TR010065/APP/6.3).
5.43	To avoid harm or disturbance in line with the mitigation hierarchy the applicant should demonstrate:	The Scheme has taken into account the locations of valuable and priority habitats, including important connective habitats (i.e., hedgerows,
	 developments are designed to avoid the risk of harm and to minimise the footprint of the development and/or to retain the site's important habitat features. 	watercourses and treelines) and the location of any protected species. The mitigation hierarchy has been followed to modify the design to avoid impacts to these features where practicable. Embedded mitigation incorporated into the



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	 developments are designed and landscaped to provide green corridors and minimise habitat fragmentation (for example using underpasses or green bridges to link habitats). during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works. during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species and habitats follow the mitigation hierarchy (including as a consequence of transport access arrangements). For example, plan for construction work to be carried out at specific times to avoid sensitive times and location, such as breeding season for wild birds and lifecycles for migratory fish. 	 Scheme design development is outlined in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1) and includes: The Scheme has been designed to minimise habitat loss with a focus on avoiding high value and/or irreplaceable habitat present. All veteran trees within or in close proximity to the Order Limits have been retained. Habitats of principle importance and habitats of high distinctiveness (condition assessment for BNG) have been retained wherever possible. For example, attenuation ponds have been positioned to maximise retention of mature trees, hedgerows and habitat of principal importance. Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to Local Wildlife Sites (LWSs) and priority habitats. Where possible, the design has incorporated drainage into existing infrastructure such as outfalls, swales/ditches and culverted pipes. This has helped to minimise the loss and damage to riparian and aquatic habitat,



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		including disturbance of sediments and therefore reduce impacts to spawning fish.
		Mitigation measures during construction and operation are described within Section 8.10 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1).
		These mitigation measures are included in the REAC which forms part of the First Iteration EMP (TR010065/APP/6.5) which would be developed into a Second Iteration EMP for implementation during construction in accordance with requirement 3 of the draft DCO (TR010065/APP/3.1), The Second Iteration EMP must substantially accord with the First Iteration EMP. Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan is secured by Requirement 12 of the draft DCO (TR010065/APP/3.1).
5.44	If avoidance or reduction of harm is	The mitigation hierarchy has been followed to
	not possible, applicants should include appropriate mitigation	modify the design to avoid impacts to features where practicable. Embedded mitigation
	measures, in line with the mitigation	incorporated into the Scheme design development



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	hierarchy, as an integral part of their proposed development, including identifying where and how these will be secured in the long term.	is outlined in Chapter 2 (The Scheme) of the ES. Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) summarises the mitigation measures required during the construction and operation.
		These mitigation measures are included in the REAC which forms part of the First Iteration EMP (TR010065/APP/6.5). In accordance with requirement 3 of the draft Development Consent Order (DCO) (TR010065/APP/3.1) a Second Iteration EMP would be developed and implemented by the Principal Contractor prior to construction commencing. The Second Iteration EMP must substantially accord with the First Iteration EMP. Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) also depicts the environmental mitigation included as part of the design. Compliance with the principles of the Environmental Masterplan is secured by Requirement 12 of the draft DCO (TR010065/APP/3.1).
5.45	If avoidance or bespoke mitigation measures are insufficient or not possible, as a last resort, appropriate compensation measures should be sought and implemented. For	Any compensation measures required during construction and operation are outlined in Section 8.10 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1).



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	example, moving protected species out of the development site and where practicable, restore habitats after construction works have finished.	To compensate for the loss of approximately 11,290 square metres of lowland mixed deciduous woodland habitat of principal importance (HPI), including those located within a Local Wildlife Site (LWS), approximately 20,800 square metres of deciduous woodland will be planted Scheme wide. Where possible, creation of habitats has been prioritised in areas connected and adjacent to areas of the equivalent HPI lost. Where this cannot be achieved within the Order Limits, compensation will be delivered offsite (negotiations are ongoing to secure agreements with landowners prior to submission, where possible). This is the case for lowland mixed deciduous woodland HPI, where approximately a further 13,000 square metres of woodland will be subject to enhancement to a higher quality lowland mixed deciduous woodland, currently anticipated to be provided at Doddington Hall (or another suitable solution). Further details are provided in the First Iteration EMP (TR010065/APP/6.5). This is based on a BNG metric ratio 1:1.5 for habitat enhancement of lowland mixed deciduous woodland HPI.
5.46	The applicant should not just look to mitigate direct harms but should show how the project has taken advantage	Refer to draft NPSNN paragraphs 4.22, 5.42 and 5.144.



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	of opportunities to conserve and enhance biodiversity, having regard to any relevant Local Nature Recovery Strategy. Opportunities will be taken to enhance or expand existing habitats and create new habitats in accordance with biodiversity net gain requirements. Habitat creation, enhancement and management proposals should include measures for climate resilience, including appropriate species selection. Maintaining habitat connectivity is important for climate resilience and the biodiversity of ecological networks.	It is anticipated that the Nottinghamshire and Nottingham Nature Recovery Strategy will be published in 2025. Farndon West FCA design considers the appropriate location of hibernacula (log and brash piles provision from retained felled trees) in species rich grassland with areas of scrub with regard to flooding events (frequency and severity). Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2) details a climate resilient planting design, which has considered the following: diverse mix of native species of local provenance (avoiding homogenous planting, prone to spread of disease), soil composition for habitat creation (e.g. identified suitable areas for lowland meadow creation), an overall gain in habitats that provide carbon sequestration (reedbeds and woodland), maintaining and enhancing habitat connectivity facilitating the movement of wildlife, designed to be maintained for perpetuity prescribed in the First Iteration EMP (TR010065/APP/6.5) and Second Iteration EMP. Climate resilience was considered within the BNG assessment (Appendix 8.14 of the Environmental Statement Appendices (TR010065/APP/6.3) to support the initial and long-term feasibility of the



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	planting design. Strategic Significance also informed the planting design; prioritising the creation of habitats in locations which are ecologically important (with reference to local policy or strategy, or for creating or enhancing connective corridors).
Wider ecosystem services and benefits of natural capital should also be considered when designing enhancement measures in order to maximise multi-functional benefits whilst minimising land take. For example, this can be achieved through integration of Biodiversity net gain features within a sustainable drainage system; the use of green roofs and walls to harvest rainwater and ameliorate urban heating; or the restoration of rivers to reduce flood risk and provide attractive amenity areas.	The Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3) details the incorporation of SuDs within the drainage of the Scheme. The use of SuDS is the key driver of the drainage and flood risk strategy, utilising nature-based solutions to minimise flood risk and maximise additional benefits.
The Secretary of State will need to take account of the advice provided to the applicant by Natural England and/or the Marine Management Organisation, as regards any	The Applicant has engaged with the Natural England and there will be ongoing engagement as the Scheme progresses. Further information on engagement that has taken place, and areas of agreement and disagreement
	Wider ecosystem services and benefits of natural capital should also be considered when designing enhancement measures in order to maximise multi-functional benefits whilst minimising land take. For example, this can be achieved through integration of Biodiversity net gain features within a sustainable drainage system; the use of green roofs and walls to harvest rainwater and ameliorate urban heating; or the restoration of rivers to reduce flood risk and provide attractive amenity areas. The Secretary of State will need to take account of the advice provided to the applicant by Natural England and/or the Marine Management



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	whether Natural England and/or the Marine Management Organisation has granted or refused, or intends to grant or refuse, any relevant licences, including protected species mitigation licences. In advance of formal submission, applicants are	identified during pre-application consultation with Natural England, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the Development Consent Order examination.
	encouraged to use Natural England's Letter of No Impediment Approach and engage with Natural England.	A European Protected Species Mitigation (EPSM) licence will be required to allow for derogation from legislation and therefore the lawful destruction of a bat roost (F004). A full draft mitigation licence for bats (A13) will be compiled and provided to Natural England for review, to obtain a Letter of No Impediment (LONI). The LONI will be used to support the development consent application, subject to Natural England response timescales, to evidence that there is no impediment to a licence being granted in the future, should development consent be granted. The Method Statement supporting the licence application will detail impacts and appropriate mitigation measures, informed by robust survey data. Please refer to the Consents and Agreements Position Statement (TR010065/APP/3.3) for further details of the Applicant's intended strategy for obtaining consents and agreements (including any licences, permits and other approvals) needed to implement



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		the Second Iteration EMP and the Scheme. Full details of the consultation undertaken with Natural England can be found in section 8.4 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) and Table 3.2 of the Consultation Report (TR010065/APP/5.1).
5.50	The government's 25 year Environmental Plan marked a step change in ambition for wildlife and the natural environment. The Secretary of State should have regard to the aims and goals of the government's Environmental Improvement Plan, the United Nations Environmental Programme Convention on Biological Diversity of 1992 and any relevant measures and targets, such as the Environment Act 2021 targets. In doing so, the Secretary of State should also take account of the context of the challenge of climate change; failure to address this challenge will result in significant adverse impacts to biodiversity. The benefits of nationally significant low	The Scheme is required to implement national legislation to achieve UK commitments of international nature obligations (this includes the United Nations Environmental Programme Convention on Biological Diversity of 1992). Section 8.3 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) sets out the principal legislation and planning context for the assessment of the environmental effects of the Scheme on biodiversity. The relevant legislation and policies have been taken into account in the assessment and this includes the government's 25 year Environment Plan and the Environment Act 2021. This plan is the Government's vision for biodiversity improvements in England and identifies the need to explore 'net gain' within the planning system. The Scheme has considered biodiversity net gain. The Applicant has submitted a Biodiversity Net Gain (BNG) Technical Report in



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	carbon transport infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh the harm to those interests. However, mitigation hierarchy will still need to be applied.	Appendix 8.14 of the ES Appendices (TR010065/APP/6.3) which outlines the Scheme's net gain in biodiversity. The UK Biodiversity Action Plan (BAP), now superseded by documents that have expired, provided lists of BAP Priority Habitats and Species. Those that occur in England are now identified as habitats and species of principal importance for the conservation of biodiversity under section 41 of The Natural Environment and Rural Communities (NERC) Act 2006. These have been taken into account in the assessment.
5.53	The most important sites for biodiversity in the UK are those identified and designated to meet the obligations of international biodiversity conventions, and which are afforded special protection by the Habitats Regulations. These sites are designated as Special Areas of Conservation and Special Protection Areas and are collectively known as Habitat Sites. The following should be	There are no designated sites of international importance (National Site Network or Ramsar sites) within 2 kilometres of the Scheme or within 200 metres of the ARN. There are no sites within the National Site Network where bats are a qualifying feature, within 30 kilometres of the Scheme. Section 8.8 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) outlines that the Humber Estuary Ramsar and SAC are hydrologically
	given the same protection as sites legally protected by the Habitats Regulations: potential Special Protection Areas and possible	connected to the Scheme, downstream of the River Trent approximately 53 kilometres directly from the Order Limits and 75 kilometres via the River Trent. Given the distance of the SPA from



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	Special Areas of Conservation, listed or proposed Wetlands of International Importance (Ramsar sites), and sites identified, or required, for compensatory measures for adverse effects on habitat sites.	the Order Limits and the nature of the qualifying feature for this designation (various bird species and the non-breeding waterfowl assemblage), the Scheme will not impact this designated site and so it has been scoped out of further assessment. The SAC is also of international importance for Annex I habitats present. These receptors will not be affected by the Scheme due to the distance from the source of potential impacts and so habitats within the SAC are scoped out of further assessment. River lamprey Lampetra fluviatilis and sea lamprey Petromyzon marinus (qualifying features of the Humber Estuary Ramsar and SAC) migrate up rivers to spawn and therefore the River Trent may serve as a migratory route or habitat for lamprey species. The Humber Estuary Ramsar and SAC are included in the baseline for this reason. No significant areas of gravel substrate suitable for lamprey spawning have been identified within the Order Limits or within 2 kilometres downstream within the River Trent. It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC and Ramsar during construction. Essential mitigation is set out in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1). This includes the following:



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		 Temporary drainage and silt management techniques which are outlined in Appendix 13.4: Drainage Strategy Report of the ES Appendices (TR010065/APP/6.3). This includes the use of bubble curtains and floating oil booms. ECoW monitoring of silt curtains to mitigate sediment disturbance and smothering of gravels. In addition to embedded mitigation (e.g., directional lighting), the use of task lighting with cowls will be used. Use of low noise/vibration piling set-up and a slow start-up, where possible, for all night works and sheet piling adjacent to the River Trent. All essential mitigation is secured within the First Iteration EMP (TR010065/APP/6.5) and shown on Figure 2.3: Environmental Masterplan of the ES Figures (TR010065/APP/6.2) where relevant.
5.54	The Habitats Regulations set out a specific process (see paragraphs 4.12 to 4.16) to assess the likely implications for these sites from a proposed plan or project, To maintain	See response to draft NPSNN paragraph 5.53 above.



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	the overall cohesion of the National Site Networks, such plans or projects may only proceed if the assessment concludes they will not adversely affect the integrity of the site or, in the case of a negative assessment, if there are no alternative solutions, and they must proceed for imperative reasons of overriding public interest with the necessary compensatory measures secured.	
5.56	Where a proposed development on land within or outside of a Site of Special Scientific Interest is likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) development consent should not normally be granted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest.	There are no sites of Special Scientific Interest located within 2 kilometres of the Scheme.



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	The Secretary of State is bound by the duty placed on all public bodies in section 28G of the Wildlife and Countryside Act 1981 to take reasonable steps, consistent with the proper exercise of their functions, to further conservation and enhancement of the features by reason of which a site is of special scientific interest.	
5.57	Ancient woodland, ancient wood pastures and parkland, and ancient and veteran trees are irreplaceable habitats. Their long-standing presence, species and form serve as a rich cultural record of past management practices. Ancient and veteran trees are a valuable biodiversity resource for diversity of species and unique ecological conditions, once lost they cannot be recreated. Many ancient woodlands provide ecosystem services, for example, water and soil health, carbon storage, flood alleviation and pollution mitigation as well as	Section 8.8 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) states that a slight adverse effect is anticipated on three veteran trees during construction. The Scheme will result in the direct partial impact of the root protection areas (RPA) of three veteran trees (T038, T136, T139). This will be caused by construction of a maintenance track and earthworks, including drainage pipe installation. The Applicant has explored numerous design iterations in order to try and avoid the RPAs of these trees, including steepening the gradient of the widened carriageway embankment as far as is feasible. However, none of these iterations have



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	people to make important contact with nature that helps to promote interest in the protection of these	practicable to carry out and would also avoid any direct partial impact on the RPA of the trees.
	habitats, while delivering many health and wellbeing benefits. Keepers of Time, the government's policy for ancient and native trees and woodlands in England, sets out the government's commitment to maintain and enhance the existing area of ancient woodland and to maintain and enhance the existing resource of known ancient and veteran trees, excluding natural losses from disease and death, and to increase the percentage of ancient woodland in active management.	Mitigation measures to minimise the impacts of the Scheme during construction are included within the First Iteration EMP (TR010065/APP/6.5). Whilst the Scheme design iterations have resulted in the retention of veteran trees, the impact on three is unavoidable. It is anticipated that, with arboricultural supervision to ensure works are undertaken in line with best practice, the level of disturbance stated above can be tolerated by these trees. It is difficult to predict this with certainty and therefore ongoing monitoring is proposed to inform any remedial action. The need for management of the retained veteran tree crown (for clearance of maintenance vehicles) would be assessed during the annual monitoring surveys of the veteran tree health (as detailed in the First Iteration EMP (TR010065/APP/6.5)).
		No ancient woodlands or ancient trees have been identified within 1 kilometre of the Order Limits.
5.58	The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable	The Scheme will not result in the loss of ancient woodland and ancient trees, although there will be impact on three veteran trees as set out in the response to draft NPSNN paragraph 5.57. This will



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	habitats including ancient woodland and ancient or veteran trees unless there are wholly exceptional reasons (for example, where a public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.	be carefully managed, and it is anticipated that, with arboricultural supervision to ensure works are undertaken in line with best practice, the level of disturbance to these veteran trees can be tolerated by these trees.
5.59	Marine Conservation Zones, introduced under the Marine and Coastal Access Act 2009, have been designated for the purpose of conserving marine flora or fauna, marine habitats or types of marine habitat or features of geological or geomorphological interest. The protected feature or features and the conservation objective for the Marine Conservation Zones are stated in the designation order for the Marine Conservation Zones, which provides statutory protection for these areas. Measures to restrict damaging activities will be implemented by the Marine Management Organisation and other relevant organisations. As a public authority, the Secretary of	The Scheme is not located in any Marine Conservation Zones.



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	State is bound by the duties in relation to Marine Conservation Zones imposed by sections 125 and 126 of the Marine and Coastal Access Act 2009.	
5.60	Sites of regional and local biodiversity and geographical interest, which includes Local Geographical Sites, Local Nature Reserves, and Local Wildlife Sites and Nature Improvement Areas, are areas of substantive nature conservation value and make an important contribution to ecological networks and nature's recovery. They can also provide wider benefits including contributing to the quality of life and wellbeing of the community and in supporting research and education. The Secretary of State should give due consideration to any such harm to the detriment of biodiversity features of regional or local importance which it considers may result from the proposed development. However, given the need for new infrastructure, these designations should not be	 Section 8.8 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) identifies 43non-statutory designated sites of county importance are located within 1 kilometre of the Scheme and/or within 200 metres of the ARN (which are considered to support habitats sensitive to nitrogen deposition). Section 8.13 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) outlines the impact of the Scheme on regional and local sites. The assessment concludes: A Moderate Adverse effect is anticipated on Great North Road Grasslands LWS during construction. A Slight Adverse effect is anticipated on Dairy Farm Railway Strip, Newark LWS, Newark (Beet Factory) Dismantled LWS, Old Trent Dyke LWS and Newark Trent Grassland LWS during construction. No effects are anticipated on the remaining LWS during construction and operation. These include Kelham Hall Shingle Bank



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	used in themselves to refuse development consent, nevertheless the mitigation hierarchy applies to these sites.	LWS, Kelham Road Grassland LWS, Kelham Road Grassland II LWS, Newark Dismantled Railway LWS, Railway LWS, Newark Grassland LWS, Redoubt Grassland LWS, River Trent – Kelham LWS, River Trent, Staythorpe LWS, Trent Banks/Wharves, Newark LWS and Valley Farm Grassland LWS. Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) sets out the compensation and mitigation measures. Due to the proximity of LWS immediately adjacent to the existing road network, an air quality barrier would not be feasible as it would result in the direct loss of habitat along the edge of the LWS for installation, whilst maintaining sight lines of road users and the working area of Vehicle Restraint Systems (VRS). Where possible, habitats within LWS in poor condition will be enhanced to compensate for increased nitrogen deposition during operation which cannot be mitigated. As planting along the A46 carriageway corridor establishes, over time it will act as more of a buffer to adjacent grassland shown in Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).



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		Mitigation measures to minimise the impacts of the Scheme during construction are included within the First Iteration EMP (TR010065/APP/6.5).
5.61	Development proposals provide many opportunities for incorporating beneficial biodiversity or geological features as part of good design. Nature contributes to the quality of a place, to people's quality of life, the attractiveness of active travel routes and movements, and it is a critical component of well-designed development. Road and rail projects can also play a part in meeting government tree planting and nature recovery targets through partnership working with adjoining landowners, delivery biodiversity, carbon offsetting and social benefits.	Chapter 11 of The Scheme Design Report (TR010065/APP/7.5) sets out the environmental considerations that have influenced the design of the Scheme including incorporating opportunities for beneficial biodiversity. The chapter sets out the embedded mitigation measures that have been incorporated into the design from the outset. For example, the landscape design objectives include retaining notable extents of existing planting and providing new planting to replicate existing features and establish visual screening. The environmental mitigation strategy also seeks to reinstate landscape features lost as a result of the Scheme and enhance the landscape context wherever possible. Examples include reinstatement of linear belts of trees and shrubs, woodland, grassland and hedgerows, as shown on the First Iteration Environmental Masterplan (TR010065/APP/6.5) presented in Figure 2.3 of the Environmental Statement Figures (TR010065/APP/6.2).



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5.62	Consideration should be given to the impacts on, and improvements to, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, relevant to the local area and communities. The value of linear infrastructure and its footprint in supporting biodiversity and connecting habitats ecosystems should also be taken into account. Local Nature Recovery Strategies will identify opportunities to create or enhance habitat likely to have greatest benefit to biodiversity and wider environmental improvement. Consideration should also be given to national priorities and targets, such as reduced flood risk, improved air or water quality, and increased access to natural greenspace, or tree planting, woodland creation and protecting long established woodlands.	Impacts on habitats and species have been considered in the context of maintaining connectivity, maximising biodiversity delivery and the retention of sensitive ecological features. The importance of linear infrastructure is acknowledged throughout the assessment. Chapter 7 (Landscape and Visual Effects) of the ES (TR010065/APP/6.1) refers to the retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include, but not limited to, areas of species rich grassland, hedgerows, hedgerows with trees, linear belts of shrubs and trees and woodland, as well as wetland planting of drainage features and habitat creation at Farndon East and West Floodplain Compensation Areas (FCAs). The Scheme will achieve a net gain in habitat units within the Order Limits of the Scheme, further details are set out in the BNG Technical Report (TR010065/APP/6.3).



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		It is anticipated that the Nottinghamshire and Nottingham Nature Recovery Strategy will be published in 2025.
5.63	When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities and enhancement of wider biodiversity, in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered, and ongoing management and maintenance secured.	Chapter 11 of The Scheme Design Report (TR010065/APP/7.5) sets out the environmental considerations that have influenced the design of the Scheme including incorporating opportunities for beneficial biodiversity. The chapter sets out the embedded mitigation measures that have been incorporated into the design from the outset. Also see response to draft NPSNN paragraph 5.62 above.
5.64	Many individual wildlife species receive statutory protection under a range of legislative provisions. Some species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and therefore requiring conservation action. As a public authority, the	Habitat surveys have been undertaken to understand the existing ecological conditions. A desk study and further ecological surveys have been undertaken to gather baseline information on protected and notable species in the vicinity of the Scheme. This includes surveys for barn owls, bats, badgers, wintering birds, breeding birds, reptiles, great crested newt, fish and water voles. The outcomes of the surveys undertaken are



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	Secretary of State is bound by the duty in by section 40 of the Natural Environment and Rural Communities Act 2006 (as amended by section 102 of the Environment Act 2021) to periodically consider what action an authority can take, consistent with the exercise of its functions, to further the conservation and enhancement of biodiversity. In doing so, the Secretary of State may consider the impact on species and habitats listed under section 41 of the Act. The Secretary of State should ensure that applicants have taken measures to ensure these species and habitats are protected from the adverse effects of the development by using requirements, planning obligations, or licence conditions, The Secretary of State should refuse consent where harm to habitats or species and their habitats would result, unless the benefits of the development (including need) clearly outweigh that harm.	 summarised in Section 8.5 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1). The assessments conclude the following: The Scheme is anticipated to have a Slight Adverse effect during construction on badger, bats, breeding and wintering birds, fish, reverting to Neutral once operational. The Scheme is anticipated to have a Slight Adverse effect on barn owls during construction and operation. The Scheme is anticipated to have a Slight Adverse effect during construction on invertebrates (aquatic and terrestrial) and water vole. The Scheme is anticipated to have a Slight Beneficial effect on reptiles during construction. The Scheme is anticipated to have a Neutral effect on otter during construction and operation. Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) sets out the compensation measures for such species during construction and operation, and the overall mitigation, including embedded mitigation.



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		Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) identifies opportunities for Biodiversity Net Gain (BNG) and enhancement of biodiversity resources. The potential for the Scheme to deliver biodiversity net gains has been considered as part of the design-development and assessment processes. Loss of any habitat of conservation value will be replaced like-for-like (in condition) as a minimum requirement providing a greater area than was lost. When habitat planting has established, including offsite compensation once secured, there will be a net gain of habitats equivalent to habitats of principal importance (HPI) lost to construction. The habitat strategy is based on the principles of no net loss and has also achieved an overall net gain in habitats of biodiversity value which are of benefit to a wide range of protected species. Whilst the Scheme will achieve an overall net gain in habitat units within the Order Limits there is an exception to this regarding the areas of impact and compensation for lowland meadow. Impacts to lowland meadow will need to be agreed separately with Natural England through a bespoke compensation agreement.



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		Further information is contained within Appendix 8.14 (Biodiversity Net Gain Technical Report) of the Environmental Statement Appendices (TR010065/APP/6.3).
		A five-year aftercare period would follow completion of the construction works. During this time, maintenance activities will be undertaken to ensure the successful establishment of planting and provision of new functioning habitats. Maintenance and monitoring tasks are prescribed in the First Iteration EMP (TR010065/APP/6.5) and so would also be included in the Second Iteration EMP. This would include the replacement of failed or defective plants. The Second Iteration EMP will include a Landscape and Ecological Management Plan (LEMP). The LEMP will outline management and monitoring requirements for landscape and ecology aspects for the Scheme to ensure the successful establishment of essential mitigation.
5.66	The applicant should demonstrate that they will adhere to the waste hierarchy, minimising the volume of waste produced and maximising reuse and recycling for waste that cannot be avoided. Where possible, applicants are encouraged to use low	Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1) provides an assessment of the likely significant effects of the Scheme on the use of primary, secondary, recycled and manufactured materials, and the generation and management of waste.



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	carbon materials, sustainable sources, and local suppliers. Consideration should be given to circular economy principles wherever practicable, for example, by using longer lasting materials efficiently, optimising the use of secondary materials and how the development will be maintained and decommissioned. Applicants should consider and take into account emerging government policy including the Waste Prevention Programme for England and Defra's Construction Code of Practice for Sustainable Use of Soils on Construction Sites, which provides practical guidance on how to improve appropriate soil reuse on construction sites and reducing the volume that is sent to landfill.	The design and mitigation measures outlined in Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1) would ensure the efficient use of material assets on site, and that the reuse of material is made a priority and recycled, or secondary material is used wherever technically appropriate and economically feasible. In advance of the construction phase of the Scheme, a Site Waste Management Plan (SWMP would be implemented to co-ordinate the removal and treatment of the produced waste. Also, a waste hierarchy will be implemented to minimise the production of waste material, with the operational phase to produce no additional waste. An Outline SWMP has been produced and is contained within Appendix B of the First EMP (TR010065/APP/6.5) and will be developed into a full SWMP as part of the development of the Second Iteration EMP prior to construction. The assessment in Chapter 10 (Materials Assets and Waste) of the ES (TR010065/APP/6.1) together with the Outline SWMP takes into account the waste hierarchy. Waste management options would be as high up in the waste hierarchy as is technically and economically feasible.



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		Where appropriate, detriment associated with waste will be mitigated through the delivery of material 'as required', the reuse of excavated material for landscaping purposes, and the use of pre-cast material to avoid waste from off-cuts.
		The Waste Prevention Programme for England and Defra's Construction Code of Practice for Sustainable use of Soils on Construction sites have been considered within Section 10.3 (Policy and Legislative Framework) of Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1).
5.67 - 5.68	Sustainable waste management is implemented through the waste hierarchy:	See response to draft NPSNN paragraph 5.66 above.
	 prevention preparing for reuse recycling other recovery, including energy recovery disposal 	The waste hierarchy and circular economy principles would be implemented throughout the construction phase to minimise disposal and maximise reuse and recycling of waste arising. Opportunities for reuse and recycling of waste include (but are not limited to):
	• uisposai	 Reusing excavated soils that includes stored topsoil on site in the landscaping features of the A46 or in flood compensation areas. Excavated materials would also be considered to create flood bund when



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		possible. Surplus soils would be offered to projects in close proximity to the Scheme for reuse on land, whenever possible. Chipping green waste on site for use in the landscaping for the Scheme. Composting of green waste. Recycling inert materials by crushing, blending and subsequent reuse, as an aggregate. Reusing waste on other nearby schemes, which includes reuse of Construction & Demolition waste from bitumen road surfaces, existing footway, tar products, highway kerb stone, concrete, mortar, drainage pipes, rock, steel, asphalt. Reusing waste for uses with clear benefits to the environment, for example in the remodelling of agricultural land or in the restoration of nearby quarries or other excavation sites. Providing on site facilities to separate out waste enable the recovery of material through recycling. Where waste must be taken to a recycling or disposal site, the Principal Contractor would ensure that the site has the appropriate permits. In addition, the suitable facility would



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		be located as close to the works as possible to minimise the impacts of transportation, in particular the release of carbon emissions. The Principal Contractor would identify the closest and relevant treatment and disposal sites.
		Further details are set out in the Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1). The opportunities will also be set out in the OSWMP which has been produced and is contained within Appendix B of the First Iteration EMP (TR010065/APP/6.5) and will be developed into a full SWMP by the Principal Contractor prior to construction.
5.69	Large infrastructure projects may generate hazardous and non-hazardous waste during construction and operation. The Environmental Permitting regime, regulated by the Environment Agency in England, incorporates operational waste management requirements for certain activities. Applicants should therefore give consideration to the Environmental Permitting regime and	Section 10.3 of Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1) outlines relevant national legislation, including the Environmental Permitting regime, and how this has been taken into account. Waste would be managed in appropriate and permitted facilities, and the Scheme's activities would adhere to these Regulations, if required, for waste storage, use or disposal. The Applicant has considered the Environmental Permitting regime, further details are set out in Chapter 10 (Material Assets and



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	whether this applies to their development.	Waste) of the ES (TR010065/APP/6.1).
5.70	Infrastructure projects should look to use legal and sustainable timber and other Modern Methods of Construction where possible.	The Scheme would as far as possible look to use modern methods of construction. Construction mitigation measures are set out in Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1).
5.71	The Secretary of State should consider the extent to which the applicant has proposed an effective process that will be followed to ensure safe and effective management of waste arising from the construction and operation of the proposed development. It is advised that this is detailed in the dedicated plans summarising the sustainable	In advance of the construction phase for the development of the Scheme, a SWMP will be implemented to co-ordinate the removal and treatment of the produced waste. Also, a waste hierarchy will be implemented to minimise the production of waste material during construction, and the operational phase will produce no additional waste. As part of the submission an Outline SWMP is provided at Appendix [x] of the First Iteration EMP (TR010065/APP/6.5).
	use of resources and waste for both construction and operation as part of the application documentation. The Secretary of State should be satisfied that the process sets out: • how waste will be managed,	Where appropriate, detriment associated with waste would be mitigated through the delivery of material 'as required', the reuse of excavated material for landscaping purposes, and the use of pre-cast material to avoid waste from off-cuts.
	 both on-site and off-site that consideration has been given to available waste management infrastructure 	The waste hierarchy and circular economy principles would be implemented throughout the construction phase to minimise disposal and



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	capacity to manage waste arising from the development • adequate steps have been taken minimising the volume of waste arising and maximise opportunities for reuse and recycling.	 maximise reuse and recycling of waste arising. Opportunities for reuse and recycling of waste include (but are not limited to): Reusing excavated soils that includes stored topsoil on site in the landscaping features of the A46 or in flood compensation areas. Excavated materials will also be considered to create flood bund when possible. Surplus soils would be offered to projects in close proximity to the Scheme for reuse on land, whenever possible. Chipping green waste on site for use in the landscaping for the Scheme. Composting of green waste. Recycling inert materials by crushing, blending and subsequent reuse, as an aggregate. Reusing waste on other nearby Schemes, which includes reuse of Construction & Demolition waste from bitumen road surfaces, existing footway, tar products, highway kerb stone, concrete, mortar, drainage pipes, rock, steel, asphalt. Reusing waste for uses with clear benefits to the environment, for example in the remodelling of agricultural land or in the



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		 restoration of nearby quarries or other excavation sites. Providing on site facilities to separate out waste enable the recovery of material through recycling. Where waste must be taken to a recycling or disposal site, the Principal Contractor would ensure that the site has the appropriate permits. In addition, the suitable facility would be located as close to the works as possible to minimise the impacts of transportation, in particular the release of carbon emissions. The Principal Contractor would identify the closest and relevant treatment and disposal sites.
		Further details are set out in the Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1). The opportunities will also be set out in the OSWMP which has been produced and is contained within Appendix B of the First Iteration EMP (TR010065/APP/6.5) and will be developed into a full SWMP by the Principal Contractor prior to construction.
5.114-5.115	The applicant should assess the potential for emissions of odour, dust,	In respect of emissions of odour, smoke and steam, these have not been assessed in the ES



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	steam, smoke and artificial light to have a detrimental impact on amenity. In particular, the assessment provided by the applicant should describe: • the type and quantity of emissions • aspects of the development which may give rise to emissions during construction, operation and decommissioning • premises, locations or species that may be affected by the emission • effects of the emission on identified premises or locations • measures to be employed in preventing or mitigating emissions	and have been scoped out. The following ES (TR010065/APP/6.1) chapters assess the likely significant effect from emissions of, dust and artificial light: • Chapter 5: Air Quality • Chapter 7: Landscape and Visual Chapter 5 (Air Quality) of the ES (TR010065/APP/6.1) includes a qualitative assessment of potential dust effects for the Scheme, based on a review of likely dust raising activities and identification of sensitive receptors within 200 metres of the study area. It concludes potential dust impacts would be suitably controlled using the best practice mitigation measures set out within the First Iteration EMP (TR010065/APP/6.5) which will be developed into the Second Iteration EMP prior to and for implementation during construction. Chapter 7 (Landscape and Visual Effects) of the ES (TR010065/APP/6.1) considers the visual receptors that could experience potential adverse effects during construction and operation of the Scheme as a result of increase in light pollution



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		from vehicles and artificial lighting at construction compounds at night or lighting associated with night time construction activities.
		Mitigation measures, of relevance to dust and artificial light, set out in the First iteration EMP (TR010065/APP/6.5) include:
		 Minimising height of stockpiles and profile to minimise wind-blown dust emissions and risk of pile collapse. Locating stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation. Ensuring that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed. Limiting works to daylight hours in the most part, with any night works to be kept to a minimum where practicable. During construction lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As



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		such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors.
		The requirements for road lighting during operation has been determined based on increasing safety for all road users, the design of which has sought to minimise adverse impacts and effects on the following:
		 Nocturnal species (for example bats) The existing landscape and visibility from nearby properties and dwellings after dark The setting of features associated with the historic environment (for example listed buildings).
		Further details are set out in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
5.116	The applicant is advised to consult the relevant local environmental health team, and where appropriate, the Environment Agency about the scope and methodology of the assessment.	The Applicant has engaged with the Environment Agency. Details of engagement with the EA on assessments is set out in Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1).



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5.117	The Secretary of State should ensure the applicant has provided sufficient information to show any necessary mitigation will be put in place. In particular, the Secretary of State should consider whether to require the applicant to abide by a Scheme of management and mitigation concerning emissions of odour, dust, steam, smoke, artificial lighting from the development to reduce any loss of amenity which might arise during construction and operation of the development. This should be detailed within a Statement Relating to Statutory Nuisance.	In respect of emissions of odour, smoke and steam, these have not been assessed in the ES and have been scoped out. The following ES (TR010065/APP/6.1) chapters outline mitigation measures of relevance in relation to emissions of dust, and artificial light: • Chapter 5: Air Quality • Chapter 7: Landscape and Visual • Chapter 12: Population and Health The Statement Relating to Statutory Nuisances (TR010065/APP/6.7) has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the Environmental Protection 1990 Act (EPA). With the essential mitigation measures set out in the First Iteration EMP (TR010065/APP/6.5) in place, none of the relevant statutory nuisances identified under section 79(1) of the EPA (dust, artificial lighting and noise) are predicted to arise during the construction and operation of the Scheme.
5.118	The Secretary of State should be satisfied that all reasonable steps have been taken, and will be taken, to	See response to NPSNN paragraph 5.117 above.



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	minimise any detrimental impact on amenity from emissions of odour, dust, steam, smoke and artificial light. This includes the impact of light pollution from artificial light on local amenity, landscapes and nature conservation, using directed light when necessary.	
5.122	Applications for projects in the following flood zone locations should be accompanied by a Flood Risk Assessment:	Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1) confirms that the Scheme is suitable and appropriate in terms of flood risk.
	 applications in Flood Zones 2 and 3, which represent a medium and high probability of river and sea flooding applications in Flood Zone 1 which represent a low probability of river and sea flooding. This includes projects of 1 hectare or 	The FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) has been undertaken because the majority of the Scheme is within Flood Zones 2 and 3. The FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) concludes that, through appropriate drainage mitigation (as outlined within
	greater, projects which may be subject to other sources of flooding (local watercourses, surface water, groundwater or reservoirs), or where the Environment Agency has notified the local planning authority that	the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), surface water flood risk to sensitive receptors is not increased as a result of the Scheme. Therefore, the magnitude of flood risk on the surface waterbodies is considered to be negligible.



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	there are critical drainage problems • applications where there is less than 1ha in Flood Zone 1, including the change of use in development type to a more vulnerable class (for example, from commercial to residential), where they could be affected by sources of flooding other than rivers or seas (for example, surface water drains, reservoirs)	
5.123	The Flood Risk Assessment should identify and assess the risks of all forms of flooding and coastal erosion to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.	The FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) has been produced as the Scheme will be, for the most part, located within Flood Zone 2 and Flood Zone 3, furthermore this is also reviewed in Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1).assesses the Scheme against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial) or sewer sources. It also assesses the risk of flooding elsewhere as a consequence of the Scheme. The assessment also takes into account climate change. This assessment determines how mitigation has been implemented into the design



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5.124	In preparing the Flood Risk Assessment, the applicant should: • consider the risk of all forms of flooding arising from the project (including in adjacent parts of the United Kingdom), in addition to the risk of flooding to the	and how any residual risks would be managed. Design considerations, mitigation measures and residual risks are described in Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1), the FRA in Appendix 13.2) and the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3). These documents demonstrate that the Scheme meets this requirement of the draft NPSNN.
	project, and demonstrate how these risks will be managed, and where relevant, mitigated, so that the development remains safe throughout its lifetime • take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made • demonstrate how residual risks to and from reservoirs will be safely managed and mitigated • consider the vulnerability of those using the infrastructure including arrangements for safe access and escape	The main flood risk sources within the study area are fluvial, surface water and groundwater. The risk from sewer flooding is minimal given the Scheme will not interact with sewer networks, and a lack of historical sewer flooding has been recorded in the vicinity of the Scheme. The risk of artificial flooding is similarly low, as the reservoirs in the area are regularly inspected. Additionally, the FCAs are free draining so do not increase the risk of artificial flooding due to a burst. A summary of flood risk is outlined in Section 10 of the FRA (Appendix 13.2 of the ES Appendices) (TR010065/APP/6.3). The FRA outlines that the risk of flooding to and from the Scheme from fluvial, surface water and groundwater is low.



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	 include the assessment of the remaining (known as residual) risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project consider if there is a need to remain operational during a worst-case flood event over the development's lifetime provide the rationale for the Secretary of State on application of the Sequential Test and Exception Test, as appropriate. 	incorporates current design standards and climate change allowances for drainage and fluvial modelling, described in Chapter 4 and Chapter 7 of the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3). The new dual carriageway is designed to minimise the risk of flooding by incorporating current design standards and future climate change allowance to improve its resilience using sustainable drainage techniques. Where surface water flow paths cross the Scheme, sufficient drainage would be maintained to ensure there is no increased flood risk to the Scheme. Along the new sections of the A46, the existing drainage regime would be updated like for like. This would ensure that there is no net loss in drainage and therefore no increased surface water flood risk to the new highway. From ground investigation surveys it was discovered that the groundwater level is close to the surface and therefore infiltration techniques to manage surface water are unsuitable. It is consequently proposed to discharge surface water from the Scheme into local drainage channels and the River Trent. For more information on the features used to



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		sustainably manage and discharge surface water away from the Scheme, ensuring the highway remains safe throughout its lifetime, please refer to the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3).
		With the designed mitigation in place, the risk to the Scheme from surface water flooding is considered to be low.
		The Scheme alignment passes through Flood Zone 3, and therefore does not automatically pass the Sequential Test. It is not viable to relocate the works in a zone with a lower probability of flooding. In order to extend the A46, the River Trent and other watercourses must be crossed. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during Options Selection of the Scheme. The Scheme is classed as Essential Infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be assessed against the Exception Test.
		To satisfy the Exception Test, hydraulic modelling has been developed to assess the flood risk to and



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		from the Scheme where it resides in Flood Zone 3. Overall, the modelling results are set out in the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3). The modelling results demonstrated that there is no significant impact on flooding once the Scheme is operational and during the construction stage.
5.125	Applicants for projects which may be affected by, or may add to, flood risk should seek sufficiently early preapplication discussions, before the official pre-application stage of the NSIP process with the Environment Agency, and, where relevant, other flood risk management bodies such as lead local flood authorities, Internal Drainage Boards, sewerage undertakers and local highway authorities. Such discussions can be used to identify the likelihood and possible extent and nature of the flood risk, to help scope the Flood Risk Assessment, and identify the information that will be required by the Secretary of State to reach a decision on the application once it has been submitted and examined. If	Section 4.7 of the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) outlines the consultation undertaken with the following parties: • Environment Agency • Newark Area Internal Drainage Board • Nottinghamshire County Council – Lead Local Flood Authority (LLFA) • Newark and Sherwood District Council • Severn Trent Water • Canal and River Trust The Applicant has engaged with the Environment Agency and there will be ongoing engagement as the Scheme progresses. Further information on engagement that has taken place, and areas of agreement and disagreement identified during pre- application consultation with the Consultee, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the



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	the Environment Agency has concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the Environment Agency and look to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns, before the application for development consent is submitted.	Development Consent Order examination. Further information on the engagement undertaken can be found in Chapter 3 of the Consultation Report (TR010065/APP/5.1).
5.126	For local flood risk (surface water, groundwater and ordinary watercourse flooding), local flood risk management strategies and surface water management plans provide useful sources of information for consideration in Flood Risk Assessments. Surface water flood issues need to be understood and then account of these issues can be taken, for example, flow routes should be clearly identified and managed.	The Nottinghamshire Local Flood Risk Management Strategy (LFRMS) was published in 2015. This established Nottinghamshire County Council as a LLFA. The document is aimed at better understanding and managing flood risk. It sets out the legislative context and a clear understanding of flood management roles and responsibilities. This document was considered in the production of the FRA (see Appendix 13.2 of the ES Appendices (TR010065/APP/6.3). The LFRMS states that rivers running within the Newark and Sherwood District should have their flood risk managed by allowing floodplains to flood within areas where there is no effect on the built environment. The Scheme therefore should not



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		take away from the volume of the River Trent floodplain, ensuring that the risk from fluvial flooding is not increased. The Scheme achieves this by implementing floodplain compensation areas, to mitigate for the floodplain lost.
5.127	Proposals should prioritise the use of sustainable drainage systems unless there is clear evidence that this would be inappropriate. A drainage strategy should be produced and submitted as part of the Flood Risk Assessment.	As outlined in the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), soft-engineering methods for drainage will be implemented where feasible, using SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable.
5.128	Preference should be given to locating projects in areas of the lowest flood risk. The Secretary of State should not consent development in flood risk areas (including flood zones 2 and 3 and locations at risk of flooding from local watercourses, surface water, groundwater or reservoirs) accounting for the predicted impacts of climate change unless they are satisfied that the sequential test requirements have been met. The Secretary of State should not consent development in Flood Zone 3 unless	RIS2 outlines the long-term strategic vision for the SRN and reaffirmed the Government's commitment to improvements at the A46 in Newark. The Scheme is a "committed scheme" in RIS2 and on page 98 states: "A46 Newark–Bypass – improve the capacity of the single carriageway and junctions of the A46 at Newark and provide better links to the A1." The need for the Scheme is set out in Chapter 3 and Chapter 4 of the Case for the Scheme (TR010065/APP/7.1). The Scheme alignment passes through Flood Zone 3, and therefore does not automatically pass the Sequential test. It is not viable to relocate the



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	they are satisfied that the Sequential and Exception Test requirements have been met. All projects should apply the sequential approach to locating developments within the site.	works in a zone with a lower probability of flooding. In order to extend the A46, the River Trent and other watercourses must be crossed. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during the options selection stage of the Scheme. The Scheme is classed as Essential Infrastructure and passes through Flood Zone 3. Therefore, the Scheme must be assessed against the Exception Test (see response to draft NPSNN paragraph 5.129 below). To satisfy the Exception Test, hydraulic modelling has been developed to assess the flood risk to and from the Scheme where it resides in Flood Zone 3. Overall, the modelling results demonstrated that there is no significant impact on flooding once the Scheme is operational or during the construction stage.
5.129	If, following application of the Sequential Test, it is not possible, consistent with the wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood	To satisfy the Exception Test, hydraulic modelling has been developed to assess the flood risk to and from the Scheme where it resides in Flood Zone 3. Overall, the modelling results demonstrated that there is no significant impact on flooding anticipated during construction and once the



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	Zone 3a, the Exception Test can be applied. Flood Zone 3a applies when land has a 1 in 100 greater annual probability of river flooding. The Exception Test provides a method of managing flood risk while still	Scheme is operational, however; instances where there are increases in maximum flood depths and levels associated with the Scheme are clearly detailed within the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3).
	allowing necessary development to occur.	Since the Scheme is defined as an NSIP, it is considered that the Exception Test is satisfied in terms of the benefits to the community. The information presented within the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) demonstrates that mitigation measures have been incorporated into the design to ensure that the new road will be at a low risk of flooding and would be safe for the lifetime of the development.
		 Overall, the FRA concludes: That the Scheme presents no increase in fluvial flood risk. The fluvial flood risk to the A46 itself will be minimal during operation. Most of the surface water flood risk in the study area is categorised as 'Very Low'; with some localised areas categorised as



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		 'Low', 'Medium' and 'High', representing surface water flow paths. A detailed drainage design has been provided, in which the existing drainage regime is maintained and upgraded where relevant. This is in order that surface water can freely drain from the widened A46 embankment during storm events. While the groundwater in the area is high, the main A46 structure will be elevated from the River Trent floodplain and will not be impacted by any groundwater flooding. New features of the Scheme such as concrete piling and retaining walls are not expected to increase groundwater flood risk. Residual risk to the Scheme from flood defences failure are expected to be negligible. There is a small residual risk from the Scheme to third parties at construction stage. Sensitivity testing would be undertaken to assess risk to third parties



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		and to manage these risks during construction. At operational stage, maintenance of structures and watercourses and sensitivity testing of structures would be considered to minimise these risks.
5.130-5.131	The Exception Test should only be applied once the Sequential Test has been satisfactorily applied. Both elements of the test will have to be passed for development to be consented. For the Exception Test to be passed:	The FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) considers the risk of all forms of flooding arising from the Scheme in addition to the risk of flooding to the Scheme, and demonstrates how these risks will be managed and, where relevant, mitigated, so that the development remains safe throughout its lifetime.
	 it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk a Flood Risk Assessment must demonstrate that the project will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall. 	To inform the application of the Exception Test, hydraulic modelling has been developed to assess the flood risk to and from the Scheme where it resides in Flood Zone 3. Overall, the modelling results demonstrate that there is no significant impact on flooding once the Scheme is operational and during the construction stage. It is considered that there will be no major increase in fluvial flood risk to the neighboring land



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		receptors such as residential or commercial premises, or an increase in surface water runoff as a result of the Scheme based on application of identified mitigation measures.
		Since the Scheme is also defined as a Nationally Significant Infrastructure Project (NSIP), the Exception Test is satisfied in terms of the benefits to the community and safety. The information presented within the FRA; Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) demonstrates that mitigation measures (consisting of three Floodplain Compensation Areas) have been incorporated into the design. This would result in a new road that is at a low risk of flooding and would be safe for the lifetime of the development without increasing flood risk to receptors elsewhere.
5.132	In addition, any project that is classified as 'essential infrastructure' and proposed to be located in Flood	See response to draft NPSNN paragraph 5.129 above.
	Zone 3a or b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Flood Zone 3b should result in no net loss of floodplain	As the Scheme passes through Flood Zone 3 it is within a potentially vulnerable area. The Scheme is part of the national highway network, the need for upgrading of which is set out in the Case for the Scheme (TR010065/APP/7.1). Accordingly, the



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	storage and not impede water flows.	Scheme is considered to be essential transport infrastructure that has to cross the area(s) at risk.
5.133	To satisfactorily manage flood risk and the impact of natural water cycle on people, property and ecosystems, good design and infrastructure may need to be secured using requirements or planning obligations. This may include the use of Sustainable Drainage Systems, but could also include vegetation to help slow runoff, hold back peak flows and make landscapes more able to absorb the impact of severe weather events.	As outlined in the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), soft-engineering methods for drainage would be implemented where feasible, using SuDS as a primary principle to control and treat runoff. Check-dams and planting will encourage run-off retention and absorption. Mitigation measures of relevance are secured in the First Iteration EMP (TR010065/APP/6.5) and the REAC contained within it.
5.134	Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.	The FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) concluded that through appropriate drainage mitigation (as outlined within the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), surface water flood risk to sensitive receptors is not increased as a result of the Scheme. Exceedance flows from basins would be managed and controlled via the use of engineering spillways and formalized flowpaths which would convey said exceedance to the receiving watercourses whilst minimising adverse impacts.



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5.135	The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project unless specific off-site arrangements are made and result in the same net effect.	Attenuation basins have been designed to discharge to greenfield run-off rates. High groundwater levels and low soil permeability mean that infiltration of run-off is unfeasible across the vast majority of the Scheme. Above-ground sustainable drainage devices with check-dams and planting have been used wherever possible to improve retention and percolation of run-off.
		See response to draft NPSNN paragraph 5.134 above.
5.136	If there are no viable Sustainable Drainage Systems options available, it may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration attenuation storage to be provided outside of the project site, if necessary, through the use of a planning obligation.	See response to draft NPSNN paragraphs 5.127 and 5.135 above.
5.137	The sequential approach should be applied to the layout and design of the project. Vulnerable uses should	As outlined in the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), soft-engineering methods for



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	be located in parts of the site with lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities can be taken forward to lower flood risk by improving flow routes, flood storage capacity and using Sustainable Drainage Systems.	drainage would be implemented where feasible, using SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable. The sequential approach has been applied as reasonably practicable. Attenuation features have been designed to maximise wildlife habitat and biodiversity factors.
5.138	Where flood risk is a factor in determining an application for development consent, the Secretary of State should be satisfied that, where relevant:	See responses to draft NPSNN paragraphs 5.122-5.132 above.
	 the application is supported by an appropriate Flood Risk Assessment the Sequential Test has been satisfactorily applied as part of the site selection and, if required, the Exception Test. 	
5.139	When determining an application, the Secretary of State should be satisfied that flood risk will not be increased	See responses to draft NPSNN paragraphs 5.127, 5.128 and 5.129 above.



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	elsewhere and only consider development appropriate in areas at risk of flooding where (informed by a Flood Risk Assessment, following the Sequential Test and, if required, the Exception Test), it can be demonstrated that:	
	 within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and priority is given to the use of Sustainable Drainage Systems. 	
5.140	The term Sustainable Drainage Systems is taken to cover the whole range of sustainable approaches to	As outlined in the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3), soft-engineering methods for
	surface water drainage management	drainage would be implemented where feasible,



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	 source control measures including rainwater recycling and drainage use of Sustainable Drainage Systems Management Trains to improve water quality infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding 	using SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable. Infiltration is considered feasible due to high groundwater across a large part of the Scheme. To the north away from the floodplain soil geology is unsuitable for infiltration. Soft SuDS have been prioritised across the Scheme to manage run-off volume, water quality and biodiversity.



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	flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding	
5.141	For construction work which has drainage implications approval for the project's drainage system will form part of the development consent issued by the Secretary of State. The Secretary of State will therefore need	The Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3) details the design standards applied, incorporation of SuDs and maintenance of the drainage of the Scheme.
	to be satisfied that the proposed drainage system complies with Technical Standards published by Ministers. In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any	Nature based solutions and SuDS have been prioritised as overarching principles in the design of the drainage strategy in line with the SuDS hierarchy. This entails the integration of SuDS with other environmental and landscaping features to bring about additional complimentary benefits such as ease of inspection and maintenance.
	Sustainable Drainage Systems, including any necessary access rights to property. Sustainable Drainage Systems should deliver multifunctional benefits and help to achieve Biodiversity net gain. The Secretary of State should be satisfied that the most appropriate body is	Chapter 5 of the Drainage Strategy Report in Appendix 13.4 of the ES Appendices (TR010065/APP/6.3) details responsibility for maintaining assets. Maintenance would be shared between the Applicant, the Environment Agency, Newark Area Internal Drainage Board and Newark and Sherwood District Council.



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	being given the responsibility for maintaining any Sustainable Drainage Systems, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority and the relevant Sustainable Drainage Systems Approval Body or another body such as the Internal Drainage Board. Where infiltration type Sustainable Drainage Systems are proposed, pre-applications with the Environment Agency are recommended to ensure they do not cause pollution to surface, and groundwater quality and applicants should consider the role of Sustainable Drainage Systems management trains to control and treat run-off.	
5.142	If the Environment Agency continues to have concerns and objects to the grant of development consent on the grounds of flood risk, the Secretary of State can grant consent, but would	The Applicant has engaged with Environment Agency and there will be ongoing engagement as the Scheme progresses. Further information on engagement that has taken place, and areas of agreement and disagreement identified during pre-



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	need to be satisfied before deciding whether or not do so that all reasonable steps have been taken by the applicant and the Environment Agency to try and resolve the concerns.	application consultation with the Consultee, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the Development Consent Order examination. Further details on the engagement undertaken can be found in Chapter 3 Table 3.2 of the Consultation Report (TR010065/APP/5.1).
5.143	The Secretary of State should expect that reasonable steps have been taken to avoid, limit and reduce the risk of flooding to the proposed infrastructure and others. However, the nature of linear infrastructure means that there will be cases where: • upgrades are made to existing infrastructure in an area at risk of flooding • infrastructure in a flood risk area is being replaced • infrastructure is being provided to serve a flood risk area • infrastructure is being provided connecting two points that are not in flood risk areas, but where	The Scheme alignment passes through Flood Zone 3. It is not viable to relocate the works in a zone with a lower probability of flooding. In order to extend the A46, the River Trent and other watercourses must be crossed. The Scheme alignment has been developed following a comprehensive assessment of different alignment options, which considered all environmental impacts (inclusive of flood risk) during the Options Selection stage of the Scheme.



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	the most viable route between the two passes through such an area.	
5.144	The design of linear infrastructure and the use of embankments in particular, may mean that linear infrastructure can reduce the risk of flooding for the surrounding area while also offering opportunities to enhance biodiversity. It should be demonstrated that there is no increase in flood risk elsewhere. In such cases the Secretary of State should take account of any positive benefits to placing linear infrastructure in a flood risk area.	Section 13.10 of the FRA in Appendix 13.2 of the ES Appendices (TR010065/APP/6.3) assesses the Scheme against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial) or sewer sources. It also assesses the risk of flooding elsewhere as a consequence of the Scheme. The FRA outlines that the risk of flooding to and from the Scheme from fluvial, surface water and groundwater is low. The mitigation incorporated includes three floodplain compensation areas ('Kelham and Averham', 'Farndon East FCA' and Farndon West FCA') within the design to compensate for the loss of floodplain storage as a result of the Scheme and create high distinctive habitats that complement local biodiversity. Farndon East FCA and Farndon West FCA would be designated and landscaped. A wetland area would be created 10 metres from the River Trent as part of Farndon East FCA, in addition to the provision of log and brash piles from retained felled trees, in species rich grassland with



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		areas of scrub. This area would comprise residual ponds formed in post-borrow pit excavations with a total of approximately 97,000 square metres of reedbeds. Farndon West FCA would comprise an area of floodplain grazing marsh designed to provide wet conditions throughout and would include a network of scrapes, drains and ditches. See First Iteration Environmental Masterplan (TR010065/APP/6.5) and Appendix 8.14 (Biodiversity Net Gain Technical Report) of the ES (TR010065/APP/6.3) for more details.
5.145	Where linear infrastructure has been proposed in a flood risk area, the Secretary of State should expect reasonable mitigation measures to have been made, to ensure that infrastructure remains functional in the event of predicted flooding.	Suitable mitigation measures have been made to ensure the infrastructure remains functional in the event of predicted flooding. These are set out in the response to draft NPSNN paragraph 5.144 above.
5.148	Where necessary, land contamination and stability should be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land contamination or instability. If land stability could be an issue, applicants should seek appropriate	Chapter 10 (Material Assets and Waste) of the ES (TR010065/APP/6.1) outlines that the completed and operational Scheme is not expected to result in any significant effects from contamination. A series of mitigation measures would be provided during construction, largely related to movement of materials and are included in the First Iteration EMP (TR010065/APP/6.5) which would be developed during construction of the Scheme. A



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	technical and environmental expert advice from a competent person to assess the likely consequences of proposed developments on sites where subsidence, landslides and ground compression is known or suspected. Applicants should liaise with the Coal Authority, Environment Agency and Local Authority, if necessary.	Site Waste Management Plan, Materials Management Plan and Soil Management Plan would also be prepared in full as part of the Second Iteration EMP prior to construction commencing. Mitigation measures include: • materials being delivered on a just-in-time basis to avoid damage or contamination; • All suitable excavated material would be reused in the construction of the Scheme and in landscaping features where feasible to reduce the amount of imported material; • Stockpiling of fill materials prior to incorporation in the Scheme would be avoided where possible; and • Borrow pits within the Order Limits have been identified and would be used where possible to minimise the import of materials to the Scheme. Impacts relating to major accidents and natural disasters are considered in Appendix 4.1 Assessment of Major Accidents and Natural Disasters of the ES Appendices (TR010065/APP/6.3). This assessment concludes that the identified risks would not result in major accidents, during either construction or operation of the Scheme, with risk mitigation measures in place,



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		these measures are included and secured within the First Iteration EMP (TR010065/APP/6.5).
		Risks associated with geotechnical hazards and land stability are assessed in accordance with (DMRB) LA 109 Geology and soils and CD 622 Managing geotechnical risk.
		The potential ground stability hazards for the Scheme are described in Section 9.3 of Chapter 9 (Geology and Soils) of the ES (TR010065/APP/6.1) and assessed in Section 6 of the Preliminary Sources Study Report in Appendix 9.1 of the ES Appendices (TR010065/APP/6.3).
		Subsequent to intrusive Ground Investigation, the Ground Investigation Report contained in the Contaminated Land Risk Assessment (CLRA) in Appendix 9.2 of the ES Appendices (TR010065/APP/6.3), includes a revised assessment for ground stability risks. Table 30 of Annex 9.2 of the ES provides a Geotechnical Risk Register and outlines the land instability risks and mitigation measures.
		The Coal Authority, Environment Agency and Local Authorities have all been consulted at



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		various stages of the Scheme development and consulted as part of the Statutory Consultation. Details of how the Applicant has had regard to the responses received are provided in Annex N of the Consultation Report Annexes (TR010065/APP/5.2).
5.149	For developments on previously developed land, applicants should ensure and demonstrate they have considered the risk posed by land contamination, through engagement in pre-application discussions, and how it is proposed to address these. A preliminary assessment for land and groundwater contamination to determine the rendition and mitigation is needed under Land Contamination Risk Management. A preliminary assessment of land contamination and ground instability should be carried out at the earliest possible stage before a detailed application for development consent is prepared. Applicants should ensure that any necessary investigations are undertaken to ascertain that their sites are, and will, remain stable or	A Phase 2 Contaminated Land Generic Quantitative Risk Assessment has been undertaken for the Scheme. This is provided in Appendix 9.2 (Contaminated Land Risk Assessment) of ES Appendices (TR010065/APP/6.3). This identified a pocket of contamination (or 'hotspot'), near Nether Lock. Direct consultation with Newark & Sherwood District Council Environmental Health officer has taken place regarding an identified hotspot who agreed to the proposals of leaving the identified contamination in-situ from a human health perspective, as this is located at a depth which presents a low risk to any potential maintenance workers or other occasional land users from direct exposure. The Environmental Health Technical Officer has requested a copy of the final factual ground investigation reports from both the GIs for their records. Following receipt of the supplementary ground investigation, further consultation was undertaken with the



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	can be made so as part of the development. The site needs to be assessed in the context of surrounding areas where subsidence, landslides and land compression could threaten the development during its anticipated life or damage neighbouring land or property. This could be in the form of a land stability or slope stability risk assessment report.	Environmental Health Technical Officer on 21 June 2023. This included a presentation on the contaminated land methodology and a summary of the Contaminated Land Risk Assessment conclusions. The Environmental Health Technical Officer was in agreement with the Contaminated Land Risk Assessment conclusions, found within Appendix 9.2 (Contaminated Land Risk Assessment) of the ES Appendices (TR010065/APP/6.3), again confirming agreement for the proposal to leave the identified hotspot area of contamination in situ. The Preliminary Sources Study Report in Appendix 9.1 of the ES Appendices (TR010065/APP/6.3) describes the potential ground stability hazards for the Scheme. Subsequent to intrusive ground investigations, the Ground Investigation Report contained in the CLRA in Appendix 9.2 of the ES Appendices
		(TR010065/APP/6.3), includes a revised assessment for ground stability risks. Table 30 Geotechnical Risk Register outlines the land instability risks and mitigation measures.
5.150	Applicants have a range of mechanisms available to mitigate and	Mitigation measures of relevance are included and secured within the First Iteration EMP



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	minimise risks of land instability. These include: • Establishing the principle and layout of new development, for example avoiding mine entries and other hazards • Ensuring proper design of structures to cope with any movement expected, and other hazards such as mine and/or ground gases • Requiring ground improvement techniques, usually involving the removal of poor material and its replacement with suitable inert and stable material. For development on land previously affected by mining activity, this may mean prior extraction of any remaining mineral resource	(TR010065/APP/6.5).
5.153	The applicant should carry out a landscape and visual impact assessment. A number of guides have been produced to assist in addressing landscape issues. The landscape and visual assessment for	Chapter 7 (Landscape and Visual) of the ES (TR010065/APP/6.1) considers the likely significant effect of the Scheme on landscape character and visual amenity during both construction and operation. This landscape and visual assessment (LVIA) has been undertaken in



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	the proposed project should include the impacts during construction and operation, and reference to any operational landscape character assessment and associated studies. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England. For seascapes, applicants should consult the Seascape Character Assessment and the Marine Plan Seascape Character Assessments, and any successors to them.	accordance with Design Manual for Roads and Bridges (DMRB) assessment LA107 Landscape and Visual Effects which is based on the Guidelines for Landscape and Visual Impact Assessment 3 as published by the Landscape Institute (LI) and Institute for Environmental Management and Assessment (IEMA). Section 7.3 of Chapter 7 (Landscape and Visual) of the ES (TR010065/APP/6.1) sets out the principal legislation and planning context for the assessment of the environmental effects of the Scheme on landscape character and visual amenity. The relevant legislation and policies listed below have been taken into account as part of the assessment and subsequent mitigation proposals:
		 European Landscape Convention Environment Act Countryside and Rights of Way Act 2000 Natural Environment and Rural Communities Act 2006 The Hedgerow Regulations 1997 National Policy (including the NPSNN, the NPPF, 25 Year Environment Plan) Local Policy including Newark & Sherwood Plan Review – Amended Core Strategy



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		Development Plan Document and Newark & Sherwood Local Development Framework – Allocations & Development Management DPD, Newark and Sherwood Landscape Character Assessment Supplementary Planning Document and A Green Infrastructure Strategy for Newark & Sherwood National Highways' Environment Strategy National Highways' 'People, places and processes: A guide to good design at National Highways' (2022) which has been considered in the development of the Environmental Masterplan (see Figure 2.3 of the ES Figures (TR10065/APP/6.2).
		Policy and guidance recognises that not all impacts are able to be resolved in largescale Schemes and the above residual effects will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1).
		The potential impacts upon visual amenity were captured through the assessment of 63 receptors identified within the visual envelope of the



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		Scheme. Of those 63 receptors, 15 receptors would experience significant adverse effects during construction of the Scheme, reducing to six receptors in year 1 of operation. When considering the establishment of mitigation planting by year 15 of operation, two visual receptors (No.24 being residential properties at Sandhills Park and No.40 users of the Trent Valley Way and NCN route 64 on Winthorpe Road), were considered to have a residual significant effect as a result of the
		Scheme. The potential impact upon seven Landscape Character Areas (LCAs) was assessed as part of the LVIA. Of the seven identified, two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) would experience temporary significant adverse effects during the construction of the Scheme. Two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) are likely to experience significant adverse effects in year 1 of operation. When considering the establishment of mitigation planting by year 15, only one LCA (LCA 2 Winthorpe Village and Farmlands LCA) is considered to have a residual significant adverse



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		effect as a result of the Scheme.
		The policies at a district level have a common thread of aiming to conserve, enhance and protect the landscape, and basing the design of development upon an understanding of the existing landscape context supported by the use of landscape character assessments. Similarly, these policies require that adverse impacts must be mitigated by sensitive landscape measures which respond to their context. This has been addressed in the study of the baseline landscape character and visual amenity of the area, assessment of impacts and development of mitigation as presented in Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).
5.154	The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of a project, potential impacts on views (including protected views) and visual amenity. This should include any noise and light pollution effects, including on local amenity, tranquility and nature conservation. The assessment should also demonstrate how noise and light	Chapter 7 (Landscape and Visual) of the ES (TR010065/APP/6.1) considers the likely significant effects of the Scheme on both landscape character and visual amenity, considering impacts and resulting effects during construction and operational phases including night works. Tranquility is included within the LVIA, whilst broader impacts upon nature conservation are covered in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1). The impact of noise upon local receptors is addressed in Chapter 11 (Noise



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	pollution from construction and operational activities on residential amenity and on sensitive locations, receptors, and views will be minimised.	and Vibrations) of the ES (TR010065/APP/6.1). In order to minimise environmental impacts each relevant environmental discipline sets out necessary mitigation measures within their respective chapters. Mitigation measures of relevance are included and secured within the First Iteration EMP) (TR010065/APP/6.5) and Table 3.2 REAC contained within it as well as Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).
		Lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors. Construction lighting arrangements are further detailed in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
5.155	Any statutory undertaker commissioning or undertaking works	The Scheme is not located within an Area of Outstanding Natural Beauty, a National Park, or



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	in relation to, or so as to affect land in England's National Parks and the Broads, or Area of Outstanding Natural Beauty, would need to comply with the respective duties in section 11A of the National Parks and Access Countryside Act 1949 and section 85 of the Countryside and Rights of Way Act 2000. The policy paper titled English national parks and the broads: UK government vision and circular 2010 states that major development in or adjacent to the boundary of a National Park, Area of Outstanding Natural Beauty or the Broads, can have a significant impact on the qualities for which they were designated. Government planning policy advises that major development should not take place within them apart from exceptional circumstances. For significant road widening or the building of new roads or railways in England's National Parks and the Broads or Area of Outstanding Natural Beauty, applicants also need to fulfil	the Broads.



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	requirements set out in circular 2010 or successor documents. Management Plans should also be considered for National Parks and Area of Outstanding Natural Beauty, especially on identified special qualities of an area and any proposals for enhancement.	
5.156-5.157	The scale of a project should be minimised to avoid or mitigate the visual and landscape effects, during construction and operation, so far as possible while maintaining the operational requirements of the Scheme. In exceptional circumstances a reduction in operational requirements might be warranted, and the Secretary of State may decide that the benefits to reduce the landscape effects outweigh the marginal loss of scale or function. Projects need to be designed carefully, taking account of the	The development of the Scheme design has been an iterative process, undertaken by an integrated design team. The design adheres to the principles of the design and mitigation hierarchy outlined in DMRB LA 104. The first principle being to avoid potential adverse effects where possible, before seeking to minimise or mitigate any unavoidable impacts. This has formed a well-developed essential mitigation strategy. The landscape design strategy for the Scheme seeks to respond to the local landscape character and physical topography of the area, aiding the settlement of the Scheme within the receiving environment. It also seeks to limit visual clutter and detracting features as far as possible, whilst mitigating impacts and enhancing biodiversity as part of a holistic design approach. Embedded mitigation



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		(TR010065/APP/6.1), with the Environmental Masterplan shown in Figure 2.3 of the ES Figures (TR010065/APP/6.2).
		Mitigation – Construction Mitigation measures during construction are included within the First Iteration EMP (TR010065/APP/6.5). Details on the First and Second Iteration EMPs, including how mitigation is secured by the draft DCO (TR010065/APP/3.1), is provided within Section 4.4 of Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1). Those mitigation measures of relevance to landscape and visual amenity include the following:
		 Keeping a well ordered and tidy site, including keeping stockpiles to a minimum, with delivery of goods on an as needed basis. Limiting works to daylight hours in the most part, with any night works to be kept to a minimum where practicable. Retention and avoidance of impact upon existing trees and vegetation wherever possible, including the sensitive consideration of priority habitats, trees protected by TPOs and other veteran and notable trees within and adjacent to the works boundary.



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		 Protecting existing trees and vegetation to be retained with protective fencing, where deemed necessary, in accordance with BS 5837:2012. Restoration of land used temporarily to construct the Scheme, as soon as practicable. Constructing screening mounds, where they are proposed as part of the permanent works, as early as is practicable to provide screening to the construction work. Temporary offices and welfare facilities would be a recessive colour to blend in with the local surroundings. This is particularly the case in more rural areas away from the urban edge of Newark. Lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to



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		minimise light spill and disturbance for highly sensitive receptors. Construction lighting arrangements are further detailed in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). • An indicative Arboricultural Method Statement (AMS) and mitigation in relation to trees is detailed in the Arboricultural Impact Assessment (AIA) in Appendix 7.4 of the ES Appendices (TR010065/APP/6.3). The AMS would be further developed and form part of the Second Iteration EMP which would detail and secure mitigation during the construction period.
		Mitigation – Operation
		The following mitigation measures during operation are included within the First Iteration EMP (TR010065/APP/6.5):
		New and replacement native planting which takes into account climate change resilience and reflects the local landscape character, including those species listed in the Newark and Sherwood Landscape Character Assessment Supplementary Planning Document (SPD). Over time, this vegetation



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		 would mature to offer effective screening where required as well as general landscape integration and softening of built features. Retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include areas of species rich grassland, scrub planting, hedgerows, hedgerows with trees, linear belts of tree and shrub planting and woodland, as well as wetland planting of drainage features. Where drainage ditches, balancing ponds and attenuation areas are required, opportunities for habitat creation have been incorporated into the environmental design with an aim to increase biodiversity. The AIA in Appendix 7.4 of the ES Appendices (TR010065/APP/6.3) details specific mitigation in relation to potential remediation measures following construction with respect to trees.



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5.158	Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and topographical interventions (for example, creation of bunds or lowering of ground level). Also, landscaping Schemes (including screening options and design elements that soften the built form such as green or brown roofs, or living walls), depending on the size and type of the proposed project. Materials and designs for infrastructure should always be given careful consideration in terms of environmental standards.	The evolution of the Scheme design is described in the Scheme Design Report (TR010065/APP/7.5). Consideration has been given to the landscape and visual impacts of the design and aided the evolution of the engineering of the Scheme. This has included siting of infrastructure as well as the design or structures and associated finishes. Landscape bunds have been included where appropriate to aid screening of the Scheme. The landscape design has sought to integrate the Scheme with surrounding landscape character. The design objectives included retaining notable extents of existing planting and proposing new planting to replicate existing features and establish visual screening. The environmental mitigation strategy also seeks to reinstate landscape features lost as a result of the Scheme, as well as a general enhancement of the landscape context wherever possible. The design seeks to integrate the Scheme with the existing landscape by: • making it environmentally sustainable and retaining the sense of openness where this is consistent with a balanced preference for visual screening;



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		 integrating Scheme infrastructure (notably overbridges) through appropriate use of planting to contribute to visual screening; selecting plant and grass species appropriate to the locality to maintain consistency with the appearance of the area.
		Mitigation measures during operation, are included within the First Iteration EMP (TR010065/APP/6.5) and shown on Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).
5.159	Depending on the topography of the surrounding terrain and areas of population, it may be appropriate to undertake landscaping off-site, although if such landscaping was proposed to be consented by the Development Consent Order, it would have to be included in the order limits for that application. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista.	See response to draft NPSNN paragraphs 5.157 and 5.158 above.
5.160	Applicants should consider how	Enhancement measures seek to improve and/or
<u> </u>	landscapes can be enhanced using	restore local landscape character and visual



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	landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality and can reinforce or enhance landscape features and character.	amenity where possible, aligning with the Landscape Actions specified for the relevant policy zones established by the Newark and Sherwood Landscape Character Assessment SPD. Details are presented within Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).
5.161	Landscape effects of a project depend on the existing character of the local landscape, its capacity to accommodate change and nature of effect likely to occur. All of these factors need to be considered in judging the impact of a project on landscape. Projects need to have regard to siting, orientation, height operational and other relevant constraints. The aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation and opportunities for enhancement where possible and appropriate.	The development of the Scheme design has been an iterative process, undertaken as part of an integrated design team. The design adheres to the principles of the design and mitigation hierarchy outlined in DMRB LA 104. The first principle being to avoid potential adverse effects where possible, before seeking to minimise or mitigate any unavoidable impacts. This has formed a well-developed essential mitigation strategy. The landscape design strategy for the Scheme seeks to respond to the local landscape character and physical topography of the area, aiding the settlement of the Scheme within the receiving environment. It also seeks to limit visual clutter and detracting features as far as possible, whilst mitigating impacts and enhancing biodiversity as part of a holistic design approach. Embedded mitigation incorporated into the Scheme design development is outlined in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).



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5.162	England's National Parks, the Broads and Areas of Outstanding Natural Beauty have been confirmed by the government as having the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which helps to ensure their continued protection and which the Secretary of State should have regard to in their decisions. The conservation and enhancement of the natural beauty of the landscape and countryside should be given great weight by the Secretary of State in deciding on applications for development consent in these areas.	The Scheme is not located within an Area of Outstanding Natural Beauty, a National Park, or the Broads.
5.163 -5.164	The Secretary of State should refuse development consent in these areas unless there are exceptional circumstances, where the benefits outweigh the harm and where it can be demonstrated that is in the public interest. Consideration of such applications should include an assessment of:	The Scheme is not located within an Area of Outstanding Natural Beauty, a National Park, or the Broads.



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	 the need for the development, including any national considerations and the impact of consenting, or not consenting it, upon the local economy the cost of, and scope for, developing elsewhere, outside the designated area, or meeting the need for it, some other way, taking account of policy on alternatives set out in paragraphs 4.17 to 4.19 any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated 	
	There is a strong presumption against significant road widening or the building of new roads and strategic rail freight interchanges in a National Park, the Broads and Areas of Outstanding Natural Beauty, unless it can be shown there are exceptional circumstances for the new or	



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	enhanced capacity and with any benefits significantly outweighing the harm. Planning of the Strategic Road Network should encourage routes that avoid impacts to National Parks, the Broads and Areas of	
5.167	Outside nationally designated landscapes, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development plan in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in and of themselves as reasons to refuse consent, as this may unduly restrict acceptable development.	The potential impact upon seven Landscape Character Areas (LCAs) was assessed as part of the LVIA. Of the seven identified, two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) would experience temporary Significant Adverse effects during the construction of the Scheme. Two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) are likely to experience Significant Adverse effects in year 1 of operation. When considering the establishment of mitigation planting by year 15 of operation, only one LCA (LCA 2 Winthorpe Village and Farmlands LCA) is considered to have a residual Significant Adverse effect as a result of the Scheme. Policy and guidance recognises that not all impacts are able to be resolved in largescale



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		weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1).
5.168	Within areas defined as Heritage Coast that are not already within one of the nationally designated landscape areas, planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate unless it is compatible with its special character.	The Scheme is not located within an area defined as Heritage Coast.
5.169	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 appropriate mitigation.	Section 7.10 of Chapter 7 (Landscape and Visual) of the ES (TR010065/APP/6.1) outlines the construction and operation mitigation measures to be provided for the Scheme. These mitigation and monitoring measures are secured in the REAC which is appended to the First Iteration EMP (TR010065/APP/6.5). The Scheme has been carefully designed, as described in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). The careful design and mitigation has minimised the landscape and visual



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5.176	Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity, quality and functionality in a suitable and accessible location. Applicants considering proposals which would involve developing such land should have regard to any local authority's assessment of need for such types of land and buildings.	impact of the Scheme wherever possible. Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) reviews any impact of the Scheme on open space, sports and recreational buildings, and includes an outline of mitigation measures associated with maintaining access to all affected residential properties, businesses and areas of open space and recreation. Table 12.15 of Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) sets out changes in access to green space, recreation and physical activities during construction and associated mitigation measures. Other than some permanent rights, which are compatible with the current open space use, the Scheme will not result in the loss of land that comprises existing open space, sports or recreational buildings. Further details on land requirements (both temporary and permanent) and powers being sought under the draft DCO (TR010065/APP/3.1) can be found in the Statement of Reasons (TR010065/APP/4.1).



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5.177	The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within and established Green Belt and, if so, whether their proposal may be considered inappropriate development within the meaning of Green Belt planning policy. Metropolitan Open Land, and land designated as Local Green Space in a local or neighbourhood plan, are subject to the same policies of protection as Green Belt, and inappropriate development should not be approved except in very special circumstances.	The Scheme is not located within the Green Belt.
5.178	The applicant should identify existing and proposed land uses near the project, any effects of replacing an	Chapter 3 of the Case for the Scheme (TR010065/APP/7.1) identifies the main existing land uses within the Order Limits. Much of the land



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	existing development or use of the site with the proposed project or preventing a development or use of a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate.	to the west of the existing A46 is low lying floodplain, with road infrastructure forming the dominant land use to the east and agricultural land to the north, interspersed with small-scale settlements. Chapter 6 of the Case for the Scheme (TR010065/APP/7.1) identifies the Development Plan allocations within Order Limits. No impacts on the delivery or integrity of any Development Plan allocations have been identified. Chapter 12 (Population and Health) of the ES (TR010065/APP/6.1) assesses the potential impact of the construction and operation of the Scheme on population, employment, residential properties, businesses, community facilities, open spaces and recreational areas and human health outcomes. The construction of the Scheme is likely to have an overall residual adverse impact on development land and businesses, agricultural land, and WCH provision as a result of both permanent and temporary land take and reduced access during construction. Where applicable, compensation
		would be provided to land and business owners if considered due under the Compensation Code.



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		The operation of the Scheme is expected to have a significant beneficial impact on access to private property and housing; development land and businesses; community land and assets; green space, recreation and physical activity; due to the reduced congestion and improved journey times that the Scheme will deliver.
5.179	Linear infrastructure linking an area near a Green Belt with other locations will often have to pass through Green Belt land. The identification of a policy need for linear infrastructure will take account of the fact that there will be an impact on the Green Belt and, as far as possible, of the need to contribute to the achievements of objectives for the use of the land in Green Belts.	The Scheme is not located within the Green Belt.
5.180	Applicants should take into account the economic and other benefits of the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification). Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to	Chapter 9 (Geology and Soils) of the ES (TR010065/APP/6.1) assesses the effects of the loss of temporary and permanent agricultural land. For agricultural land and soils, it is considered that even with the inclusion of appropriate mitigation as detailed in the Outline Soils Management Plan (SMP) (Appendix C of the First Iteration EMP (TR010065/APP/6.5), there would still be significant adverse effects during the construction



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	use areas of poorer quality land in preference to that of a higher quality. Applicants should also identify any effects, and seek to minimise impacts, on soil health and protect and improve soils, taking into account any mitigation measures proposed. Soil is an important natural capital resource, providing many essential services such as storing carbon (also known as a carbon sink), reducing the risk of flooding, providing wildlife habitats and delivering global food supplies. Guidance on sustainable soil management can be found in Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. As a first principle, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value (see paragraphs 5.146 to 5.151).	phase (associated with temporary and permanent land take). Significant effects are associated with temporary loss of ALC grade 2 (considered to be Moderate Adverse), and permanent loss of ALC grade 3a (considered to be Moderate Adverse) and ALC grade 3b (considered to be Large Adverse). The Outline SMP (Appendix C of the First Iteration EMP (TR010065/APP/6.5)) details the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling. There will be no effects of loss of agricultural land during the operational phase of the Scheme as land lost permanently from agriculture will already be removed in the construction phase. The minimisation of the area of permanent and temporary land take of agricultural land within the Order Limits has been a fundamental consideration throughout the design of the



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		Given the fixed location of the existing highway infrastructure that represents the start and end points of the Scheme there are no opportunities to deliver the Scheme avoiding the development of any agricultural land. The use of some agricultural land is therefore necessary.
		Policy and guidance recognises that not all impacts are able to be resolved in largescale Schemes and the above residual impacts would be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1).
5.181	The Agricultural Land Classification is the only approved system for grading agricultural quality in England and Wales. If necessary, field surveys should be used to establish the Agricultural Land Classification grades in accordance with the current grading criteria, or any successor to it and identify the soil types to inform soil management at the construction, operation and decommissioning phases in line with the Defra	See response to draft NPSNN paragraph 5.180 above.



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	Construction Code. Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This is to be in line with the ambition set out in the 25 Year Environmental Plan to manage all of England's soils sustainably by 2030.	
5.182	The applicant should engage in preapplication discussions with the local planning authority and other regulatory bodies at the earliest opportunity. It is essential that engagement is meaningful and supported where necessary by Statements of Common Ground. Discussions will cover a range of potential local impacts and issues, and the local planning authority should identify any concerns it has about impacts of the application on land-use, having regard to the development plan and relevant	Details on engagement with the Local Planning Authorities including Nottinghamshire County Council and Newark and Sherwood District Council is set out in Table 3.2 of the Consultation Report (TR010065/APP/5.1). Details on engagement with the Local Planning Authorities is also set out in Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1).



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	applications. This includes, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements. These are also matters that local authorities may wish to include in their Local Impact Report which is submitted during examination and after an application for development consent has been accepted.	
5.184	Applicants can avoid, or minimise, the direct effects of a project on the existing use of the proposed site or proposed uses near the site, by the application of good design principles, including the layout of the project and the protection of soils during construction.	The Outline SMP in Appendix C of the First Iteration EMP (TR010065/APP/6.5) entails the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling. The Outline SMP in Appendix C of the First Iteration EMP (TR010065/APP/6.5) provides guidance on the best practices surrounding excavation (more details in the Outline SMP; including:
		 Pre-construction planning Soil handling constraints Appropriate weather and ground condition



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		 Soil stripping (topsoil and sub-soil) Soil stockpiling and stockpile formation and maintenance Soil reinstatement and reuse Soil placement After care and monitoring The Outline SMP incorporates the hierarchical system of avoidance, reduction and remediation,
		following DRMB LA104 guidance. Annex A of the Scheme Design Report (TR010065/APP/7.5) sets out the Design Principles of the Scheme
5.185	Where green infrastructure is affected, applicants should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impacts. Applicants should endeavor to improve networks and other areas of open space, including appropriate	Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) reviews any impact of the Scheme on open space, sports and recreational buildings, and includes an outline of mitigation measures associated with maintaining access to all affected residential properties, businesses and areas of open space and recreation, including public rights of ways (PRoWs). Provisions have been included in the Scheme to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are
	access to new coastal access routes, National Trails and other public rights	used by pedestrians and cyclists, the objective being to ensure continued connectivity is provided



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	of ways.	for WCH between communities and routes within the wider PRoW network.
		The key design rational for the environmental design is to create a green blue corridor along the length of the Scheme, bring co-benefits to landscape, biodiversity and water quality. The Scheme has sought to limit impacts upon existing green infrastructure, limiting vegetation clearance wherever possible, and also proposing planting so that the Scheme ties in with surrounding green infrastructure and habitats.
		The Scheme does not affect access to new coastal access routes or National Trails.
5.187	Existing trees and woodlands should be retained where possible. The applicant should assess the impacts on, and the loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the Scheme. Mitigation may include the use of buffers to enhance resilience, improvements to connectivity, and	The development of the Scheme design has been an iterative process undertaken by an integrated design team to adhere to the principles of the design and mitigation hierarchy outlined in DMRB LA 104; the first principle being to avoid potential adverse effects if at all possible before seeking to minimise or mitigate any unavoidable impacts. The Applicant has assessed the impacts on, and the loss of, any trees and woodland within the Scheme boundary, and suitable mitigation measures have been incorporated including embedded mitigation and essential mitigation.



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	improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured.	For example, where possible habitats of principal importance (HPI) in poor condition and habitats of low ecological value would be enhanced to compensate for the loss of HPIs. Where this cannot be achieved within the Order Limits, compensation would be delivered offsite, for example planting or enhancement of lowland mixed deciduous woodland at Doddington Hall (or another suitable solution). Which would be secured through a legal agreement with the landowner. Any other compensation measures required during construction and operation can be found in Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1).
		The Scheme would retain existing trees and woodland where possible.
5.188	Where a proposed development has an impact on a Mineral Safeguarding Area, the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to safeguard mineral resources.	Data and information in the baseline study in Section 10.8 of Chapter 10 (Materials and Waste) of the ES (TR010065/APP/6.1) has indicated that there is one Minerals Safeguarding Area (MSA) for sand and gravel within the study area; and there are no peat resources.
	_	The Scheme is not likely to represent a risk to the MSA and prior extraction from the MSA may not be appropriate. Taking into consideration the below points,



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		 The Scheme is not a new development in an open countryside area, as the works at the Scheme are related to the improvement and widening of a section of the existing A46 road The A46 forms part of the strategic Trans-Midlands Trade Corridor between the M5 in the south-west and the Humber Ports in the north-east. The improvements to the A46 corridor are detailed within the RIS 2 as a mechanism for underpinning the wider economic transformation of the country. The size of the MSA is significantly greater than the size of the Scheme (refer Figure 10.2 Material Assets and Waste Management Second Study Area in the ES Figures (TR010065/APP/6.2). The total area for the sand and gravel MSA within Nottinghamshire is over 377 square kilometres, while the total area of the Scheme within the MSA is approximately 1.8 square kilometre; which represents approximately 0.48 percent of the MSA area.
		Due to the reasons outlined, and as the Scheme only covers approximately 0.48% of the total MSA



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		the MSA. Therefore, it is considered that the Scheme is unlikely to sterilise MSA and/or peat resources.
5.190	Public rights of way, National Trails, and other rights of access to land (for example, open access land) are important recreational facilities for walkers, wheelers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects	The impact of the Scheme on existing PRoWs has been assessed. Provision has been made within the Scheme to maintain existing PRoWs where practicable and deemed appropriate on safety grounds. This assessment is set out in Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1).
	on coastal access, National Trails, other public rights of way and open access to land, and to consider what opportunities there may be to improve access and connectivity. In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether mitigation measures put forward by an applicant are acceptable and whether requirements in respect of these measures might be attached to any	Along the route, there would be one permanently stopped up PRoW, FP14, however the Scheme would provide new and improved facilities around the east side of Cattle Market Roundabout which would be available as an alternative route. Other routes would be impacted slightly due to the Scheme. Provision has been included in the design to replace and, where feasible and appropriate, improve existing routes and facilities within the Order Limits that are used by pedestrians and cyclists. The objective of this is to ensure continued connectivity is provided for WCH users between communities and routes within the wider PRoW network.
	grant of development consent.	The General Arrangements (TR010065/APP/2.5)



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		and the Streets Rights of Way and Access Plans (TR010065/APP/2.4) illustrate the locations of:
		 The existing PRoW network within and surrounding the Order Limits; PRoW that would be permanently closed (referred to as being 'stopped up'); New and improved footpaths, cycle tracks and PRoW that would be delivered as part of the Scheme.
		The new routes and those impacted by the Scheme are listed below and detailed in full in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1):
		 Footpath FP14 Footway/Cycle track at Cattle Market Footway/Cycle track at Brownhills Junction Footway east of the A1 Footpaths FP2 and FP3 Footpaths/Cycle track at Winthorpe Roundabout
		Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) concludes that the construction of the Scheme is likely to have a temporary Moderate Adverse (significant) effect on



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		WCH provision as a result of both permanent and temporary land take and reduced access during construction.
5.191	Public rights of way can be	Mitigation measures during construction are included or referenced within the First Iteration EMP (TR010065/APP/6.5). Mitigation measures in relation to population and human health during construction include provision of appropriate signage for temporary WCH diversions, including wayfinding and duration of works. The new routes and those impacted by the
0.131	extinguished under section 136 of the Planning Act if the Secretary of State is satisfied that an alternative has been or will be provided or it is not required.	Scheme are detailed in full in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
5.192	The Secretary of State should not grant consent for development on existing open space, sports and recreational buildings and land, including playing fields unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements.	Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) outlines that access would be maintained and there would be no quality implications to the use of recreational open spaces.



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	Additionally, if the Secretary of State determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account the positive proposals made by the applicant to provide new, improved or compensatory land or facilities.	
5.193	Where networks of green infrastructure have been identified in development plans, they should be protected from development, and, where possible, strengthened. The environmental and visual value of linear infrastructure and its footprint in supporting biodiversity and ecosystems should also be taken into account, including the creation of new	Section 6.15 of the Case for the Scheme (TR010065/APP/7.1) outlines the Scheme's conformity with local planning policy, including the Green Infrastructure Strategy for Newark and Sherwood. The aim of the Strategy is to "allow for the expansion of settlements whilst ensuring that the District, its assets and landscapes suffer no negative effects and instead prosper from new development."
	green infrastructure, when assessing the impact on green infrastructure. The value of the development in improving connectivity, particularly through active travel links and recreation should also be taken into account when assessing the impact on green infrastructure.	Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) considers the effects of the Scheme on biodiversity and Section 8.10 outlines measures to mitigate any impacts. Embedded mitigation incorporated into the Scheme design development is also outlined in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). For example, mitigation measures include: • The Scheme has been designed to minimise



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		habitat loss with a focus on avoiding high value and/or irreplaceable habitat present. All veteran trees within or in close proximity to the Order Limits have been retained. Habitats of principle importance and habitats of high distinctiveness (condition assessment for BNG) have been retained wherever possible. For example, attenuation ponds have been positioned to maximise retention of mature trees, hedgerows and habitat of principal importance.
		 Habitat connectivity to the wider landscape has been maintained and enhanced wherever possible to maximise biodiversity opportunities within the Order Limits, particularly in respect to LWSs and priority habitats.
		The BNG Technical Report in Appendix 8.14 of the ES Appendices (TR010065/APP/6.3) assesses that the Scheme would result in a predicted net gain in biodiversity. The Strategic Significance of habitats (the local significance of a habitat based on its location and habitat type, with reference to local strategy and policy) has been considered within the BNG assessment, with opportunities



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		sought to protect, create and enhancement habitats of greater Strategic Significance, wherever possible. In addition to onsite habitat creation, compensation is currently anticipated to be provided offsite comprising of woodland enhancement at Doddington Hall (or another suitable solution), as detailed in the BNG Technical Report in Appendix 8.14 of the ES Appendices (TR10065/APP/6.3). This would provide increased value for biodiversity and landscape connectivity.
		The HRA (TR010065/APP/6.6) is included within the DCO application. This considers whether the Scheme would result in significant effects on European sites of biodiversity interest. It is anticipated that the Scheme is likely to have a Slight Adverse effect on Humber Estuary SAC during construction. This is not considered to be a significant effect.
		Furthermore Chapter 7 (Landscape and Visual) of the ES (TR010065/APP/6.1) sets out the mitigation that promotes green infrastructure. For example, mitigation measures include:



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		 New and replacement native planting which takes into account climate change resilience and reflects the local landscape character, including those species listed in the Newark and Sherwood Landscape Character Assessment SPD. Over time, this vegetation would mature to offer effective screening where required as well as general landscape integration and softening of built features. Retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include areas of species rich grassland, scrub planting, hedgerows, hedgerows with trees, linear belts of tree and shrub planting and woodland, as well as wetland planting of drainage features.
		Where drainage ditches, balancing ponds and attenuation areas are required, opportunities for habitat creation have been incorporated



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		into the environmental design with an aim to increase biodiversity.
5.194	The Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise the impact on soil or soil resources.	Given the fixed location of the existing highway infrastructure that represents the start and end points of the Scheme there are limited opportunities to deliver the Scheme avoiding the development of any agricultural land. The use of some agricultural land is therefore necessary. However, the minimisation of the area of permanent and temporary land take of agricultural land within the Order Limits has been a fundamental consideration throughout the design of the Scheme. An assessment of the impact of the Scheme on agricultural land is provided in Chapter 9 (Geology and Soils) of the ES (TR010065/APP/6.1).
		The Outline Soil Management Plan in Appendix C of the First Iteration EMP (TR010065/APP/6.5) details the mitigation measures required to maintain agricultural soil quality and grade, ensuring where planned, land can be returned to agriculture. The Outline SMP guidance is designed to ensure that soil structure and overall quality does not unduly deteriorate during any instances of soil handling.



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		Policy and guidance recognise that not all impacts are able to be resolved in largescale schemes and these impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1).
		The Outline Soil Management Plan will be developed into a detailed Soil Management Plan in accordance with Requirement 3 of the draft Development Consent Order (TR010065/APP/3.1).
5.195	Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. When considering any Development Consent Order, the Examining Authority and the Secretary of State should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is	The Scheme is not located in the Green Belt.



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	clearly outweighed by other considerations. When located in the Green Belt, elements of many national networks infrastructure projects will comprise inappropriate development. In such cases, scheme promotors will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the safety benefits associated with improvements to the relevant section of the national network.	
5.200	Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.	There are no non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments that will be impacted by the Scheme.
5.201	The Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either	An assessment of the potential for direct physical impacts and changes to the setting of each individual non-designated asset was undertaken to inform Chapter 6 (Cultural Heritage) of the ES



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	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	(TR010065/APP/6.1). The results of this assessment are contained within Appendix C of the Cultural Heritage DBA, which itself forms Appendix 6.1 of the ES Appendices (TR010065/APP/6.3). Table 6.6 in Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) lists the non-designated heritage assets identified through assessment as having the potential to be impacted by the Scheme.
5.202	The applicant should undertake an assessment of any significant heritage impacts of the proposed project and 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	An assessment of the value/sensitivity (significance) of heritage assets has been carried out in accordance with criteria with the standards outlined in the DMRB LA 104 Environmental assessment and monitoring, and the Inspectorate Advice Note Seventeen: Cumulative Effects Assessment, with the criteria set out in Table 6.1 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1).
	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	For the purpose of the assessment, designated cultural heritage asset data is taken from the National Heritage List for England (NHLE) as maintained by Historic England. Non-designated cultural heritage asset data is taken from Nottinghamshire Historic Environment Record



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	on which development is proposed includes, heritage assets with archaeological interest, the applicant should include an appropriate deskbased assessment and, where	(HER). A continuous process of stakeholder consultation has been undertaken which has highlighted additional archaeological assets and survey work.
	necessary, a field evaluation.	The following steps have been undertaken to develop an understanding of the heritage assets within and surrounding the Order Limits of the Scheme and associated study area surrounding, and the impacts upon them during both construction and operation:
		 Production of a detailed cultural heritage Desk-Based Assessment (DBA) in line with DMRB LA 106, Paragraphs 3.8 to 3.91, to determine the nature, extent, and significance of the historic environment within an appropriate study area. The study areas for the Scheme are defined in Section 6.7 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) and the DBA is presented within Appendix 6.1 Cultural Heritage DBA of the ES Appendices (TR010065/APP/6.3).
		 Undertaking of a site walkover survey to ground truth above ground features identified through the DBA, and to understand the setting of the key heritage assets along the



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		route. The results of this walkover are presented Appendix 6.1 Cultural Heritage DBA OF the ES Appendices (TR010065/APP/6.3). • Undertaking of archaeological surveys to further determine the potential for and extent of any unknown archaeological features and palaeoenvironmental deposits. These include metal detector, fieldwalking and geophysical surveys, a programme of geoarchaeological assessment in the form of coring and archaeological monitoring undertaken during Ground Investigations at the Kelham and Averham Floodplain Compensation Area. The technical reports produced for these surveys are presented within Appendices D to K of Appendix 6.1 Cultural Heritage DBA of the ES Appendices (TR010065/APP/6.3). • Further in-depth analysis of the design of the Scheme has been undertaken in order to understand the potential impacts on archaeological remains, historic buildings and historic landscapes. This has included quarterly Environmental Technical Working Group sessions with stakeholders, weekly internal project team environmental design calls, and focused, internal topic specific



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		workshops, consulting the landscape, road drainage and water environment, biodiversity and noise teams to ensure that the construction of the Scheme does not cause adverse impact or effect on heritage assets. Outcomes included improved planting to the west of Lowwood (MM053) and Winthorpe Conservation Area (MM432), an understanding of the approach of the field drain so as not to impact on the curtilage wall to the Church of St Wilfrid, Kelham (MM024) and discussions and understanding on noise assessments and need for noise mitigation at Lowwood (MM053) and Winthorpe Conservation Area (MM32) in particular. Further details are contained within Section 2.5 of Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
5.203	The discovery of heritage assets has potential to have a significant delay on scheme development, and applicants should ensure that protection of the historic environment is considered early in the development process.	Where possible the iterative development of the Scheme design has taken into account cultural heritage assets identified through the assessment to date, including design adjustments to preserve these assets and their setting where possible (further details are contained in Section 2.5 of Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).



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		Measures to identify the presence of heritage assets at risk of harm from construction or operation of the Scheme have included desk-based assessments, mapping studies, field walking, metal detector surveys, geophysical surveys, archaeological monitoring and trial trenching to identify archaeological remains, and geoarchaeological assessment to identify deposits with the potential to contain Palaeolithic archaeological remains and paleoenvironmental deposits. The risk that unexpectedly complex or significant heritage assets could be identified during construction of the Scheme has been accounted for and measures already taken provide confidence that such remains are unlikely to be encountered.
5.205	Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of this requirement should be proportionate to the importance and impact. Applicants should be required to deposit copies of the report with	Construction of the Scheme is likely to result in permanent significant adverse effects on the heritage value of several low to medium value, and one high value, non-designated archaeological remains dating to the prehistoric, Roman and or early medieval periods. Direct physical impacts associated with groundworks required for the construction of new road infrastructure and/or floodplain compensation areas will result in the total loss or partial removal of below ground archaeological remains associated with these



gnificant adverse cavation and hysical loss of anding of the etained llective cultural njoyed in the ugh the ewith pment Consent I Heritage) of the opportunities for eased social ring the detailed excheme experitage including: a cademic clar publications. The other publication panels or



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		 Public outreach through various in person and/or online activities such as workshops/talks/educational activities. Public open days either as active participation or live demonstration and presentation. Enhancement of the HER with the submission of the project survey data, which would otherwise have been undiscovered.
5.208	In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset). The Secretary of State should take account of the available evidence and any necessary expertise from:	See response to draft NPSNN paragraph 5.202 above. An assessment of the value/sensitivity (significance) of heritage assets has been carried out in accordance with criteria set out in Table 6.1 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) this also includes an assessment on impacts on any designated heritage assets including the mitigation measures.
	 relevant information provided with the application and, where applicable, relevant information submitted during the examination of the application any designated records 	A total of eight designated built heritage assets are identified as likely to experience significant adverse effects as a result of the construction of the Scheme as a result of changes to their setting, including visual or noise intrusions, or from the potential for direct impact as a result of vibration or ground settlement during construction.



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	 the relevant Historic Environment Record(s), and similar sources of information representations made by interested parties during the examination expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it 	Where possible the iterative development of the Scheme design has taken into account heritage assets identified through the assessment to date, including design adjustments to preserve these assets and their setting where possible (further details are contained in Section 2.5 of Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). Further refinement of the design measures may minimise or reduce adverse effects upon these assets or their settings, 500 metres north-west of the railway crossing (known locally as Smeaton's Arches) and Winthorpe Conservation Area (MM141, MM228, MM432). Those assets which have the potential to be impacted structurally during the construction phase have been noted. Monitoring of vibration on these assets would determine if there are any structural impacts arising, requiring mitigation through remedial repairs, and these monitoring requirements are secured through the First Iteration EMP (TR010065/APP/6.5). Other temporary impacts are mitigated against through embedded design to minimise those impacts arising from the construction phase, details on this are set out in Chapter 2 (The Scheme) of the ES



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		(TR010065/APP/6.1).
		One built heritage asset is identified as being significantly adversely affected by the operation of the Scheme as a result of additional visual and noise intrusion into its setting. This is MM053 Lowwood. Grade II listed.
		The proximity of the existing A1 and A46 intrudes audibly into the setting of grade II Lowwood House (MM053). The noise detracts substantially from a peaceful experience of the property within its setting in contrast with the rural and wooded nature of its surroundings. Though noise assessments show that due to the impact of the A1, any additional impacts from the A46 are considered to be negligible in scientific terms, there would be a perception on the ground that noise impacts will significantly affect the heritage value of the asset. Consultation with the Conservation Officer raised the possibility of an application from the owners for replacement tripleglazed windows. This would result in a loss of historic fabric that could be avoided and would be an indirect impact of the operational use of the new
		road infrastructure. It is considered that the operational impacts of increased noise, perceived



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		or real, additional light pollution and the possibility of loss of historic fabric, could result in a permanent Moderate Adverse effect. Due to the indirect nature of the impact, and potential for only partial loss of fabric, this is considered to be less than substantial harm.
		Policy and guidance recognise that not all impacts are able to be resolved in largescale schemes and the above residual impacts will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1).
		Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) section 6.1 sets out in detail the mitigation measures including embedded mitigation, considered through the design process. Embedded mitigation is further set out Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1). Mitigation measures during construction are included within the First Iteration EMP (TR010065/APP/6.5). Details on the First and Second Iteration EMPs, including how mitigation is secured by the draft DCO, (TR010065/APP/3.1) is provided within section 4.4 of Chapter 4



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		(Environmental Assessment Methodology) of the ES (TR010065/APP/6.1). The likely significant effects and mitigation requirements during construction of the Scheme are summarised in Table 6-7 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1).
		The Scheme has been carefully designed, the careful design and mitigation has minimised the heritage impact of the Scheme. For this reason, it is considered that the benefits of the Scheme outweigh these effects.
5.209	In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset, and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and aspect of the proposal.	See response to draft NPSNN paragraph 5.208 above.
5.210	The Secretary of State should take into account the desirability of	Section 6.10 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) outlines that there are
	sustaining and, where appropriate, enhancing the significance of heritage	opportunities for additional enhancements and increased social value that will be considered



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	assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).	during the detailed design ongoing development of the Scheme design and the development of the heritage assessment and associated works. These may include: • Use of minimal or sympathetic design to reduce changes within the settings of heritage assets. • Use of additional noise mitigation measures to enhance the setting of impacted heritage assets.
5.211	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	See response to draft NPSNN paragraph 5.208 above.



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	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 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.	
5.212	Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.	See response to draft NPSNN paragraph 5.208 above. Policy and guidance recognises that not all impacts are able to be resolved in largescale schemes and the heritage impacts described in response to the draft NPSNN paragraph 5.211 will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case



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		for the Scheme (TR010065/APP/7.1). It is considered the public benefit of the Scheme outweighs the harm.
5.213	Where the proposed development will lead to substantial harm to, or total loss of, significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that it is necessary to deliver substantial public benefits that outweigh that loss or harm. Alternatively, that all of the following apply: • the nature of heritage asset prevents all reasonable uses of the site • no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation • conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible	There will be no total loss of a designated asset or substantial harm. For further information please refer to Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1).



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	 the harm or loss is outweighed by the benefit of bringing the site back into use 	
5.214	Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefit of the proposal, including securing its optimum viable use.	One built heritage asset is identified as being significantly adversely affected by the operation of the Scheme as a result of additional visual and noise intrusion into its setting. This is grade II Lowwood House (MM053). The proximity of the existing A1 and A46 intrudes audibly into the setting of grade II Lowwood House (MM053). The noise detracts substantially from a peaceful experience of the property within its setting in contrast with the rural and wooded nature of its surroundings. Though noise assessments show that due to the impact of the A1, any additional impacts from the A46 are considered to be negligible based on the assessment, there would be a perception on the ground that noise impacts would significantly affect the heritage value of the asset. Consultation with the Conservation Officer raised the possibility of an application from the owners for replacement triple-glazed windows. This would result in a loss of historic fabric that could be avoided and would be an indirect impact of the operational use of the new



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		road infrastructure. It is considered that the operational impacts of increased noise, perceived or real, additional light pollution and the possibility of loss of historic fabric, could result in a permanent Moderate Adverse effect. Due to the indirect nature of the impact, and potential for only partial loss of fabric, this is considered to be less than substantial harm.
		Not all impacts are able to be resolved in largescale Schemes and the heritage impacts described above will be weighed against the longer term and wider benefits of the Scheme in environmental, safety, social and economic terms presented in the Case for the Scheme (TR010065/APP/7.1). It is considered the public benefit of Scheme outweighs the harm.
5.215	Not all elements of a World Heritage Site or Conservation Area will necessarily contribute towards its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less then substantial harm, as appropriate. This should take into account the	Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) outlines that there are no known world heritage sites within its study area. Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) outlines that there are five Conservation Areas within its study area. Of these, Winthorpe Conservation Area is the only one identified as likely to experience significant effect.



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	relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole.	Winthorpe Conservation Area lies immediately adjacent to the Order Limits of the Scheme. The presence of construction machinery close to the asset would increase the level of noise and alter the agricultural setting of the asset and reduce the ability to appreciate the heritage value of the asset. This would result in a temporary Moderate Adverse effect on the heritage value of the asset. The widening of the A46 along the south boundary of the conservation area, and the construction of noise bunds would erode the buffer zone to the A46 provided by this part of the conservation area. Though the bunds are intended to mitigate against noise, they would be visually incongruous. However, planting in keeping with the character of this part of the conservation area would soften this impact as it matures and therefore result in a permanent less than significant effect on the conservation area. Due to the temporary and minor permanent change to setting this is considered to result in less than substantial harm. Both construction and operational impacts arising from the Scheme are somewhat diluted in that they would affect only part of the conservation area and its setting and not the whole. Therefore, actions or commitments such as limits on working hours to



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		reduce the impacts of removal and installation of structures near Winthorpe Conservation Area would reduce the level of effect across the whole asset.
5.217-5.218	Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to, or better reveal, the significance of the asset should be treated favourably. Where there is evidence of deliberate neglect of, or damage to, a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.	Section 6.10 of Chapter 6 (Cultural Heritage) of the ES (TR010065/APP/6.1) outlines that there are opportunities for additional enhancements and increased social value that would be considered during the detailed design, ongoing development of the Scheme design and the development of the heritage assessment and associated works. These may include: • Use of minimal or sympathetic design to reduce changes within the settings of heritage assets. • Use of additional noise mitigation measures to enhance the setting of impacted heritage assets
5.220	Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological	Any potential noise and vibration impacts on protected species and wildlife are assessed within Section 8.9 Potential Impacts and Section 8.11 Assessment of Likely Significant Effects within Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1).



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	receptors should be assessed in accordance with the Biodiversity and Nature Conservation section of this NPS.	
5.222	Where noise impacts are likely to arise from the proposed development, the applicant should include the following in its noise assessment:	Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) considers the likely significant effects of the Scheme from noise and covers the areas of assessment outlined in this draft NPSNN paragraph.
	 a description of the noise sources including the 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 	The Baseline Noise Survey in Appendix 11.2 of the ES Appendices (TR010065/APP/6.3) documents the findings of the baseline noise monitoring undertaken for the Scheme used to inform Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1). Further details are also set out in the noise assessment methodology in Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) which shows compliance with this paragraph. The assessment of construction noise shows: • Pre-commencement works / Earthworks and floodplain compensation/ Ground improvement/ Bridge structures/ Drainage/ Roadworks/ and Construction compounds/ construction phases, each have the



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	a prediction on how the noise environment will change with the proposed development: o in the shorter term such as during the construction period o in the longer term during the operating life of the infrastructure o at particular times of the day, evening and night (and weekends) as appropriate an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas, including identifying whether any particular groups are more likely to be affected measures to be employed in mitigating the effects of noise applicants should consider using the best available techniques to	potential to result in significant adverse effects during the daytime. • Pre-commencement works/ Bridge structures/ and Roadworks construction phases each have the potential to result in significant adverse effects during the night-time. • Suitable mitigation measures to avoid significant adverse effects are described within Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) and are secured within the First Iteration EMP (TR010065/APP/6.5). A Section 61 application process (whereby the Principal Contractor consults with the local authority and provides an application prior to construction works commencing to obtain approval for the methods to be used and the steps proposed to minimise noise and vibration resulting from the works) may apply between the Principal Contractor and the Local Authority in advance of the works would ensure potential cumulative levels and relevant mitigation measures are adopted to avoid significant adverse effects.
	reduce noise impacts.	Embedded mitigation measures incorporated in the



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		Scheme design such as landscape earthworks, noise barriers and bridge parapets are shown on Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2).
		The assessment of operational noise shows:
		 No residual significant adverse effects have been identified as a result of the Scheme with mitigation in place (as described within Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) under the 'Design measures' heading and secured via the First Iteration EMP (TR010065/APP/6.5).
		The Statement Relating to Statutory Nuisances (TR010065/APP/6.7) has considered the potential for the Scheme to cause a statutory nuisance under Section 79(1) of the of the Environmental Protection 1990 Act (EPA). With the essential mitigation measures set out in the First Iteration EMP (TR010065/APP/6.5) in place, none of the statutory nuisances identified in section 79(1) of the EPA are predicted to arise during the construction and operation of the Scheme.
5.223	The potential for noise impacts	Chapter 11 (Noise and Vibration) of the ES



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	elsewhere that is directly associated with the development, such as changes in road and rail traffic movements elsewhere on national networks, should be considered as appropriate.	(TR010065/APP/6.1) describes how the study area has been defined for the noise assessment. This includes the following: beyond 600 metres, the area within 50 metres of other road links with potential to experience a short-term Basic Noise Level change of more than 1.0 dB(A), as a result of the Scheme.
		Therefore, traffic flow changes in areas further away from the Scheme have been included in the assessment and the resultant impacts have been included within the DMRB LA 111 style impact tables, which can be found in the assessment of likely significant effects, operational noise section of the Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1).
		The DMRB LA 111 'Noise and Vibration' provides the assessment requirements for highway schemes in the UK and reflects Environmental Impact Assessment (EIA) methodology as applied to highways. It includes requirements for the classification of magnitude of impact, assessment of both long and short-term effects and determination of significance for both construction and operational phases.



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5.224	Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise and Common Noise Assessment Methods (CNOSSOS). The prediction of noise from new railways should be based on the method described in the Calculation of Railway Noise and Common Noise Assessment Methods (CNOSSOS). For the prediction, assessment and management of construction noise, reference should be made to the relevant British Standards and other guidance which also gives examples of mitigation strategies.	Section 11.3 of Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) outlines relevant legislation and policies listed taken account of in the assessment, including British Standards 5228 parts 1 and 2. The assessment has been undertaken in accordance with the DMRB LA 111 Noise and Vibration (National Highways, 2020) which stipulates the use of Calculation of Road Traffic Noise (CRTN) rather than CNOSSOS. Section 11.8 of Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) also sets out the assessment methodology which shows compliance with this paragraph.
5.225	The applicant should consult Natural England with regard to the assessment of noise on designated nature conservation sites, protected landscapes, protected species or	Section 8.4 of Chapter 8 (Biodiversity) of the ES (TR010065/APP/6.1) outlines the consultation undertaken to inform assessment methodology. The Applicant has engaged with Natural England



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	other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.	and there will be ongoing engagement as the Scheme progresses. Further information on engagement that has taken place, and areas of agreement and disagreement identified during preapplication consultation with the Consultee, will be recorded within a Statement of Common Ground, which will be developed and submitted to the Examining Authority during the course of the Development Consent Order examination. Details of engagement with Natural England can be found in Table 1-2 within Appendix 4.3 (Record of Environmental Engagement) of the ES Appendices (TR010065/APP/6.3). Further relevant details of discussions are also provided within Chapters 5 to 15 of this ES (TR010065/APP/6.1). Details of engagement with consultees are also set out in Table 3.2 of the Consultation. Details of the engagement undertaken can be found in Table 3.2 of Chapter 3 of the Consultation Report (TR010065/APP/5.1).
5.227	Mitigation measures for the project should be proportionate and reasonable and may include one or more of the following:	Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1) provides details of the embedded mitigation measure incorporated into the Scheme design, including the following measures for noise:



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	 engineering: containment of noise generated materials: use of materials that reduce noise, (for example, low noise road surfacing) lay-out: adequate distance between source and noisesensitive receptors incorporating good design: to minimise noise transmission through landscaping and screening by natural or purposebuilt barriers including topographical changes administration: specifying acceptable noise limits or times of use (for example, in the case of railway station public address systems) 	 Retention of the existing dual carriageway between Friendly Farmer and Winthorpe and building a new link to the south which would move the A46 away from Winthorpe (when compared with the Scheme design for the preferred route announcement). The use of thin surface courses on new carriageways to provide a reduction in road surface noise compared to hot rolled asphalt or concrete. The provision of noise bunds integrated as part of the landscape design to reduce adverse effects to noise receptors where required. These features are shown on Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2). Mitigation measures during construction are included within the First Iteration EMP (TR010065/APP/6.5) which will be developed into a Second Iteration EMP for implementation during construction of the Scheme. Details on the First and Second Iteration EMPs, including how mitigation is secured by the draft DCO (TR010065/APP/3.1), is provided within Section



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		4.4 of Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1).
5.228	For most national network projects, the relevant Noise Insulation Regulations will apply. These place a duty on, and provide powers to, the relevant authority to offer noise mitigation through improved sound insulation to dwellings, with associated ventilation to deal with construction and operational noise. An indication of the likely eligibility for such compensation should be included in the assessment. In extreme cases, the applicant may consider it appropriate to provide noise mitigation, through compulsory acquisition of affected properties in order to gain consent for what might otherwise be an unacceptable development. Where mitigation is proposed to be dealt with through compulsory acquisition, such properties would have to be included within the Development Consent Order land in relation to which	Appropriate mitigation measures have been set out in Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) and are secured within the REAC located in the First Iteration EMP (TR010065/APP/6.5). Mitigation through improved sound insulation is not required, under the Noise Insulation Regulations 1975 (amended 1988). In general, mitigation has been designed to reduce noise at source and because there are no residual significant effects, sound insulation has not been employed as part of the operational noise mitigation strategy.



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	compulsory acquisition powers are being sought.	
5.229	Applicants should consider opportunities to address the noise issues associated with Important Areas as identified through the noise	This requirement has been addressed in Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1).
	action planning process.	Several highways Noise Important Areas (NIAs) are located in the vicinity of the Scheme, as presented in Figure 11.3 (Noise Important Areas) of the ES Figures (TR010065/APP/6.2) eleven of which are within the study area.
		Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) includes a summary of the short-term noise impact at relevant NIAs, which are either negligible or minor beneficial impacts.
5.230	Developments must be undertaken in accordance with statutory requirements for noise. Due regard must have been given to the relevant sections of the Noise Policy Statement for England, National	The Noise Policy Statement for England (NPSE) purpose is to promote "good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development." The three main aims are to:
	Planning Policy Framework and the government's associated planning guidance on noise.	Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.



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		 Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development. Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.
		NPPF Paragraph 191(a) reiterates the first two of the above NPSE aims.
		On this basis, Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) considers the following concepts in the assessment of noise impact:
		 Lowest Observed Adverse Effect Level (LOAEL): this is the level above which adverse effects on health and quality of life can be detected. Significant Observed Adverse Effect Level (SOAEL): this is the level above which



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		significant adverse effects on health and quality of life occur.
		Section 11.3 of Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) outlines relevant legislation and policies taken into account in the assessment, including the Noise Policy Statement for England, the NPPF and relevant Planning Practice Guidance.
		These requirements have also been addressed in Chapter 11 (Noise and Vibration) of the ES (TR010065/APP/6.1) in Section 11.8 where the assessment methodology is described, Section 11.14, where mitigation measures are described, and Section 11.15 where the assessment results are presented.
5.231	The project should demonstrate good design through optimisation of scheme layout to minimise noise emissions and, where possible, the use of landscaping, bunds or noise	The Scheme Design Report (TR010065/APP/7.5) outlines the Applicant's commitment to good design and provides details on how the design has evolved.
	barriers to reduce noise transmission. The project should also consider the need for the mitigation of impacts elsewhere on the road and rail networks that have been identified as	Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1) provides details of the embedded mitigation measure incorporated into the Scheme design, including the following measures for noise and vibration:



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	arising from the development, according to government policy.	 Retention of the existing dual carriageway between Friendly Farmer and Winthorpe and building a new link to the south which would move the A46 away from Winthorpe (when compared with the Scheme design for the preferred route announcement). The use of thin surface courses on new carriageways to provide a reduction in road surface noise compared to hot rolled asphalt or concrete. The provision of noise bunds integrated as part of the landscape design to reduce adverse effects to noise receptors where required. The locations are shown on Figure 2.3 Environmental Masterplan of the ES Figures (TR010065/APP/6.2). There are no impacts elsewhere on the network, therefore there is no need for mitigation of impacts elsewhere.
5.232	The Secretary of State should not grant development consent unless satisfied that the proposals will meet the following aims, within the context of government policy on sustainable development:	See response to draft NPSNN paragraphs 5.224 to 5.231 above.



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	 avoid significant adverse impacts on health and quality of life from noise as a result of the new development mitigate and minimise other adverse impacts on health and quality of life from noise from the new development contribute to improvements to health and quality of life through the effective management and control of noise, where possible. 	
5.233	In determining an application, the Secretary of State should consider whether requirements are needed which specify that the mitigation measures put forward by the applicant are put in place to ensure that the noise levels from the project do not exceed those described in the assessment or any other estimates on which the decision was based.	See response to draft NPSNN paragraph 5.23.1
5.234	The construction and operation of nationally significant infrastructure projects may have short or longer term economic and social impacts on	Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) provides an assessment of the likely significant effects on population and human health.



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	local communities, businesses or services. The construction period for significant projects can be lengthy; however, this can generate employment through the construction period and benefit the local economy. Applicants should look to maximise local employment opportunities during construction and operational phases.	The assessment concludes during construction, there is likely to be a beneficial impact on the economy through both new and existing contracts entered into with local companies across the Wider Impact Area. This is likely to be beneficial for employment opportunities associated with direct employment from the construction activity, as well as for local businesses through indirect spend, during the four-year construction period. Details on this are further set out in Table 12.14 in Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.). The Equality Impact Assessment (EqIA) (TR010065/APP/7.6) is also relevant in that it presents the findings of the assessment of likely effects of the construction and operation of the Project on human health and equality including job creation, skills and training opportunities and impacts on the wider supply chain. The EQIA reports an overall positive effect in terms of potential generation of employment. The Scheme has the potential to bring new employment opportunities during the construction phase. A construction workforce will be required to deliver the infrastructure necessary for the Scheme.



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5.235	Where the project is likely to have socio-economic impacts at local or regional level, the applicant should undertake and include in their application an assessment of these impacts.	See response to draft NPSNN paragraph 5.234 above.
5.236	This assessment should consider all relevant socio-economic impacts which may include: • the creation of jobs and training opportunities. Applicants may wish to provide information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to net zero • the value of increased connectivity on productivity and access to jobs, services and housing • the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities. Applicants	Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) considers the impact of the Scheme on the local population and human health receptors. The assessment takes into consideration accessibility, land requirement implications and effects on amenity. Socio- economic impacts are considered in the human health part of the assessment, which considers a range of personal, social, economic, and environmental factors that influence human health status. This includes neighborhood quality, access to services, health and social care, social capital, employment and income and access to green space and recreation. The chapter outlines the potential impacts from the Scheme for both construction and operation stages, including:



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	should engage with local businesses and the local community at the preconstruction phase to understand the opportunities for businesses and the community throughout construction, such as employment or educational programmes • any indirect beneficial impacts for the region hosting the infrastructure, particularly in relation to the use of local support services and supply chains • effects on tourism • cumulative effects – if development consent were to be granted to for a number of projects within a region and these are developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the	 Temporary creation of jobs necessary to deliver the Scheme will have direct and indirect beneficial employment-related health impacts in the Wider Impact Area. Operation The Scheme has the potential to improve the provision of infrastructure that encourages active travel modes, supports a potential reduction in pollutants and offers access to employment with the potential for positive health impacts. The operation of the Scheme is anticipated to reduce congestion, improve journey time reliability and improve safety, improving the access to employment for people living within the LIA and supporting the future economic growth of the region. However, overall, the assessment finds no significant socio-economic impacts as part of the Population and Human Health Assessment. Chapter 15 (Cumulative Effects) of the ES (TR010065/APP/6.1) considers the cumulative



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	needs of other industries and major projects within the region	effects of the Scheme. Two types of cumulative effects have been considered:
		 Cumulative effects – effects that occur either as a result of changes caused by other developments reasonably acting cumulatively with the effects of the Scheme; and Combined effects – effects from the combined effect of several different impacts acting together on a single receptor, such that the combined effect would be more significant than the individual effects.
		The Equality Impact Assessment (EqIA) (TR010065/APP/7.6) is also relevant in that it presents the findings of the assessment of likely effects of the construction and operation of the Project on human health and equality including job creation, skills and training opportunities and
		impacts on the wider supply chain. The EQIA reports an overall positive effect in terms of potential generation of employment. The Scheme has the potential to bring new employment opportunities during the construction phase. A construction workforce will be required to deliver
5.237	Applicants should describe the	the infrastructure necessary for the Scheme. Section 12.8 of Chapter 12 (Population and



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	existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio- economic impacts correlate with local planning policies.	Human Health) of the ES (TR010065/APP/6.1) outlines the baseline conditions for the assessment, including socio-economic conditions. This includes population and demographic data, employment data, and information on local businesses in the LIA.
		The chapter also sets out the principal legislation and planning context for the assessment of the Scheme and identifies how the assessment has taken each into consideration. Local planning policies, such as the Local Development Framework and Newark and Sherwood District Council Economic Growth Strategy Plan, are highlighted and the assessment considers how the Scheme will impact upon employment, income, business and housing in the local area.
5.239	The Secretary of State should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development. For example, high quality design can improve the visual and environmental experience for visitors and the local community alike.	The Applicant has prepared a Scheme Design Report (TR010065/APP/7.5) which summarises the design policy context and which discusses the overarching design principles to respond to the design objectives set out in the draft NPSNN, The Road to Good Design, Design Principles for National Infrastructure, Technical Design Standards for the Scheme. The Scheme Design Report (TR010065/APP/7.5) demonstrates how 'good design' was considered across the Scheme



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		design and how this design minimises social and environmental impacts.
		Measures have been designed into the Scheme to minimise adverse social impacts. The design of the Scheme is described in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1) along with the mitigation embedded within it. Examples of embedded mitigation include:
		 Visual appearance: Careful integration of earthworks into the landscape, shaping the proposed new landform sympathetically to integrate the Scheme into the receiving landscape. Functional: Access in and around the new junctions to accommodate WCH users as required. Fitness for Purpose: Road restraint systems providing protection from features which may present a hazard, such as high embankments. Traffic signs at appropriate locations to provide route and destination information. Sustainable: Habitat connectivity to the wider landscape has been maintained and



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		biodiversity opportunities within the Order Limits, particularly in respect to Local Wildlife Sites (LWSs) and priority habitats. Cost: A Design for Resource Efficiency (D4RE) online workshop to identify opportunities to improve resource efficiency during the design stage. This would ensure cost savings are maximised by considering waste minimisation initiatives and identifying opportunities to reduce, reuse or recycle waste materials and improve resource efficiency. For example, the following opportunities have been incorporated into the Scheme design:
		 Repair and reuse of drainage along the existing carriageway. Retain as much soil as possible utilising soil restoration for carbon sequestration. Recycle of road pavement that is removed.
		Mitigation measures to minimise any resulting social and environmental impacts are presented in the REAC within the First Iteration EMP (TR010065/APP/6.5).



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5.244	The planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, water pollution. The government has issued guidance on water supply, wastewater and water quality considerations in the planning system. Where applicable, an application for a Development Consent Order has to contain a plan with accompanying information identifying water bodies in a River Basin Management Plan.	A First Iteration EMP (TR010065/APP/6.5) has been prepared for the Scheme and forms part of the application for development consent. The First Iteration EMP (TR010065/APP/6.5) acts as a mechanism to aid the delivery for the mitigation measures required during construction including to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. These mitigation measures are known to be effective in managing the risk of pollution. This will be developed into a Second Iteration EMP prior to construction commencing and is secured by Requirement 3 of the draft DCO (TR010065/APP/3.1). Rigorous groundwater protection measures, which are standard practice to prevent contamination, and as specified in the First Iteration EMP (TR010065/APP/6.5), would be implemented during construction. Such measures would mitigate the mobilisation of contaminants through accidental spillage or direct contact with construction materials, as discussed in Chapter 9 (Geology and Soils) of this ES (TR010065/APP/6.1). Construction activities will be managed by best
		Conditional activities will be managed by best



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		practice measures in accordance with Construction Industry Research and Information Association (CIRIA) Guidelines, including the following: • CIRIA's 'Environmental good practice on site' • CIRIA's 'Control of water pollution from linear construction projects; Technical Guidance' • Environment Agency's 'Protect groundwater and prevent groundwater pollution' • Environment Agency's Pollution Prevention Guidelines PPG5 'Works and maintenance in or near water', PPG6 'Working at Construction and Demolition Sites', PPG7 'The safe operation of refueling facilities', and PPG13 'Vehicle washing and cleaning.
		Chapter 13 (Road Drainage and the Water Environment) of the ES (TR010065/APP/6.1) identifies the potential impacts of the Scheme on the water environment, as part of this chapter different assessments have been carried out.
		In regard to the River Basin Management Plan (RBMP), Chapter 13 identifies the waterbodies and references the Humber RBMP, and the WFD found in Appendix 13.1 of the ES Appendices (TR010065/APP/6.1) identifies the mitigation measures and objectives applicable from the



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		Humber RBMP.
5.245	Applicants should make early contact with the relevant regulators, including the Environment Agency, for abstraction licensing or water quality activity or groundwater activity permits, and with water supply companies likely to supply the water. Where development is likely to have adverse effects on the water environment, the applicant should undertake an assessment of the existing status and impacts of the proposed project on water quality, water resources and physical characteristics of the water environment as part of the Environmental Statement or equivalent. The assessment should also include how this might change due to the impact of climate change on rainfall patterns and consequently water availability across the water environment (see paragraphs 4.30 to 4.41).	An introductory meeting was held with the Environment Agency on 30 March 2022 to introduce the Scheme and in particular water quality and flood management issues. Further meetings were held with the Environment Agency on 13 June 2022 to agree proposals for water quality monitoring for the Scheme, both preconstruction (to inform the Environmental Impact Assessment (EIA)) and during construction. During this meeting, the proposals outlined within Appendix 13.5 (Surface Water Quality Monitoring Report) of the ES Appendices (TR010065/APP/6.3) (locations, parameters and frequency) were agreed with the stakeholders (see Section 13.5 of Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1). It was also discussed that the frequency of monitoring during construction may change, however, this would be agreed following consultation with the Environment Agency. An Environment Agency technical meeting was held on the 22 July 2022 to provide an update on the river channel surveys and wider topographical



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		surveys, review the hydraulic modelling approach, discuss floodplain compensation and agree future engagement.
		On 8 September 2022, a meeting was held with the Canals and Rivers Trust to discuss the proposed hydroelectric plants along the River Trent. This provided an understanding of whether the baseline fluvial hydraulic model would need to be updated.
		A Steering Group meeting was held on the 30 November 2022 during which the proposal to scope out the Farndon Ponds and Devon Park Pastures Local Nature Reserves (LNRs) was discussed. However, it was decided that the two LNRs would remain scoped-in. Numerous Flood and Drainage Steering Group meetings have been held throughout 2022 and 2023. These are outlined in the overarching consultation for the ES in Chapter 4 (Environmental Assessment Methodology) of the ES (TR010065/APP/6.1).
		On 13 April 2023, a meeting with the Environment Agency was held to discuss the methodology and outcomes of Appendix 13.1 (Water Framework Directive Compliance Assessment) of the ES



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		Appendices (TR010065/APP/6.3). Following potential changes to the design, a meeting was held with the Environment Agency and Trent Valley Internal Drainage Board on the 20 June 2023 to discuss the potential changes to the design and the implications for the WFD assessment. These potential design changes were not carried forward and therefore no changes were made to the WFD assessment.
		On the 25 May 2023 groundwater levels were presented to the Environment Agency within the Steering Group Meeting.
		The Flood Risk Management Authorities have been consulted throughout the development of the Scheme to ensure the assessment of the flood risk is appropriate for the nature and scale of the Scheme. This is outlined in Appendix 13.2 (Flood Risk Assessment) of the ES Appendices (TR010065/APP/6.3).
5.246	For those projects that are improving the existing infrastructure, such as road widening, opportunities should be taken, where feasible, to improve the quality of existing discharges where these are identified and shown	The assessment of water quality impacts has been based upon the methodology provided in DMRB LA 113, as outlined in Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1).and assessed using Highways England Water Risk Assessment Tool



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	to contribute towards Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 ("Water Framework Regulations") commitments. A permit under the Environmental Permitting Regulations may also be required where improvements are being made to existing infrastructure, for example, the discharge of contaminated water from roads.	(HEWRAT) (as outlined within Appendix 13.3 (HEWRAT Assessment) of the ES Appendices (TR010065/APP/6.3). The design for Farndon East FCA is exploring opportunities to incorporate wetland features, including the use of the pits as ponds, and wetland vegetation to be planted throughout. These opportunities have the potential to promote nature-based water treatment and improve the water quality of surface water run-off. If this is included within the Scheme, it could help to reduce the levels of phosphate in waterbody, which may in turn aide in improving the 'Trent from Soar to Beck' WFD chemical status. A WFD Compliance Assessment is contained in Appendix 13.1 of the ES Appendices (TR010065/APP/6.3). This concludes that no significant adverse impacts to the WFD relevant water bodies would occur with mitigation measures in place as secured by the First Iteration EMP (TR010065/APP/6.5) and the Scheme is compliant with the WFD objectives for all relevant WFD water bodies.
5.247	Under Environmental Permitting Regulations, applicants are required to manage surface water during construction by treating surface water	The management of surface water during construction is detailed in Appendix 13.4 (Drainage Strategy Report) of the ES (TR010065/APP/6.3) and covers the potential for pollution and silting



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	runoff from exposed topsoil prior to discharging and to limit the discharge of suspended solids. For example, from car parks or other areas of hard standing, during operation. Consent may be required for working near to a river from the Environment Agency and a pollution incident response plan is recommended.	and flooding. Mitigation measures include the use of swales, ponds and basins in their end state to perform the role of the management of surface water during temporary works and construction. The Consents and Agreements Position Statement (TR010065/APP/3.3) details other consents and agreements that are expected to be sought for the Scheme, and how these will be obtained. At this point of the DCO application the majority of consents and all the powers required have been included, or addressed, within the draft DCO (TR010065/APP/3.1) as permitted by the relevant provisions of the 2008 Act. These include:
		 Consent to abstract and/or discharge water from/to the sub-soil; Consent to carry out flood risk and water discharge activities; Consent to obstruct ordinary watercourses; and Consent or approval for the carrying out of the works required under any relevant byelaws made under the Water Resources Act 1991 or the Land Drainage Act 1991.
5.248	Applicants should consider protective measures to control the risk of	Section 13.10 of Chapter 13 (Road Drainage and the Water Environment) of the ES



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	pollution to groundwater beyond those outlined in Environmental Management Plans - this could include, for example, the use of protective barriers.	(TR010065/APP/6.1) outlines the mitigation measures during construction to manage potential effects of the Scheme on water resources. A First Iteration EMP (TR010065/APP/6.5) has been prepared for the Scheme and forms part of the application for development consent. The First Iteration EMP (TR010065/APP/6.5) acts as a mechanism to aid the delivery for the mitigation measures required during construction including to manage potential effects of the Scheme on water resources and to demonstrate compliance with environmental legislation. These mitigation measures are known to be effective in managing the risk of pollution. This will be developed into a Second Iteration EMP prior to construction commencing and is secured by Requirement 3 of the draft DCO (TR010065/APP/3.1).
		are standard practice to prevent contamination, and as specified in the First Iteration EMP (TR010065/APP/6.5), would be implemented during construction. Such measures would mitigate the mobilisation of contaminants through accidental spillage or direct contact with construction materials, as discussed in Chapter 9 (Geology and



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5.249	Any assessment for both the construction and operational phases of the development should describe: • the existing quality of waters affected by the proposed project, and how climate change will impact on this • existing water resources affected by the proposed project, the impacts of the proposed project on water resources, and how climate change will impact on this • existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project, and any impact of physical modifications to these characteristics • any impacts of the proposed project on water bodies or protected areas under the Water Framework Regulations and source protection zones around potable groundwater	Soils) of this ES (TR010065/APP/6.1). Water quality and impacts of the Scheme upon them are described and assessed within Chapter 13 (Road Drainage and the Water Environment) of the ES (TR010065/APP/6.1) and Appendix 13.5 Surface Water Quality Monitoring Report of the ES Appendices (TR010065/APP/6.3). Issues relating to the Water Framework Directive are addressed within the Water Framework Directive Compliance Assessment in Appendix 13.1 of the ES Appendices (TR010065/APP/6.3). Groundwater issues are further discussed within Chapter 13 (Road Drainage and the Water Environment) of the ES (TR010065/APP/6.1).



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	abstractions; and how climate change will impact on thisany cumulative effects	
5.250	The assessment should also identify protected areas and other water usages within the vicinity of any discharge, such as bathing waters, abstractions and fisheries at risk from proposed works and the permits/consents required. It should also identify opportunities to improve water quality, for example, through nature-based approaches or solutions, and as part of environmental and biodiversity net gain.	Chapter 13 (Road Drainage and Water Environment) of the ES (TR010065/APP/6.1) identifies the potential receptors and the potential impacts on these receptors from the Scheme, including protected areas, watercourses, and designated sites. This has been informed by the WFD Compliance Assessment (Appendix 13.1 of the ES Appendices (TR010065/APP/6.3) and the HEWRAT assessment (Appendix 13.3 of the ES Appendices (TR010065/APP/6.3). In addition, a drainage strategy has been developed to outline the drainage design and mitigation measures incorporated within the Scheme, this includes nature-based solutions incorporated where achievable.
5.252	The Secretary of State should consider whether the mitigation measures put forward by the applicant which are needed for operation and construction (and which are over and above any which may form part of the project application) are acceptable. A	The REAC within the First Iteration of the EMP (TR010065/APP/6.5) provides details of all the environmental actions and commitments required to manage and minimise the environmental effects of the Scheme identified in the ES (TR010065/APP/6.1). The First Iteration EMP (TR010065/APP/6.5) will be developed in a Second Iteration EMP for implementation during



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	construction management plan may help codify mitigation.	construction under Requirement 3 of the draft DCO (TR01065/APP/3.1). The Second Iteration EMP (which the draft DCO (TR010065/APP/3.1) provides must be substantially in accordance with the First Iteration EMP (TR010065/APP/6.5) would include control measures for environmental impacts arising during construction, in addition to more detailed management plans and methodologies on the design and construction of the Scheme.
		Requirement 3 of the draft DCO (TR010065/APP/3.1) details that the construction of the Scheme must be carried out in accordance with the approved Second Iteration EMP. On completion of construction, a final version of the EMP (Third Iteration EMP) relating to the operational and maintenance phase of the Scheme would be prepared. Overall, the iterative EMP process would enable the Secretary of State to identify and consider all the mitigation measures within the Scheme and ascertain how these would be secured, implemented and maintained.
5.253	The project should adhere to any National Standards for Sustainable	As outlined in the Drainage Strategy Report in Appendix 13.4 of the ES Appendices
	Drainage Systems. The Sustainable Drainage Systems Technical	(TR010065/APP/6.3), soft-engineering methods for drainage will be implemented where feasible, using



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	Standards introduced a hierarchical approach to drainage design that promotes the most sustainable approach but recognises feasibility and use of conventional drainage systems as part of a sustainable solution for any given site given its constraints.	SuDS as a primary principle to drain, treat and attenuate runoff, with nature-based solutions incorporated where achievable.
5.254	The project should identify opportunities and secure measures to protect and improve water quality and resources through green and blue infrastructure, sustainable drainage and environmental and biodiversity net gain. This will help to achieve 25 Year Environment Plan objectives and potentially provide greater	The assessment of water quality impacts has been carried out in accordance with methodology outlined in DMRB LA 113 – Road drainage and water environment. A Drainage Strategy Appendix 13.4 of the ES Appendices (TR010065/APP/6.3) has been developed for the Scheme which outlines the use of sustainable drainage.
	capacity to support infrastructure needs.	Farndon East FCA would be designed and landscaped to be a permanent lake with grass planting around the edges where possible, which drains into the Old Trent Dyke. Farndon West FCA would be designed to comprise of residual ponds formed in post-borrow pit excavations with floodplain grazing marsh created in the northern extent of the FCA. The FCAs would incorporate fish escape passages to mitigate the risk of fish



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		entrapment as flood water recedes. Following consultation with the Environment Agency, the specific number, location and design of fish escape passages would be finalised during detailed design, and the proposals would be tested in the fluvial hydraulic model to assess the potential impact to receptors.
		These opportunities have the potential to promote nature-based water treatment and improve the water quality of surface water run-off. If this is included within the Scheme, it could help to reduce the levels of phosphate in waterbody, which may in turn aide in improving the 'Trent from Soar to Beck' WFD chemical status.
5.255	The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated areas for storage and unloading, with appropriate drainage facilities, should be marked clearly. This may also include the need for treatment of water, which may need a permit under the Environmental Permitting	Through good design and mitigation measures outlined within the First Iteration EMP (TR010065/APP/6.5), the Scheme has avoided or minimised any impacts on watercourses and the Scheme would not contribute to unacceptable levels of water pollution.



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5.258	Regulations. The Secretary of State should be satisfied that a proposal has had regard to the River Basin Management Plans and the requirements of the Water Framework Regulations. The specific objectives for particular river basins are set out in River Basin Management Plans. In terms of Water Framework Regulations compliance, the overall aim of projects should be to meet the environmental objectives under regulation 13 and to avoiding derogation by use of regulation 19 of the Water Framework Regulations. The Secretary of State should also consider the interactions of the proposed project with other plans such as Water Resources Management Plans, Shoreline or Estuary Management Plans and Marine Plans.	The Scheme has been assessed against the Water Environment (Water Framework Directive) Regulations as set out in the WFD Compliance Assessment in Appendix 13.1 of the ES Appendices (TR010065/APP/6.3). As part of the WFD Compliance Assessment, found in Appendix 13.1 of the ES Appendices (TR010065/APP/6.3), the objectives and mitigation measures of the Humber River Basin Management Plans were reviewed, and relevant measures highlighted within the assessment. It was concluded that the Scheme would not cause deterioration of the current WFD status of the waterbodies within the study area, with a potential to result in a minor beneficial effect for the Slough Dyke (tributary of Trent). The Scheme is not anticipated to prevent any waterbodies within the study area from reaching their target 'Good' status in the future, as potential impacts resulting from various elements of the Scheme are expected to have only small-scale, localised impacts.



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5.262	Applicants should consult the relevant highway authority, local planning authority, and Network Rail, as appropriate, on the assessment of transport impacts. This should include agreement on alignment to policies outlined in existing or emerging local plans and Local Transport Plans.	Nottinghamshire County Council (the relevant Highway Authority) have been consulted on the TA (TR010065/APP/7.4), including an introductory meeting to discuss the scope of the TA (TR010065/APP/7.4), meetings with relevant officers to discuss certain disciplines such as public transport and public rights of way, and a meeting to discuss details on the construction impacts of the Scheme and the modelling outputs. A meeting with NSDC, the local planning authority, was also undertaken. Details on the engagement with these stakeholders is set out in Chapter 3 of the Consultation Report (TR010065/APP/5.1).
5.263-5.264	Different transport networks may need to share space within an area, even whilst serving different travel needs. For example, bus lanes, shared cycle lanes, green lanes, or bus and rail routes on the same corridor.	The impact of the Scheme on existing PRoWs has been assessed, further details are set out in The TA (TR010065/APP/7.4). Provision has been made within the Scheme to maintain existing PRoWs where practicable and deemed appropriate.
	Applicants should seek to offer an integrated transport outcome, significantly considering opportunities to support other sustainable transport modes, as well as improving local connectivity and accessibility in	An overview of travel in the vicinity of the Scheme by sustainable modes of transport, including WCH and public transport is provided in Chapter 7 (Sustainable Transport) of the TA (TR010065/APP/7.4). This chapter also identifies the improvements and enhancements which would be delivered as part of the Scheme.



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	developing infrastructure. The needs of pedestrian and other vulnerable road users should be considered, where appropriate, in line with the principles of the road user hierarchy.	
5.265	The applicant should provide evidence that as part of the project they have addressed any new or existing severance issues and/or safety concerns that act as a barrier to non-motorised users, unless it is unsafe or unviable to do so.	As outlined within Chapter 4 of the Case for the Scheme (TR010065/APP/7.1), the Scheme incorporates new and improved WCH provision. Some of the improvements that would be provided by the Scheme are detailed below: Footway/Cycle track at Cattle Market - The existing footway/cycle track around Cattle Market provides a link between the walking and cycling facilities present on the A617, A616 and Great North Road. A signalised crossing would be provided for users to cross the northern A616 arm of Cattle Market and two signalised crossings provided for them to cross the eastern A46 arms. This route forms part of the 'Trent Valley Way' long distance walking route. Signalised crossings would be provided as part of the Scheme around the enlarged Cattle Market gyratory to maintain/improve these links. Footway east of the A1 - There is an existing footway that runs alongside the south side of the existing A46 between Winthorpe roundabout and



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		Friendly Farmer roundabout. The route crosses the A46 in four locations via uncontrolled crossings across the existing dual carriageway which connect to provide a link between Newark-on-Trent and the Newark Showground. These crossings are considered unsafe, and they would not be retained as part of the Scheme. Instead, a new signalised crossing would I be provided across the existing A46 between Friendly Farmer roundabout and the A1 crossing to link with the existing route that crosses the A1 slip roads and the A17. A new footway/cycle track link would be provided from the A17 crossing point through land to the south of the showground and alongside the south side of the new Friendly Farmer Link to Winthorpe roundabout and the first showground entrance on Drove Lane.
		Footpaths FP2 and FP3 - Historically there was a PRoW that ran north to south between Winthorpe village and the Newark Showground. This has been severed by the existing A46 with FP2 ending at the northern boundary of the A46 and FP3 ending at the southern boundary. The Scheme would reconnect these two PRoWs via a new footway/cycle track that links with FP2 to the north and runs parallel to the new dual carriageway before crossing beneath it alongside the A1. On



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		the south side of the new dual carriageway, it will cross the existing A46 via a new signalised crossing and join the existing PRoW network that provides a connection with FP3. The ends of FP2 and FP3 will be permanently stopped up where they would result in a 'dead end'.
		Footpaths/Cycle track at Winthorpe roundabout - Currently there is no walking or cycling provision around Winthorpe roundabout. The Scheme would address this by providing a new walking/cycling link between Hargon Lane and Drove Lane that passes around the north and east sides via new crossings over Winthorpe roundabout. This would provide a link between Winthorpe and the Newark Showground.
		Together, the General Arrangements Plans (TR010065/APP/2.5) and the Streets, Rights of Way and Access Plans (TR010065/APP/2.4) illustrate the locations of walking and cycling routes that would be delivered as part of the Scheme. Further details are also set out in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1).
		A Walking, Cycling and Horse Riding Assessment and Review (WCHAR) was completed in June



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		2023 on the basis of the preliminary design and is available at Appendix C of TA (TR010065/APP/7.4). A further WCHAR would follow at the detailed design stage to ensure that the needs of WCH users continue to be considered as the design progresses.
5.266	For road and rail developments, the applicant's assessment should include an assessment of the transport impacts on other networks as part of the application, based on discussions with the Local Highway Authority/Local Planning Authority.	The TA (TR010065/APP/7.4) assesses the likely impacts of the Scheme on the SRN; local road network; road safety; WCH and public transport users. Engagement has taken place with Nottinghamshire County Council as local highway authority. The assessment considers the impacts on other networks.
5.272	Mitigation measures for Schemes should be proportionate and reasonable, focused on facilitating journeys by active travel, public transport, and cleaner fuels.	 Embedded mitigation, incorporated throughout the development of the Scheme design to date, is outlined in Chapter 2 (The Scheme) of the ES (TR010065/APP/6.1), for example: Access in and around junctions to accommodate walking, cycling and horse riding WCH as required. Where the new alignment severs an existing PRoW, connectivity would be maintained wherever possible. This would be achieved with the reconnection of severed PRoWs with permanent diverted routes.



Draft NPSNN Paragraph No.	Requirement of the draft NPSNN	Compliance with the draft NPSNN
		 Providing appropriate signage for temporary WCH diversions to direct users during construction and support access to community and recreational facilities using footpaths and cycleways. Integrating WC) infrastructure into the Scheme construction strategy, which includes the provision and locations for diversions of existing WCH routes, new crossings, new WCH routes, as well as ensuring access for key WCH routes is maintained. Mitigation to maintain access to all affected residential properties, businesses and areas of open space and recreation.
5.273 – 5.274	Where development would worsen accessibility, there is a strong expectation that such impacts should be mitigated. Where impacts cannot be mitigated, the applicant is required to provide reasoning as to why impacts cannot be mitigated. The applicant should provide evidence that the development improves the operation of the network and assists with capacity issues.	 Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) outlines mitigation measures of relevance to accessibility during construction, including: A Traffic Management Plan (TMP) would be implemented during the construction phase of the Scheme, to ensure that access is maintained, and disruption is minimised as far as possible. The TMP will be developed from the Outline TMP (TR010065/APP/7.7 which has been submitted with the application



Draft NPSNN Paragraph No.	Requirement of the draft NPSNN	Compliance with the draft NPSNN
		 Provision of appropriate signage for temporary WCH diversions. Chapter 12 (Population and Human Health) of the ES (TR010065/APP/6.1) provides consideration of the potential for both adverse and beneficial effects with regard to accessibility including during operation. The Scheme would improve the operation of the network and assist with capacity issues, this is set out in the TA (TR010065/APP/7.4) and Chapter 4 of the Case for the Scheme (TR010065/APP/7.1).
5.277 – 5.288	The Examining Authority and the Secretary of State should give due consideration to impacts on local transport networks and policies set out in existing and emerging local plans and Local Transport Plans, during both construction and operation. Consideration should also be given to whether the applicant has maximised opportunities to allow for journeys associated with the development to	The Case for the Scheme (TR010065/APP/7.1) assesses the Scheme's conformity with the Local Plan and Local Transport Plans (the Nottinghamshire Local Transport Plan.). Further details on impacts to local transport networks and consideration of the local policy is also set out in the TA (TR010065/APP/7.4).



Draft NPSNN Paragraph No.	Requirement of the draft NPSNN	Compliance with the draft NPSNN
	be undertaken via sustainable modes.	
5.279	Schemes should be developed, and options considered, in the light of relevant policies and plans, both national and local, taking into account local models where appropriate.	The Scheme has been developed in light of relevant policies and plans. Chapter 6 of the Case for the Scheme (TR010065/APP/7.1) assesses the Scheme's conformity with the Local Plan and Local Transport Plans, this includes the Nottinghamshire Local Transport Plan.