

**HABITATS REGULATIONS ASSESSMENT FOR AN  
APPLICATION UNDER THE PLANNING ACT 2008**

**A66 Northern Trans-Pennine Project**

**7 MARCH 2024**

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# 1. INTRODUCTION

## Background

- 1.1 This document (“the HRA Report”) is a record of the Habitats Regulations Assessment (“HRA”) that the Secretary of State for Transport has undertaken under regulation 63 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”) in respect of the Development Consent Order (“DCO”), for the proposed A66 Northern Trans-Pennine Project (“A66”) (“the Development”). The HRA Report includes an appropriate assessment for the purposes of regulation 63.
- 1.2 The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the amendments were taken into account in the preparation of this HRA Report. Reference to the Habitats Regulations in this HRA Report are therefore to the latest amended version, unless otherwise stated.
- 1.3 National Highways, (“the Applicant”) submitted the Application for development consent to the Planning Inspectorate (“the Inspectorate”) on 21 June 2022 under section 37 of the Planning Act 2008 (as amended) (“PA 2008”). The Development to which the Application relates is described in more detail in Section 2 of this HRA Report.
- 1.4 The Development constitutes a Nationally Significant Infrastructure Project (“NSIP”) by virtue of it being the “construction” of a highway within the meanings of sections 14(1)(h) and 22(1)(a) of the PA2008.
- 1.5 The Application for the Development was accepted for examination by the Inspectorate (under the delegated authority of the Secretary of State) on 19 July 2022.
- 1.6 The Applicant submitted requests to make changes to the Development to which the Application relates during the examination, as set out in paragraphs 1.12.3 to 1.12.5 of, and Table A6 in Appendix A to, the Examining Authority’s (“ExA”) Recommendation Report (“the Report”). There was a total of twenty-four specific changes to the Development put forward by the Applicant in their formal Change Request on 24 March 2023.
- 1.7 The ExA accepted 22 of these changes, concluding that both individually and cumulatively, they were not so substantial to constitute a materially different project and they did not change the conclusion of the Environmental Statement (“ES”). Two changes were not accepted by the ExA because insufficient information had been provided regarding flood risk and impacts to features of the River Eden Special Area of Conservation (“SAC”) and the conclusions of the assessments in the ES and HRA would be unknown. The ExA’s consideration of the Change Request is set out in its Procedural Decision published 18 April 2023 [PD-014].
- 1.8 The examination concluded on 29 May 2023. The ExA submitted the report of the examination, including its recommendation to the Secretary of State for Transport on 7 August 2023.

1.9 The Secretary of State’s conclusions in relation to European sites have been informed by the ExA’s Report, documents and representations submitted during the examination, and responses to the Secretary of State’s requests for comments and further information issued on 11 August 2023, 30 August 2023, 15 September 2023, 28 September 2023, 18 October 2023, 8 November 2023, 7 December 2023 and 5 January 2024, 24 January 2024 and 2 February 2024 as described below.

#### Habitats Regulations Assessment

1.10 The Habitats Regulations provide for the designation of sites for the protection of certain species and habitats. These are collectively termed “European sites” and form part of a network of protected sites across the UK known as the “national site network”. The UK Government is also a signatory to the Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”). The Ramsar Convention provides for the listing of wetlands of international importance. UK Government policy is to give sites listed under this convention (“Ramsar sites”) the same protection as European sites.

1.11 For the purposes of this HRA Report, in line with the Habitats Regulations and relevant Government policy<sup>1</sup>, the term “European sites” includes Special Areas of Conservation (“SAC”), candidate SACs, possible SACs, Special Protection Areas (“SPA”), potential SPAs, Sites of Community Importance, listed and proposed Ramsar sites and sites identified or required as compensatory measures for adverse effects on any of these sites.

1.12 Regulation 63(1) of the Habitats Regulations requires that:

*“(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—*  
*(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*  
*(b) is not directly connected with or necessary to the management of that site,*  
*must make an appropriate assessment of the implications of the plan or project for that site in view of that site’s conservation objectives...”*

1.13 Regulation 64(1) goes on to state that:

*“(1) If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be).”*

1.14 Additionally, regulation 68 states that:

*“Where in accordance with regulation 64—*

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<sup>1</sup> Paragraphs 185 and 187 of the National Planning Policy Framework, December 2023.

*(a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site or a European offshore marine site, or*

*(b) a decision, or a consent, permission or other authorisation, is affirmed on review, notwithstanding such an assessment, the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected".*

- 1.15 The Development is not connected with or necessary to the management of any European sites in light of the Secretary of State's conclusion as to likely significant effects. Accordingly, the Secretary of State for Transport, as the competent authority for the purposes of Transport NSIPs under the PA2008, has undertaken an assessment in line with the requirements of the Habitats Regulations. This HRA Report (Sections 1 to 5) is the record of the appropriate assessment for the purposes of regulation 63 of the Habitats Regulations. Additionally, Sections 6 to 9 of this HRA Report record the Secretary of State's considerations with respect to regulations 64 and 68 of the Habitats Regulations.

The Report on the Implications for European Sites and Consultation with the Appropriate Nature Conservation Body

- 1.16 The ExA, with support from the Inspectorate's Environmental Services Team, produced a Report on the Implications for European Sites ("the RIES"). The purpose of the RIES was to compile, document and signpost information submitted by the Applicant and Interested Parties ("IPs") during the examination up to and including Deadline 6 of the examination (04 April 2023). It was issued to ensure that IPs, including Natural England ("NE") as the appropriate nature conservation body in respect of the Application for the Development, had been formally consulted on Habitats Regulations matters during the examination. The consultation period ran between 4 April 2023 and 9 May 2023.
- 1.17 Regulation 63(3) of the Habitats Regulations requires competent authorities (in this case the Secretary of State), if they undertake an appropriate assessment, to consult the appropriate nature conservation body and have regard to any representations made by that body.
- 1.18 The Applicant and NE provided comments on the RIES at Deadline 7 (9 May 2023).
- 1.19 A Statement of Common Ground ("SoCG") between the Applicant and NE was signed and submitted at Deadline 9 (26 May 2023) and NE's final Principal Areas of Disagreement Summary Statement ("PADSS") submitted at Deadline 7 (9 May 2023) confirmed that there were two outstanding matters both of which related to HRA matters. Subsequent references to the SoCG between the Applicant and NE in this HRA Report are to the Deadline 9 version and references to NE's PADSS are to the Deadline 7 version unless otherwise stated. The SoCG refers to two outstanding matters relating to the HRA in respect of the Development, namely that NE does not support the use of DMRB LA105 as it is not Habitats Regulations Assessment compliant in respect of the air quality assessment methodology; and the matter outstanding from NE's Relevant Representation [RR-180] and Written

Representation [REP1-035] is its recommendation that the effluent from the attenuation ponds needs to be monitored to ensure that the ponds continue to function as they should. The matter regarding the attenuation ponds is addressed in 5.12 of this HRA Report.

- 1.20 Regarding the HRA compliance of the DMRB, the ExA points out that this is a general policy approach subject to ongoing discussion between NE and the Applicant at a national level about assessing air quality impacts from road schemes [ExA 4.5.8]. While this matter is noted the Secretary of State has not further considered this matter in this HRA.
- 1.21 As noted above, the Secretary of State issued a request for comments and further information through the consultations set out in paragraphs 5.49 to 5.57, and Sections 6 and 7 to address these outstanding matters.

#### Changes to the Application during examination

- 1.22 In respect of the non-material amendments to the Application identified above and described in Table A6 in Appendix A to the ExA's Report the Secretary of State has noted and agreed with the observations made by the ExA on the materiality of the changes. The ExA considered that most of the accepted changes amounted to minor changes to the Application and individually and cumulatively did not substantially change the conclusions of the ES and were accepted into the examination. The ExA concluded that three of the accepted changes constituted moderate alterations to the Application. These changes were DC-03 (reorientation of Kemplay Bank junction); DC-25 (removal of Langrigg westbound junction, revision to Langrigg Lane link, and shortening of Flitholme Road; and DC-26 (revision to West View Farm accommodation bridge and removal of West View Farm underpass). The ExA concluded that each change would result in a notable and physical variation from the scheme as proposed at the outset of the Application and a number of changes in the ES would subsequently be affected. The proposals for Langrigg (DC-25) where the road layout would be considerably altered from that set out in the Application. However, the ExA were satisfied that these changes individually and cumulatively were not so substantial so as to constitute a materially different project and so do not change the conclusions of the ES and were accepted into the examination. The Secretary of State has noted that the Applicant's HRA documents were not updated as a result of these changes and these HRA documents are described in more detail below.
- 1.23 The Secretary of State is aware of comments made by NE regarding DC-04, DC-05 and DC-06 on the 9 May 2023 regarding potential impact from design change. Secretary of State notes that the ExA considered that these were non-material in nature and therefore accepted them because they did not change the overall conclusions of the ES and therefore the HRA [ExA 1.12.4 Decision set out in PD-014].
- 1.24 The Secretary of State concludes that the findings in the Applicant's HRA (as described below) are unaffected by the non-material amendments to the application.

## Documents Referred to in this HRA Report

- 1.25 This HRA Report has taken account of and should be read in conjunction with the documents produced as part of the Application and examination, together with the responses to the Secretary of State's request for comments and further information dated 14 August 2023, 30 August 2023, 15 September 2023, 28 September 2023, 18 October 2023, 8 November 2023, 7 December 2023, 5 January 2024, 24 January 2024 and 2 February 2024 as listed in Annex 1 to this HRA Report.
- 1.26 The Applicant submitted a Habitats Regulations Assessment (HRA) with the DCO Application in the form of a Habitats Regulations Assessment – Stage 1: Likely Significant Effects Report (“LSER”) [APP-234] and a Habitats Regulations Assessment – Stage 2: Statement to inform Appropriate Assessment Report (“SIAA”) [APP-235]. Together these form the Applicant's Habitats Regulations Report [ER 1.8.1]
- 1.27 While the Applicant concluded that the Development would not give rise to an adverse effect on integrity (“AEol”) on a European site, NE did not agree with this assessment. The Secretary of State in his request for information dated 15 September 2023 indicated his agreement with NE's view in its consultation response dated 8 September 2023 and that if the Applicant was unable to demonstrate beyond reasonable scientific doubt that the project would not have an adverse effect on the integrity of the site then the derogation tests in regulation 64 would need to be considered namely, a Habitats Regulations Assessment Stages 3-5: Assessment of alternatives, consideration of imperative reasons of overriding public interest (“IROPI”) and compensatory measures report. The Applicant provided Annex 2 – to the Applicant's Habitats Regulations Assessment: information submitted without prejudice to support a derogation case on 27 October 2023.
- 1.28 A plan showing the European sites considered in the Applicant's HRA Reports and their location relative to the Development can be found below in Figure 1 and Figure 2 Section 3.
- 1.29 The above-mentioned documents are the principal documents prepared by the Applicant in support of HRA matters. The full list of documents relied on in the preparation of this report are listed in Annex 1 of this report.

## Structure of this HRA Report

- 1.30 The remainder of this HRA Report is presented as follows:
- Section 2 provides a general description of the Development.
  - Section 3 describes the location of the Development and its relationship with European sites.
  - Section 4 identifies the European sites and qualifying features subject to likely significant effects, alone or in combination with other plans or project (HRA Stage 1).
  - Section 5 considers adverse effects on the integrity of European sites, alone or in combination with other plans or projects and summarises the Secretary of State's appropriate assessment and conclusions (HRA Stage 2).
  - Section 6 summarises the Secretary of State's consideration of Alternative Solutions (HRA Stage 3).

- Section 7 considers Imperative Reasons of Overriding Public Interest (HRA Stage 4).
- Section 8 discusses Compensatory Measures (HRA Stage 5).
- Section 9 summarises the Secretary of State's conclusion in respect of HRA Stages 3 to 5.

## 2. DEVELOPMENT DESCRIPTION

- 2.1 The Development proposes to improve the A66 by providing a two-lane dual carriageway between M6 Junction 40 at Penrith and the A1(M) Junction 53 at Scotch Corner. The Development will be divided into eight schemes situated across the length of the A66 between Penrith and Scotch Corner. There are six schemes wherein single carriageway sections of road will be upgraded to a dual carriageway (approximately 30km) and improvements will be made to existing junctions, widening the original carriageway in places, with new underpasses or overbridges to maintain or improve connectivity, and the construction of new sections of road for offline sections where required. The two remaining schemes involve the improvement of existing major junctions and motorway connections [3.1 Environmental Statement non-technical summary [APP-043]].
- 2.2 The eight schemes are [ER 1.3.3]:
- Scheme 0102 – M6 Junction 40 to Kemplay Bank roundabout;
  - Scheme 03 – Penrith to Temple Soweby;
  - Scheme 0405 – Temple Sowerby to Appleby;
  - Scheme 06 – Appleby to Brough;
  - Scheme 07 – Bowes Bypass;
  - Scheme 08 – Cross Lanes to Rokeby;
  - Scheme 09 – Stephen Bank to Carkin Moor; and
  - Scheme 11 – A1(M) Junction 53 Scotch Corner.
- 2.3 The Development site is wholly within England and the individual schemes lie within the following administrative areas [ER 1.5.5]:
- Schemes 0102, 03, 0405 and 06 in Westmorland and Furness Council;
  - Schemes 07 and 08 in Durham County Council; and
  - Schemes 09 and 11 in North Yorkshire Council.
- 2.4 A description of the Development site can be found in Document 3.2 ES Chapter 2: The Project [APP-045]. The setting can be found on Document 3.3 Environmental Statement Figure 1.1 A66 Location and Overview Plan [APP-060], on the 5.12 Location Plan [APP-303], and in more detail in Document 5.13: Land Plans [APP-304 to APP-311].
- 2.5 A plan showing the European sites considered in the Applicant's HRA reports and their location relative to the Development is provided in Appendix A: European Designated Sites Location Plan and the Project, within the LSER [APP-234].
- 2.6 Construction works are expected to commence in 2024, with all schemes targeted for a 2029 completion [paragraph 2.8.4 of 3.2 ES Chapter 2].
- 2.7 Paragraph 2.2.7 of the Applicant's LSER sets out that the HRA covers the construction and operational phases of the Development. It is considered highly



unlikely that the Development will be decommissioned as the road is likely to become an integral part of the infrastructure in the area. Decommissioning will not be either feasible or desirable and is therefore not considered in the HRA. As such, decommissioning is not presented in the Applicant's HRA reports and matrices.

- 2.8 Section 2.10 of ES Chapter 2 deals with decommissioning aspects of the Development. Paragraph 2.10.1 explains that typically highways projects are designed to have materials lifespan of between 20 and 40 years before any significant maintenance and upgrading is required, depending on material properties, maintenance and usage. Elements including structural concrete and steelwork have extended design lives of up to 120 years. In paragraph 2.10.2 it is considered highly unlikely that the Development would be decommissioned as it is likely to become an integral part of the infrastructure in the area, therefore decommissioning is not considered in the ES.
- 2.9 The potential effects on European sites associated with the construction, and operation of the Development are addressed in Section 4 of this HRA Report.

### 3. LOCATION OF THE DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES

#### Location and Existing Land Use

- 3.1 A detailed description of the surrounding area and land use is provided in section 2.4 of Chapter 2 of the Environmental Statement [APP-045]. The Development lies in three administrative areas (see paragraph 2.3 above) with a range of landscapes.
- 3.2 The landscape is predominantly rolling and undulating countryside with gentle valleys characterised with large and regular fields and areas of deciduous woodlands. The existing A66 runs through the North Pennines Area of Outstanding Natural Beauty (AONB) with the road rising rapidly from 170m above ordnance datum (AOD) at Bough to 440m AOD at its highest point as it passes over Bowes Moor before descending gradually to 150m AOD at Scotch Corner (paragraph 2.4.3). Along the route there are a number of historic features including conservation areas, Scheduled Monuments and a number of Grade I, II\* and II listed buildings which lie adjacent to the A66 (paragraph 2.4.6). An example includes Rokeby Hall and its Registered Park and Garden. Two national parks are nearby the A66, the Lake District National Park is approximately 2km south-west of Penrith and the Yorkshire Dales National Park approximately 3.5km to the south.
- 3.3 The North Pennines AONB encompasses the North Pennine Moors SPA and SAC. The River Eden SAC with its tributaries run adjacent to and underneath the A66 [paragraph 2.4.7]. The River Eden crosses the A66 at Coupland Viaduct and 3km south-east of Appleby-In-Westmorland. The River Eden, its tributaries and watercourses along the route are in Flood Zones 2 and 3 [paragraph 2.4.8].

#### European Sites Potentially Affected by the Development

- 3.4 The Development is not connected with or necessary to the management of any of the European sites considered within the Applicant's HRA Report. Therefore the Secretary of State must make an 'appropriate assessment' ("AA") of the implications of the Development on potentially affected European sites in light of their conservation objectives [paragraph 5.1.11 of the ExA Report].
- 3.5 The Applicant considered the potential for likely significant effects ("LSE") on the following five European sites in their LSER [APP-234]:

<b>Name of European Site</b>	<b>Distance from the Development (km) at the closest point</b>
River Eden SAC	Crosses with M6 Junction 40 to Kemplay Bank (scheme 0102), Penrith to Temple Sowerby (scheme 03) and Temple Sowerby to Appleby schemes (scheme 0405).
Helbeck and Swindale Woods SAC	430m north of Appleby to Brough (scheme 06)
Moor House Upper Teesdale SAC	1.4km south of Appleby to Brough (scheme 06)

North Pennine Moors SAC	255m south of Bowes Bypass (scheme 07)
North Pennine Moors SPA	255m south of Bowes Bypass (scheme 07)

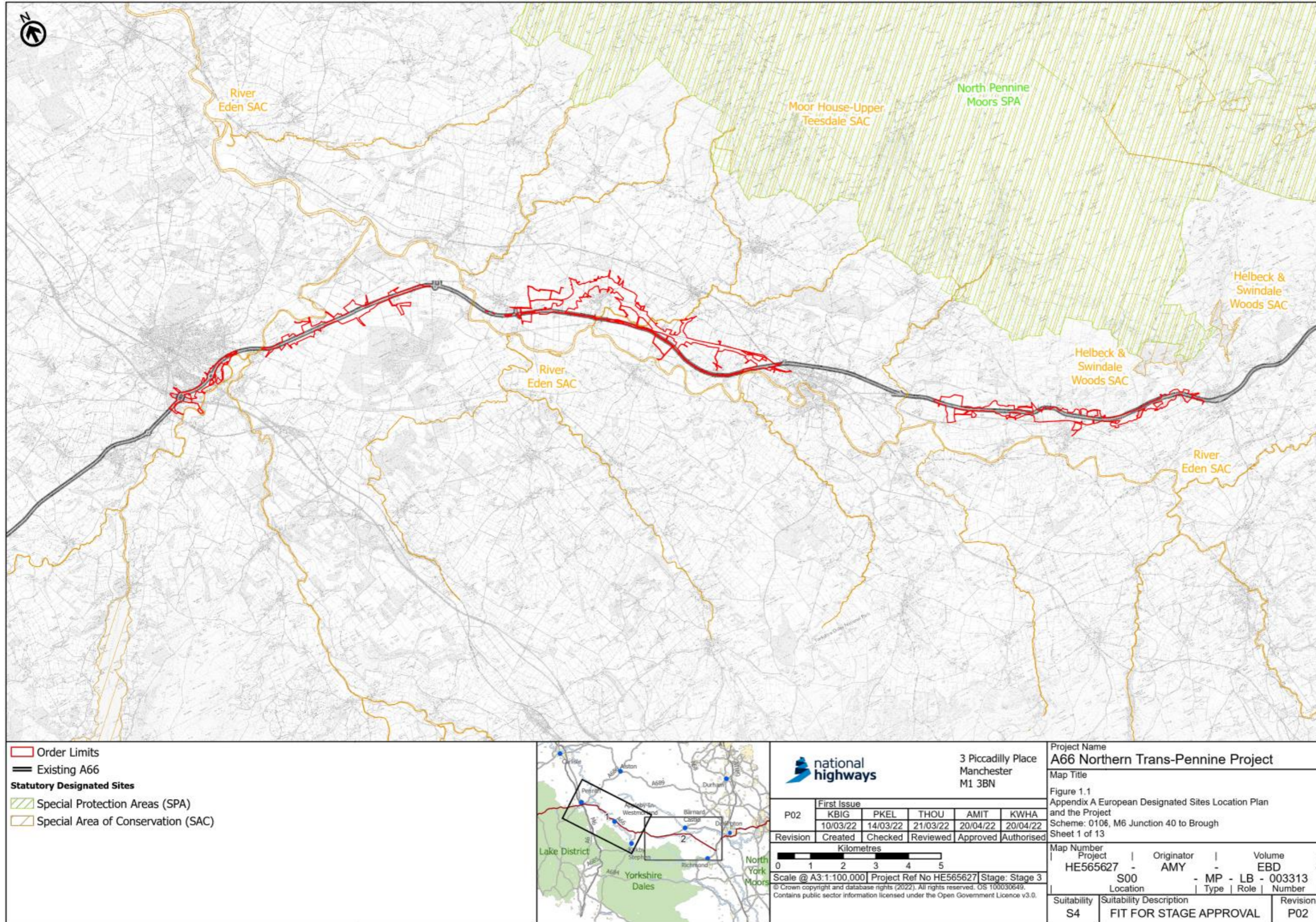
- 3.5 NE also identified the Asby Complex SAC as being potentially affected by the Development as it is located within 200m of the Affected Road Network (“ARN”) in their Relevant Representation [RR-180]. The Applicant provided a response at the Procedural Deadline on 06 November 2022 [PDL-013] as to why the site had not been screened in; the air quality modelling determined that there would be a 6% reduction in nitrogen deposition due to reductions in vehicles movements on M6 south of Penrith (paragraph 5.10.64 of 3.2 ES Chapter 5 Air Quality [APP-048]) therefore, the effect would be positive and not adverse. NE [REP1-035] confirmed agreement on this matter at Deadline 1 (18 December 2022) and that the Asby Complex SAC did not need to be assessed further.
- 3.6 A plan showing all five European sites identified in the HRA reports and their location relative to the Development was provided in the Applicant’s LSER Appendix A. These figures are reproduced as Figure 1 and 2 below.
- 3.7 The Applicant’s approach to identifying relevant European sites is explained at paragraph 2.2.3 of the Applicant’s LSER [APP-234].
- 3.8 The approach adopted was in accordance with Design Manual for Roads and Bridges LA 115 screening criteria. These criteria state that European sites shall be included within the screening where the scheme meets any of the following:
- Criterion 1: Is within 2km of a European site or functionally linked land (i.e. Areas of land or sea occupied by the qualifying interests (species) of a European site that lie beyond the boundary of the site. Such areas support activities such as feeding, roosting and migration)
  - Criterion 2: Is within 30km of a SAC, where bats are noted as one of the qualifying interests.
  - Criterion 3: Crosses or lies adjacent to, upstream of, or downstream of, a watercourse which is designated in part or wholly as a European site.
  - Criterion 4: Has a potential hydrological or hydrogeological linkage to a European site containing a groundwater dependent terrestrial ecosystem (GWDTE) which triggers the criteria for assessment of European sites in accordance with DMRB LA 113 Road drainage and the water environment (Highways England, 2020).
  - Criterion 5: Has an affected road network (ARN) which triggers the criteria for assessment of European sites in DMRB LA 105 Air quality (Highways England, 2020).
- 3.8 In their HRA Report [App-234], the Applicant did not identify any LSE on any non-UK European Site within the European Economic Area (EEA) States. No such

impacts were raised for discussion by any of the IPs during Examination. Only UK European sites were addressed in the ExA's Report [ER 5.1.12].

- 3.9 The Secretary of State is therefore content to accept that no other European sites or features need to be addressed in this HRA Report.



Figure 1 Location of the Development in relation to European sites potentially affected.



- Order Limits
- Existing A66
- Statutory Designated Sites**
- Special Protection Areas (SPA)
- Special Area of Conservation (SAC)



3 Piccadilly Place  
Manchester  
M1 3BN

Project Name  
**A66 Northern Trans-Pennine Project**

Map Title  
Figure 1.1  
Appendix A European Designated Sites Location Plan  
and the Project  
Scheme: 0106, M6 Junction 40 to Brough  
Sheet 1 of 13

Revision	First Issue				
	KBIG	PKEL	THOU	AMIT	KWHA
P02	10/03/22	14/03/22	21/03/22	20/04/22	20/04/22
	Created	Checked	Reviewed	Approved	Authorised

Scale @ A3:1:100,000 | Project Ref No HE565627 | Stage: Stage 3  
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Map Number	Project	Originator	Volume
HE565627	-	AMY	EBD
S00	-	MP - LB	003313
Location	Type	Role	Number

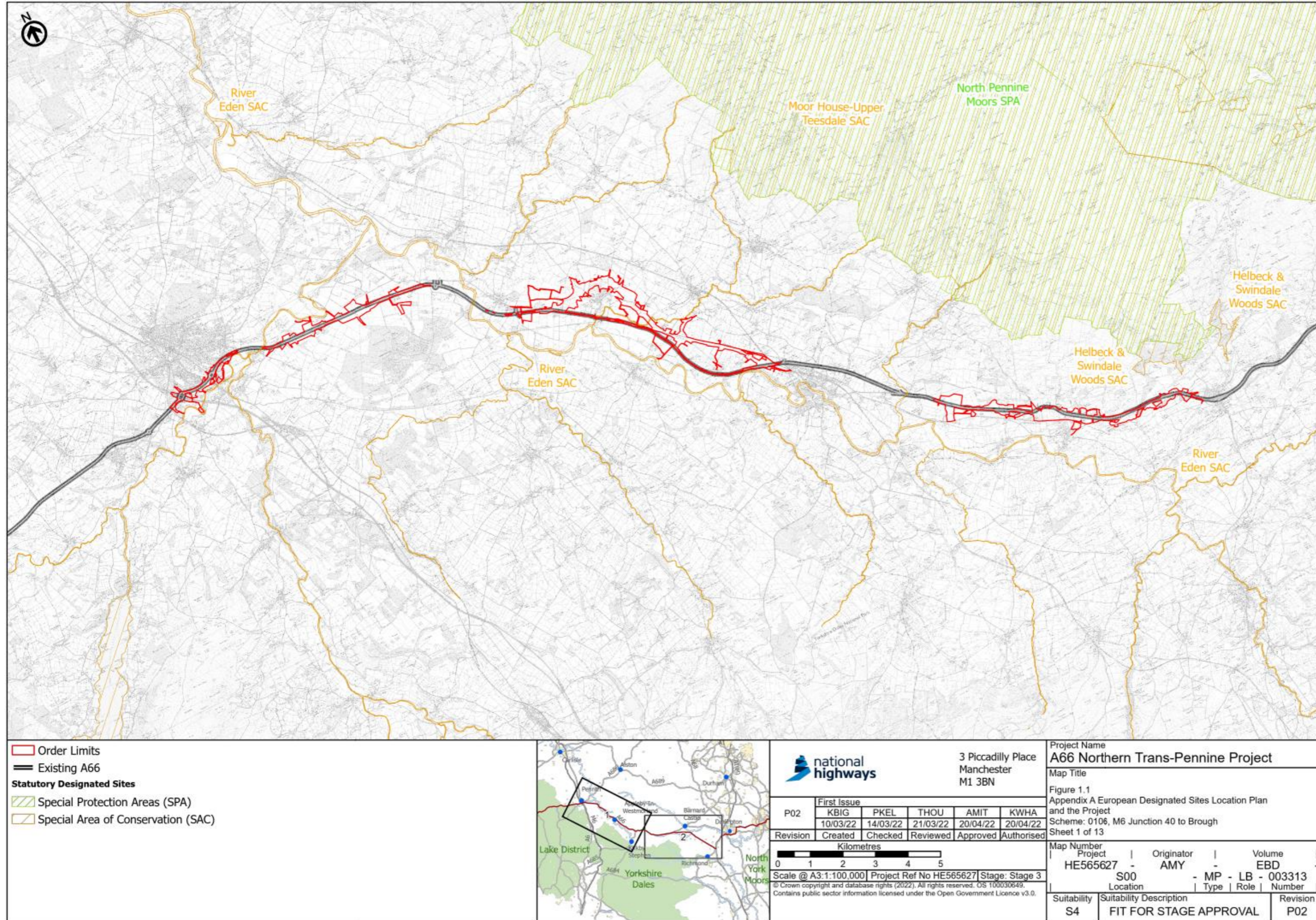
Suitability	Suitability Description	Revision
S4	FIT FOR STAGE APPROVAL	P02

This Environmental Statement Figure meets the requirements of Regulation 5(2)(g) & 5(2)(1)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure Regulations) 2009.

PINS Reference Number: TR010062/APP/3.5



Figure 2 Location of the Development in relation to European sites potentially affected.



This Environmental Statement Figure meets the requirements of Regulation 5(2)(g) & 5(2)(1)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure Regulations) 2009.

PINS Reference Number: TR010062/APP/3.5



#### 4. STAGE 1: ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS (LSE)

##### Potential Effects from the Development

- 4.1 Section 2.2 of the Applicant's LSER [APP-234] outline the Applicant's approach to screening for LSE. Paragraph 2.2.8 of the Applicant's LSER notes that the HRA has been conducted in accordance with the ruling of the European Court of Justice (ECJ) in *People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)* (the "People over Wind judgment")<sup>2</sup>.
- 4.2 Section 4.3 of the Applicant's LSER identifies the European sites which met the DMRB screening criteria and requiring assessment of likely significant effects.
- 4.3 Section 4.4 of the Applicant's LSER identifies the following impact pathways associated with the construction and operation of the Development as having the potential to give rise to LSE on European sites:
- Land take / resource requirements / reduction in habitat area;
  - Disturbance of mobile species and species fragmentation;
  - Species injury and mortality;
  - Introduction and / or spread of invasive non-native species;
  - Changes in surface and groundwater quality, quantity and hydrogeology;
  - Changes in hydrology and fluvial geomorphological processes;
  - Changes in air quality; and
  - Reduction of habitat area and reduction in species density (as a result of changes in air quality).
- 4.4 No evidence was presented during the examination that the Development was likely to give rise to any other effects on European sites.
- 4.5 The screening assessment results are set out in the Applicant's screening matrices in Section 4 of the LSER. The Applicant's summary of, and conclusions in respect of LSE are presented respectively in Section 5.5 and 5.6 of the LSER.
- 4.6 The assessment of likely significant effects are addressed below for each of the European sites identified by the Applicant.

##### Helbeck and Swindale Woods SAC

- 4.7 Helbeck and Swindale Woods SAC was screened into the Applicant's LSER [APP-234] based on the SAC meeting criteria 1 of DMRB LA115 (i.e. being within 2km of the Proposed Development).
- 4.8 NE [RR-180] initially raised concerns in their relevant representation (3 September 2022) as to whether all factors had been taken into account when screening out air quality effects on Helbeck and Swindale Woods SAC. The Applicant submitted an air quality technical note to NE on 4 April 2023 and to the examination later at Deadline 7 (9 May 2023) [REP7-127]. This confirmed that the site was located over 200m from the ARN so there was no pathway for effect. The ExA notes that NE confirmed agreement with the conclusions of no LSE on the features of Helbeck and Swindale Woods SAC at Deadline 7 [ER 5.2.7].

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<sup>2</sup> ECJ case reference C-323/17, available: <http://curia.europa.eu/juris/document/document.jsf?docid=200970&doclang=EN>

- 4.9 The Applicant's conclusion of no LSE for Helbeck and Swindale Woods SAC was not disputed or otherwise referred to by any IPs during the examination.
- 4.10 The Secretary of State has reviewed the information within the Applicant's LSER and the ExA's Report, the SIAA [APP-235] and the RIES [PD-013]. Helbeck and Swindale Woods SAC is approximately 430m from the Development at its nearest point and is located upstream of the Development with no pathway for effect. Based on this information, the Secretary of State agrees with the conclusion of no LSE to Helbeck and Swindale Woods SAC as a result of the construction and operation of the Development, either alone or in combination with other plans and projects [ER 5.2.7]. No new information has been made available since the close of Examination to lead the Secretary of State to disagree with this conclusion.

Features of Helbeck and Swindale Woods SAC for which no LSE was concluded

- Alkaline fens
- Semi-natural dry grassland and scrub land facies on calcareous substrates (Festuco-Brometalia)(\*important orchid sites)
- Tilio-Acerion forests of slopes, screes and ravines

Moor House Upper Teesdale SAC

- 4.11 Moor House Upper Teesdale SAC was screened into the Applicant's LSER [APP-234] based on the SAC meeting criteria 1 of DMRB LA115 (i.e. being within 2km of the Development).
- 4.12 The Applicant's conclusion of no LSE for Moor House Upper Teesdale SAC was not disputed or otherwise referred to by any IPs during the examination.
- 4.13 The Secretary of State has reviewed the information within the Applicant's LSER [APP-234] and the ExA's Report, the SIAA [APP-235] and the RIES [PD-013]. Moor House Upper Teesdale SAC is approximately 900m from the Development at its nearest point and is located upstream from the Development with no credible pathway for effect on the qualifying features. Based on this information, the Secretary of State agrees with the conclusion of no LSE to Moor House Upper Teesdale SAC as a result of the construction and operation of the Development, either alone or in combination with other plans and projects. No new information has been made available since the close of Examination to lead the Secretary of State to disagree with this conclusion.

Features of Moor House Upper Teasdale SAC for which no LSE was concluded

- Alkaline fens
- Alpine and boreal heaths
- Alpine pioneer formations of the Caricion bicoloris-atrofuscae
- Blanket bogs (\* if active)
- Calaminarian grasslands of the Violetalia calaminariae
- Calcareous and calcschist screes of the montane alpine levels (Thlaspietea rotundifolii)
- Calcareous rocky slopes with chasmophytic vegetation



- European dry heaths
- Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- *Juniperus communis* formations of the heaths or calcareous grasslands
- Limestone pavements
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)
- Petrifying springs with tufa formation (Cratoneurion)
- Semi-natural dry grassland and scrubland facies on calcareous substrates (Festuco-Brometalia)(\*important orchid sites)
- Siliceous alpine and boreal grasslands
- Siliceous rocky slopes with chasmophytic vegetation
- Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)
- Species-rich *Nardus* grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)
- *Saxifraga hirculus*
- *Cottus giobio*
- *Lampetra planeri*
- *Vertigo genesii*

#### Sites and Features which could be affected

4.14 Table 1 below identifies the Sites and features which were considered by the Applicant to be subject to likely significant effects from the Development. The Secretary of State is content that the list in Table 1 includes all sites and qualifying features which should be considered.

Table 1 European sites and qualifying features screened into Applicant's HRA

European site	Pathway of effect	Relevant qualifying features
River Eden SAC UK0012643	Land take / resource requirement / reduction of habitat area	<p>Oligotrophic to mesotrophic standing water with vegetation  Water courses of plain to montane levels with <i>R. fluitantis</i>  Alluvial woods with <i>A. glutinosa</i>, <i>F. excelsior</i>  White-clawed crayfish, <i>Austropotamobius pallipes</i>  Sea lamprey, <i>Petromyzon marinus</i>  Brook lamprey, <i>Lampetra planeri</i>  River lamprey, <i>Lampetra fluviatilis</i>  Atlantic salmon, <i>Salmo salar</i>  Bullhead, <i>Cottus gobio</i>  Otter, <i>Lutra lutra</i></p>
	Disturbance of mobile species and species fragmentation	<p>White-clawed crayfish, <i>Austropotamobius pallipes</i>  Sea lamprey, <i>Petromyzon marinus</i>  Brook lamprey, <i>Lampetra planeri</i>  River lamprey, <i>Lampetra fluviatilis</i>  Atlantic salmon, <i>Salmo salar</i>  Bullhead, <i>Cottus gobio</i>  Otter, <i>Lutra lutra</i></p>
	Species injury and mortality	<p>White-clawed crayfish, <i>Austropotamobius pallipes</i>  Sea lamprey, <i>Petromyzon marinus</i>  Brook lamprey, <i>Lampetra planeri</i>  River lamprey, <i>Lampetra fluviatilis</i>  Atlantic salmon, <i>Salmo salar</i>  Bullhead, <i>Cottus gobio</i>  Otter, <i>Lutra lutra</i></p>
	Introduction and / or spread of invasive non-native species	<p>Oligotrophic to mesotrophic standing water with vegetation  Water courses of plain to montane levels with <i>R. fluitantis</i>  Alluvial woods with <i>A. glutinosa</i>, <i>F. excelsior</i>  White-clawed crayfish, <i>Austropotamobius pallipes</i>  Sea lamprey, <i>Petromyzon marinus</i></p>

European site	Pathway of effect	Relevant qualifying features
		Brook lamprey, <i>Lampetra planeri</i> River lamprey, <i>Lampetra fluviatilis</i> Atlantic salmon, <i>Salmo salar</i> Bullhead, <i>Cottus gobio</i> Otter, <i>Lutra lutra</i>
	Changes in surface and groundwater quality, quantity and hydrogeology	Oligotrophic to mesotrophic standing water with vegetation Water courses of plain to montane levels with <i>R. fluitantis</i> Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i> White-clawed crayfish, <i>Austropotamobius pallipes</i> Sea lamprey, <i>Petromyzon marinus</i> Brook lamprey, <i>Lampetra planeri</i> River lamprey, <i>Lampetra fluviatilis</i> Atlantic salmon, <i>Salmo salar</i> Bullhead, <i>Cottus gobio</i> Otter, <i>Lutra lutra</i>
	Changes in hydrology and geomorphological processes	Oligotrophic to mesotrophic standing water with vegetation Water courses of plain to montane levels with <i>R. fluitantis</i> Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i> White-clawed crayfish, <i>Austropotamobius pallipes</i> Sea lamprey, <i>Petromyzon marinus</i> Brook lamprey, <i>Lampetra planeri</i> River lamprey, <i>Lampetra fluviatilis</i> Atlantic salmon, <i>Salmo salar</i> Bullhead, <i>Cottus gobio</i> Otter, <i>Lutra lutra</i>
	Changes in air quality	Oligotrophic to mesotrophic standing water with vegetation Water courses of plain to montane levels with <i>R. fluitantis</i> Alluvial woods with <i>A. glutinosa</i> , <i>F. excelsior</i>
North Pennines Moors SAC UK0030033	Changes in air quality	Northern Atlantic wet heaths with <i>Erica tetralix</i> European dry heaths <i>Juniperus communis</i> formations on heaths or calcareous grasslands

European site	Pathway of effect	Relevant qualifying features
		<p>Calaminarian grasslands of the <i>Violetalia calaminariae</i>            Siliceous alpine and boreal grasslands            Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>), (note that this includes the priority feature "important orchid rich sites")            Blanket bog            Petrifying springs with tufa formation (<i>Cratoneurion</i>)            Alkaline fens            Siliceous scree of the montane to snow levels (<i>A. alpinae</i>)            Calcareous rocky slopes with chasmophytic vegetation            Siliceous rocky slopes with chasmophytic vegetation            Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the UK            Marsh saxifrage, <i>Saxifraga hirculus</i></p>
	<p>Reduction of habitat area and reduction of species density (as a result of changes in air quality)</p>	<p>Northern Atlantic wet heaths with <i>Erica tetralix</i>            European dry heaths  <i>Juniperus communis</i> formations on heaths or calcareous grasslands            Calaminarian grasslands of the <i>Violetalia calaminariae</i>            Siliceous alpine and boreal grasslands            Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>), (note that this includes the priority feature "important orchid rich sites")            Blanket bog            Petrifying springs with tufa formation (<i>Cratoneurion</i>)            Alkaline fens            Siliceous scree of the montane to snow levels (<i>A. alpinae</i>)            Calcareous rocky slopes with chasmophytic vegetation            Siliceous rocky slopes with chasmophytic vegetation            Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the UK            Marsh saxifrage, <i>Saxifraga hirculus</i></p>
<p>North Pennine Moors SPA            UK9006272</p>	<p>Changes in air quality</p>	<p>Golden plover, <i>Pluvialis apricaria</i>            Hen harrier, <i>Circus cyaneus</i>            Merlin, <i>Falco columbarius</i>            Peregrine, <i>Falco peregrinus</i></p>

European site	Pathway of effect	Relevant qualifying features
	Reduction of habitat area and reduction of species density (as a result of changes in air quality)	Golden plover, <i>Pluvialis apricaria</i> Hen harrier, <i>Circus cyaneus</i> Merlin, <i>Falco columbarius</i> Peregrine, <i>Falco peregrinus</i>

### River Eden SAC

- 4.15 The River Eden SAC was screened into the Applicant's LSER [APP-234] based on it meeting criteria 1 (within 2km of European site), 3 (crosses or lies adjacent to a watercourse designated in part or wholly as a European site) and 5 (has an ARN which triggers assessment) of DMRB LA115.
- 4.16 As explained in paragraph 2.2 above, the Development was split into eight schemes for the purpose of design. Each impact pathway was screened on a scheme-by-scheme basis to inform the HRA which is assessed on a route wide scale [paragraph 4.4.1 of the LSER].
- 4.17 The Applicant considered several potential effects for LSE. The Applicant concluded no LSE for all potential effects considered except for those identified in Table 1 above. The Applicant's LSER at Table 4.2 identified the schemes for which no LSE could be concluded, and this is considered below.

### Land take / resource requirement / reduction of habitat area

- 4.18 The Applicant's LSER explained that land take / resource requirements / reduction of habitat area in the SAC (or functionally linked habitats connected to the SAC) would not be necessary in the following schemes:
- Scheme 07 – Bowes Bypass (15.9km west)
  - Scheme 08 – Cross Lanes to Rokeby (21.6km west)
  - Scheme 09 – Stephen Bank to Carkin Moor (28.9km west)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (40km west)
- 4.19 No resource requirement from the River Eden SAC is required within the Schemes above as they are a significant distance from the SAC and they are not hydrologically or functionally linked to the SAC. During the construction and operation phases of the Development there is no credible pathway for effect on the SAC from the Schemes identified above. The Applicant concluded no LSE alone for the Schemes listed above. No new information has been made available for the Secretary of State to disagree with this conclusion.
- 4.20 However, for Schemes 0102 (M6 Junction 40 to Kemplay Bank), 03 (Penrith to Temple Sowerby), 0405 (Temple Sowerby to Appleby) and 06 (Appleby to Brough) LSE cannot be ruled out. Therefore, LSE overall as a result of land take/resource requirement/reduction of habitat area cannot be ruled out and progressed to Stage 2: Appropriate Assessment.

### Changes to surface and groundwater quality, quantity and hydrogeology

#### Water quality

- 4.21 The following schemes are not hydrologically or functionally connected to the River Eden SAC as explained in the Applicant's LSER,
- Scheme 07 – Bowes Bypass (15.9km west)
  - Scheme 08 – Cross Lanes to Rokeby (21.6km west)
  - Scheme 09 – Stephen Bank to Carkin Moor (28.9km west)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (40km west)

- 4.22 Habitats within these Schemes above identified in the LSER [APP-234] are not hydrologically or functionally linked to the SAC and as such there is no credible pathway for effect. Consequently, the Applicant concluded that during both construction and operation from the Schemes listed above LSE are ruled out alone with no residual effects. No new information has been made available for the Secretary of State to disagree with this conclusion.
- 4.23 However, for Schemes 0102 (M6 Junction 40 to Kemplay), 03 (Penrith to Temple Sowerby), 0405 (Temple Sowerby to Appleby) and 06 (Appleby to Bough) LSE cannot be ruled out. Therefore, LSE overall as a result of water quality cannot be ruled out and progressed to Stage 2 Appropriate Assessment.

#### Excavation requirements

- 4.24 The following schemes are not hydrologically or functionally connected to the River Eden SAC:
- Scheme 07 – Bowes Bypass (15.9km west)
  - Scheme 08 – Cross Lanes to Rokeby (21.6km west)
  - Scheme 09 – Stephen Bank to Carkin Moor (28.9km west)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (40km west)
- 4.25 Habitats within these Schemes are not hydrologically or functionally linked to the SAC and as such there is no credible pathway for effect. For both construction and operation phases the Applicant has concluded no LSE [APP-234] from the Schemes identified above. The Secretary of State has not received additional information to disagree with that conclusion.
- 4.26 The Applicant's LSER [APP-234] identified the following Schemes are hydrologically or functionally linked to the River Eden SAC:
- Scheme 0102 – M6 Junction 40 to Kemplay Bank
  - Scheme 03 – Penrith to Temple Sowerby
  - Scheme 0405 – Temple Sowerby to Appleby
  - Scheme 06 – Appleby to Brough
- 4.27 During the operation stage no excavation requirements are proposed. The Applicant has concluded no LSE alone listed above. The Secretary of State has not received additional information to disagree with that conclusion.
- 4.28 However, LSE from Schemes 0102, 03, 0405 and 06 overall as a result of excavation processes for the construction stage cannot be ruled out and these were progressed to Stage 2 Appropriate Assessment. The effect from excavation processes were addressed through the impact pathway 'Changes to surface and groundwater quality, quantity and hydrogeology'.

#### Disturbance to the key species

##### *Disturbance of mobile species and species fragmentation*

- 4.29 The following Schemes are not hydrologically connected or functionally linked to the River Eden SAC:

- Scheme 07 – Bowes Bypass (15.9km west)
- Scheme 08 – Cross Lanes to Rokeby (21.6km west)
- Scheme 09 – Stephen Bank to Carkin Moor (28.9km west)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (40km west)

4.30 These Schemes are located 15km or further from the SAC and are not hydrologically connected or functionally linked to the SAC. As such there is no credible pathway for disturbance of qualifying species. For both construction and operation phases the Applicant has concluded no LSE from the Schemes identified above. The Secretary of State has not received additional information to disagree with that conclusion.

4.31 However, for Schemes 0102 (M6 Junction 40 to Kemplay Bank), 03 (Penrith to Temple Sowerby), 0405 (Temple Sowerby to Appleby) and 06 (Appleby to Bough) LSE cannot be ruled out. Therefore, LSE overall as a result of disturbance of mobile species and species fragmentation cannot be ruled out and progressed to Stage 2: Appropriate Assessment.

#### *Habitat and species fragmentation*

4.32 The following Schemes are not hydrologically or functionally connected to the River Eden SAC

- Scheme 07 – Bowes Bypass (15.9km west)
- Scheme 08 – Cross Lanes to Rokeby (21.6km west)
- Scheme 09 – Stephen Bank to Carkin Moor (28.9km west)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (40km west)

4.33 These Schemes are located 15km or further from the SAC and are not hydrologically connected or functionally linked to the SAC. As such there is no credible pathway for habitat and species fragmentation. For both construction and operation phases the Applicant has for the Schemes listed above concluded no LSE. The Secretary of State has not received additional information to disagree with that conclusion.

4.34 However, for Schemes 0102 (M6 Junction 40 to Kemplay Bank), 03 (Penrith to Temple Sowerby), 0405 (Temple Sowerby to Appleby) and 06 (Appleby to Brough) LSE cannot be ruled out. Therefore, LSE overall as a result of habitat and species fragmentation cannot be ruled out and progressed to Stage 2: Appropriate Assessment.

#### North Pennine Moors SAC

4.35 The North Pennine Moors SAC was screened into the Applicant's LSER [APP-234] based on it meeting criteria 1 (within 2km of a European site) and 5 (has an ARN which triggers assessment of a European site) of the DMRB LA115.

4.36 The Applicant considered several potential effects for LSE. The Applicant concluded no LSE for all potential effects considered except for those identified in Table 1 above. The Applicant's LSER [APP-234] at Table 4.5 identified the schemes for which no LSE could be concluded is considered below.

#### Land take / resource requirement / reduction of habitat area



4.37 For the schemes listed below during both construction and operation stages, no land take or direct habitat loss is required as explained in the Applicant's LSER [APP-234].

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- ARN – within North Pennine Moors SAC

4.38 Due to the distance of these Schemes from North Pennine Moors SAC, LSE(s) are ruled out alone with no residual effects. Consequently, the Applicant has concluded no LSE alone from the Schemes identified above. No further evidence has been provided for the Secretary of State to disagree with this conclusion.

#### Habitat and species fragmentation

4.39 The Applicant's LSER [APP-234] indicated that for the following Schemes habitat and species fragmentation is not anticipated.

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- ARN – within North Pennine Moors SAC

4.40 As such, LSE(s) are ruled out alone with no residual effects from these Schemes. No further evidence has been provided for the Secretary of State to disagree with this conclusion.

#### Emissions (e.g. polluted surface water runoff – both soluble and insoluble pollutants, atmospheric pollution)

##### *Changes in air quality*

4.41 The Applicant's LSER [APP-234] indicated that for the Schemes listed below were considered to have no LSE in both the construction and operation stages of the Development.

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)

- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)

4.42 Due to the distance of these Schemes from the North Pennine Moors SAC, LSE(s) were ruled out alone with no residual effects. The Secretary of State agrees with this conclusion.

#### Changes in air quality

##### *Changes in key indicators of conservation value (water quality, etc)*

4.43 The Applicant's LSER [APP-234] indicated that for the Schemes listed below were considered to have no LSE in both the construction and operation stages of the Development.

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)

4.44 Due to the distance of these Schemes from the North Pennine Moors SAC, LSE(s) are ruled out alone with no residual effects for the construction and operational phases of the Development. The Secretary of State agrees with this conclusion.

#### Changes in surface and groundwater quality, quantity and hydrogeology

##### *Excavation requirements*

4.45 The Applicant's LSER [APP-234] indicated that the Schemes listed below were considered to have no LSE in both the construction and operation stages of the Development.

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- ARN – within North Pennine Moors SAC

4.46 No groundwater source protection zones (SPZ) were identified within Bowes Bypass which is the closest scheme. One surface water Water Framework Directive (WFD) catchment was identified within Bowes Bypass; Greta from Sleightholme Beck to Eller Beck, however this is located south of the existing A66 and does not have any hydrological connectivity to the SAC. Consequently, LSE(s) are ruled out alone with no residual effects at both the construction and operation stages of the Development.

No further evidence has been provided for the Secretary of State to disagree with this conclusion.

#### Non-native species

- 4.47 Non-native species constitute a major threat to many habitats. For all of the Schemes a conclusion of no LSE was determined [LSER APP-234].
- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
  - Scheme 03 – Penrith to Temple Sowerby (21.7km west)
  - Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
  - Scheme 06 – Appleby to Brough (6.7km southwest)
  - Scheme 07 – Bowes Bypass (255m south)
  - Scheme 08 – Cross Lanes to Rokeby (5.6km east)
  - Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
  - ARN – within North Pennine Moors SAC
- 4.48 No works are required within the SAC therefore there is no risk of introduction and/or spread of invasive non-native species within the SAC. The closest construction area of the Development is 255m south with no impact pathways e.g. functionally linked watercourses. No further evidence has been provided to the Secretary of State to disagree with this conclusion.

#### Reduction of habitat area and reduction of species density (as a result of air pollution)

##### *Reduction of habitat area*

- 4.49 The Applicant's LSER [APP-234] indicated that for the following Schemes LSE alone was ruled out during both the construction and operation phases of the Development.
- Scheme 0102 – M6 Junction 40 to Kemplay Bank ( 28.1km west)
  - Scheme 03 – Penrith to Temple Sowerby (21.7km west)
  - Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
  - Scheme 06 – Appleby to Brough (6.7km southwest)
  - Scheme 07 – Bowes Bypass (255m south)
  - Scheme 08 – Cross Lanes to Rokeby (5.6km east)
  - Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- 4.50 Due to the distance of these Schemes from North Pennine Moors SAC, LSE(s) are ruled out alone with no residual effects. No further evidence has been provided for the Secretary of State to disagree with this conclusion.
- 4.51 The ExA commented on the exceedances of the nitrogen critical load for the blanket bog. The ExA considers the additional exceedance on the current critical loads [level] for ammonia and critical load for nitrogen deposition at 13.7% and 17.6% respectively at 5m from the road edge is an adverse effect. The ExA acknowledges that this reduces to 3.5% and 1.1% at 60m from the road, but this is still an increase in an already occurring exceedance. The Secretary of State notes that the ExA considered that this is a continued exceedance and does not have agreement with NE that it would be a 'de minimis' impact. The ExA noted that these exceedances undermine the maintain and restore objectives of the SAC [ER 5.4.58]. The Secretary of State in

his consultation letter of 15 September 2023 was minded to agree with NE. The reduction of habitat area as a result of air pollution was progressed to Stage 2 Appropriate Assessment.

#### North Pennine Moors SPA

- 4.52 The North Pennine Moors SPA was screened into the Applicants LSER [APP-234] based on it meeting criteria 1 (within 2km of a European site) and 5 (has an ARN which triggers assessment of a European site) of the DMRB LA115.
- 4.53 The Applicant considered several potential effects for LSE. The Applicant concluded no LSE for all potential effects considered except for those identified in Table 1 above. The Applicant's LSER [APP-234] at Table 4.6 identified the schemes for which LSE could be ruled out are considered below.

#### Land take / resource requirement / reduction of habitat area

- 4.54 For the Schemes listed below during both construction and operation stages, no land take or direct habitat loss is required.
- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
  - Scheme 03 – Penrith to Temple Sowerby (21.7km west)
  - Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
  - Scheme 06 – Appleby to Brough (6.7km southwest)
  - Scheme 07 – Bowes Bypass (255m south)
  - Scheme 08 – Cross Lanes to Rokeby (5.6km east)
  - Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
  - Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
  - ARN – within North Pennine Moors SPA
- 4.55 Due to the distance of these Schemes from North Pennine Moors SPA, LSE(s) are ruled out alone with no residual effects. Consequently, the Applicant has concluded no LSE alone. No further evidence has been provided for the Secretary of State to disagree with this conclusion.

#### Changes in air quality

- 4.56 The Applicant concluded that for all schemes LSE could not be ruled out. The SPA is located over 200m from the Order Limits. However, the SPA is located immediately adjacent to the ARN. The Applicant stated that potential impacts may arise from an increase in air pollution locally as a result of construction activities and an increase in road traffic during operation. Therefore changes in air quality was progressed to Stage 2 Appropriate Assessment (LSER APP-234).

#### Changes in surface and groundwater quality, quantity and hydrogeology

##### *Excavation requirements*

- 4.57 The Applicant's LSER [APP-234] indicated that the Schemes listed below were considered to have no LSE in both the construction and operation stages of the Development.
- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
  - Scheme 03 – Penrith to Temple Sowerby (21.7km west)

- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- ARN – within North Pennine Moors SPA

4.58 No groundwater SPZ were identified within Bowes Bypass which is the closest scheme. One surface water WFD catchment was identified within Bowes Bypass; Greta from Sleightholme Beck to Eller Beck, however this is located south of the existing A66 and does not have any hydrological connectivity to the SPA. Consequently, LSE(s) are ruled out alone with no residual effects at both the construction and operation stages of the Development. No further evidence has been provided for the Secretary of State to disagree with this conclusion.

#### Non-native species

4.59 Non-native species constitute a major threat to many habitats. For all of the Schemes a conclusion of no LSE was determined for the construction and operation phases [LSER APP-234].

- Scheme 0102 – M6 Junction 40 to Kemplay Bank (28.1km west)
- Scheme 03 – Penrith to Temple Sowerby (21.7km west)
- Scheme 0405 – Temple Sowerby to Appleby (12.3km west)
- Scheme 06 – Appleby to Brough (6.7km southwest)
- Scheme 07 – Bowes Bypass (255m south)
- Scheme 08 – Cross Lanes to Rokeby (5.6km east)
- Scheme 09 – Stephen Bank to Carkin Moor (15.5km southeast)
- Scheme 11 – A1(M) Junction 53 Scotch Corner (24.4km southeast)
- ARN – within North Pennine Moors SPA

4.60 No works are required within the SPA therefore there is no risk of introduction and/or spread of invasive non-native species within the SPA. The closest construction area of the Development is 255m south with no impact pathways e.g. functionally linked watercourses. No further evidence has been provided to the Secretary of State to disagree with this conclusion.

#### Disturbance to overwintering bird populations

4.61 The Secretary of State notes that NE at Deadline 7 (9 May 2023) were also concerned regarding loss of wintering habitat or disturbance to overwintering Golden Plover populations in the SPA [REP7-181].

4.62 In the Deadline 9 SoCG with NE (26 May 2023) [REP9-008], the Applicant referenced literature to explain that the majority of wintering UK golden plover flocks consist of birds which move to farmland habitats to forage during the winter. The literature also cites that in general, golden plover wintering in Britain come from populations breeding in Iceland and Scandinavia/western Russia, and fewer are from populations breeding in Britain, Denmark and Germany. ES Appendix 6.14 [APP-167] assesses the potential impact of “habitat loss” and “disturbance” on wintering birds. This concluded that disturbance during construction would be limited to the existing A66 and therefore increases in disturbance would be limited. It also concluded that habitat

loss would lead to a minor adverse effect due to the abundance of suitable wintering habitat for golden plover, the creation of additional habitat secured through the EMP [REP7- 008] and the fact that they are unlikely to be birds using the SPA. The Applicant therefore considered that the conclusion of no LSE on bird features of the North Pennine Moors SPA from disturbance is appropriate. NE agreed with this conclusion in the Deadline 9 SoCG [REP9-008]. The Secretary of State has not received further information to disagree with this conclusion.

## **CONCLUSION OF DEVELOPMENT ALONE**

The Secretary of State has considered the evidence provided by the Applicant, the ExA's Report and the REIS. It is noted that NE or other IPs have not disagreed with the conclusions on LSE for the Schemes identified above. The Secretary of State concludes in the ExA's Report that the Applicant correctly identifies the National Site Network sites and qualifying features as a result of the Development alone. The Secretary of State concludes that for the schemes and relevant pathways identified in Stage 1 there is no likely significant effect alone.

## **Likely Significant Effect from the Development In combination**

- 4.63 The Secretary of State notes that the Applicant has addressed potential in combination effects in paragraphs 2.2.9 to 2.2.11 within their LSER [APP-234]. It states that an in combination assessment was not carried out for the screening stage because where LSE have been ruled out they are ruled out on the basis that there is no residual effect or a credible pathway for effect therefore, no potential for in combination effects. In combination effects are confirmed to be assessed at the Appropriate Assessment stage. The ExA, in their REIS [Section 2.3 PD-013], confirmed this.
- 4.64 The Secretary of State is content that all plans and projects with the potential to have significant in combination effects with the Development in terms of the HRA have been identified. The Secretary of State is also satisfied that the scope and approach to the assessment of in combination effects was not the subject of any dispute during the examination. This is further evidenced by NE's Deadline 2 (3 May 2019) submission in response to the ExA's First Written Questions, which confirmed they are satisfied with the scope of the Applicant's HRA in combination assessment.

## **LSE Screening Conclusions**

- 4.65 The full details of the LSE outcomes are presented in Annex I of the RIES [PD-013]. The applicant concluded no LSE alone or in combination in their HRA report from the Development on any of the qualifying features of the following SACs:
- Helbeck and Swindale Woods SAC; and
  - Moor House Upper Teesdale SAC
- 4.66 The Secretary of State agrees that the Applicant could not exclude LSE for the sites and features listed in Table A11 of Appendix A of the ExA's Report. Table 4.2 below summarises the pathway of effect for the qualifying features of the sites affected. These sites/features were therefore assessed by the Applicant to determine if adverse effects on integrity ("AEoI") would occur, as a result of the Development alone or in combination with other plans and projects, in view of their conservation objectives.

- 4.67 There were 24 Change Requests submitted by the Applicant on 24 March 2023 which were discussed in further detail in section 2.5 of the RIES [PD-013] and in Section 1 of the ExA Report. In ‘Change Application: Consultation Report Appendix G – Consultation Responses Received by the Applicant’, on 27 February 2023 [CR1-014], the Secretary of State notes that NE identified Change Requests DC-04, DC-05, DC-06, DC-22 and DC-23 had potential to lead to additional LSE on the River Eden SAC.
- 4.68 The ExA was satisfied, on the basis of the information provided, that the correct impact-effect pathways on each site have been assessed and is satisfied with the approach to the assessment of alone and in-combination LSE. The Secretary of State accepts this view.
- 4.69 Based on the reasoning above, the Secretary of State agrees with the ExA that the Development is likely to have a significant effect from the impacts identified in paragraph 5.2.5 of the ExA's Report on the qualifying features of the European sites identified in Table A11 in the same Report when considered alone, or in combination with other plans or projects [ER 5.2.17]. As described in sections 2.6 and 2.7 of the RIES , this was disputed by NE during the Examination but subsequently agreed at Deadlines 1 and 7. The Secretary of State accepts these conclusions.

Summary of European sites requiring appropriate assessment

- 4.70 The Secretary of State has summarised the European sites, pathways of effect and qualifying features for which an appropriate assessment is required in Table 4.2 below.

Table 2 Summary of European sites and qualifying features requiring an appropriate assessment

<b>European Site</b>	<b>Pathway of effect</b>	<b>Construction (C) / Operation (O)</b>	<b>Qualifying Features</b>
River Eden SAC	Air quality	C, O	Watercourses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation
			Atlantic salmon
			Brook lamprey
			Bullhead
			Otter
			White-clawed crayfish
			Sea lamprey
			River lamprey

European Site	Pathway of effect	Construction (C) / Operation (O)	Qualifying Features
	Land take / resource requirements / reduction of habitat	C, O	Watercourses of plain to montane levels with the Ranunculon fluitantis and Callitricho-Batrachion vegetation
			Atlantic salmon
			Brook lamprey
			Bullhead
			Otter
			White-clawed crayfish
			Sea lamprey
			River lamprey
	Introduction and/or Spread of Invasive Non-Native Species (INNS)	C	Watercourses of plain to montane levels with the Ranunculon fluitantis and Callitricho-Batrachion vegetation
			Atlantic salmon
			Brook lamprey
			Bullhead
			Otter
			White-clawed crayfish
			Sea lamprey
			River lamprey
	Changes in Surface and Groundwater Quality, Quantity, and Hydrogeology	C, O	Watercourses of plain to montane levels with the Ranunculon fluitantis and Callitricho-Batrachion vegetation
			Atlantic salmon
			Brook lamprey
			Bullhead



European Site	Pathway of effect	Construction (C) / Operation (O)	Qualifying Features			
			Otter			
			White-clawed crayfish			
			Sea lamprey			
			River lamprey			
	Changes in Hydrology and Fluvial Geomorphological Processes	C, O	Watercourses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation			
			Atlantic salmon			
			Brook lamprey			
			Bullhead			
			Otter			
			White-clawed crayfish			
			Sea lamprey			
			River lamprey			
				Disturbance of Mobile Species and Species Fragmentation and Species Mortality / Injury	C, O	Watercourses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation
						Atlantic salmon
Brook lamprey						
Bullhead						
Otter						
White-clawed crayfish						
Sea lamprey						
River lamprey						
North Pennine Moors SAC	Air quality	C, O				Marsh saxifrage
						European dry heaths

European Site	Pathway of effect	Construction (C) / Operation (O)	Qualifying Features
			<p>Juniperus communis formations on heaths or calcareous grasslands</p> <p>Blanket bogs</p> <p>Petrifying springs with tufa formations (Cratoneurion)</p> <p>Silicious rocky slopes with chasmophytic vegetation</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles</p> <p>Northern Atlantic wet heaths with Erica tetralix</p> <p>Calaminarian grasslands of the Violetalia calaminariae</p> <p>Silicious alpine and boreal grasslands</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)</p> <p>Alkaline fens</p> <p>Silicious scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)</p> <p>Calcareous rocky slopes with chasmophytic vegetation</p>
North Pennine Moors SPA	Air quality	C, O	<p>Hen harrier (breeding)</p> <p>Merlin (breeding)</p>

European Site	Pathway of effect	Construction (C) / Operation (O)	Qualifying Features
			Peregrin Falcon (breeding) European golden plover (breeding)

- 4.71 The Secretary of State has considered the Applicant's conclusions and the ExA's Report and RIES [PD-013] for all other European sites, qualifying features and pathways of effect that are not set out in Table 4.2 and concludes that there would be no LSE.
- 4.72 In reaching the conclusion of the screening assessment, the Secretary of State took no account of any measures intended to avoid or reduce the potentially harmful effects on the Sites.

## 5. STAGE 2: APPROPRIATE ASSESSMENT

- 5.1 As LSE cannot be excluded, the Secretary of State, as the competent authority is required to undertake an appropriate assessment to determine the implications for the conservation objectives of the affected European sites. In line with the requirements of regulation 63 of the Habitats Regulations:

*‘the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site’;*  
and

*‘In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given’.*

- 5.2 As noted in Section 1 of this HRA Report, the competent authority is obliged to consult the appropriate nature conservation body and have regard to any representations made by that body. For this purpose, the ExA prepared a RIES and as set out in paragraphs 1.16 of this HRA Report. NE were actively engaged with the Secretary of State’s further consultations. The Secretary of State is therefore satisfied that NE have been consulted in line with regulation 63 of the Habitats Regulations.
- 5.3 In accordance with the precautionary principle embedded in the integrity test and established through case law, the competent authority (subject to regulation 64) may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site, and this must be demonstrated beyond all reasonable scientific doubt. If the competent authority cannot exclude AEoI of the affected European sites, then it can only agree to a plan or project if it complies with the requirements of regulation 64 of the Habitats Regulations. Regulation 64 provides that the competent authority may agree to the plan or project only if satisfied that there are no alternative solutions, and that the plan or project must be carried out for imperative reasons of overriding public interest. In addition, regulation 68 requires compensatory measures to be secured which maintain the overall coherence of the national site network, which includes existing SACs and SPAs.

### Conservation objectives

- 5.4 The Secretary of State has undertaken an objective scientific assessment of the implications of the Development on the qualifying features of the River Eden SAC, North Pennine Moors SAC and North Pennine Moors SPA, using best scientific knowledge in the field. The appropriate assessment has been made in light of the conservation objectives for the relevant sites which are included in Annex 2 of this Report.

### River Eden SAC

#### *Air Quality Effects*

- 5.5 The effects on air quality were assessed by the Applicant on the habitat features on the grounds that if these are adversely affected, the features which depend on them

(otter, white-clawed crayfish and the fish species) are also likely to be indirectly affected [ER 5.4.13].

- 5.6 Perceptible changes in air quality were identified at two locations during construction and operation where the Development interacts with the SAC as presented in Table 8 of the SIAA. The Secretary of State notes that AEoI were ruled out for Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation and subsequently all other features reliant on this habitat on the basis that deposition modelling is less applicable to this aquatic habitat type. Paragraphs 1.5.92 and 1.5.98 of the SIAA explains that aquatic plants, which are a component of the watercourse vegetation community, are submerged for the majority of the year due to their growth form and are regularly inundated and flushed during modest flood events. Impacts from the changes in air quality are therefore considered by the Applicant to be minimal and would not lead to AEoI. The ExA notes that NE agreed with the Applicant's conclusion at Deadline 7 [ER 5.4.14]. No further information has been submitted to cause the Secretary of State to disagree with this conclusion.

#### *Land Take / Resource Requirements / Reduction of Habitat*

- 5.7 Shading of the habitat from the Trout Beck viaduct, culvert design and extension and design of the viaduct outfall discharges is anticipated to impact all features. Mitigation is proposed through the design of the culverts, extensions and viaduct to minimise the potential for habitat reduction and shading through sinking infrastructure and maintaining flow velocities through bridges and culverts. The Secretary of State notes these mitigation measures are secured through the PDP [REP8-061]. Following the implementation of mitigation through design, shading is anticipated to impact 0.004% and outfall discharge is anticipated to impact 0.001% of the Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation feature within the SAC. The SIAA concluded that these impacts are very localised and would not therefore lead to AEoI on the SAC. The ExA notes that NE at Deadline 7 agreed with this conclusion [ER 5.4.15]. The Secretary of State also agrees with these conclusions.
- 5.8 The Environment Agency ("EA") and NE were concerned with the absence of details in the designs for the proposed viaducts for Trout Beck, Cringle Beck and Moor Beck. As there were no details on the placements of the supporting pillars, this meant that they could not advise on the effect on the aquatic environment or find no adverse effect on the River Eden SAC, River Eden and tributaries SSSI, Temple Sowerby Moss SSSI, North Pennine Moors SPA, Bowes Moss SSSI, Asby Complex SAC and Ravenworth Fell SSSI [ER 4.8.17]. The Secretary of State notes that the responses at Deadline 4 from NE, the Environment Agency and the Applicant that these matters had been resolved through changes and amendments to the REAC in EMP1 and the PDP [ER 4.8.18]. The primary area of concern was the so-called "self approvals" process for the EMP2 contained in article 53 of the draft DCO. Article 53 has been amended and this matter is discussed further in the decision letter. With these measures secured the Secretary of State concludes no adverse effect on site integrity.

#### Introduction and/or Spread of Invasive Non-Native Species

- 5.9 In Annex 15 of the Applicant's EMP [REP8-005] an Invasive Non-Native Species Management Plan has been provided in draft. This management plan implements

best practice measures, the Applicant considers there would be limited/no impacts pathway to introduce or spread INNS and no AEoI would arise. At Deadline 3 the ExA sets out that NE agreed with this conclusion [ER 5.4.16]. The Secretary of State agrees with this conclusion.

#### *Changes in Surface and Groundwater Quality, Quantity, and Hydrogeology*

- 5.10 Paragraph 1.5.151 of the SIAA identified that impacts are anticipated from general road runoff, construction activities and cuttings that intercept the groundwater table which may impact baseflow to surface water features downgradient. This has the potential to impact all features of the River Eden SAC [ER 5.4.17].
- 5.11 The Ground and Surface Water Management Plan (secured in Annex B7 of the EMP proposes mitigation during construction. The Secretary of State notes this sets out best practice measures for pollution prevention and construction techniques [ER 5.4.18].
- 5.12 Road runoff would be treated for zinc, copper and sediment levels via a network of attenuation basins during operation. Appendix 14.3 Water Quality Assessment [APP-222] demonstrates that all attenuation basins have achieved a pass in line with the Highways England Water Risk Assessment Tool. These are secured through Work no 03-1B of the DCO [REP9-013]. The Applicant concluded no AEoI would arise from this effect pathway. The ExA notes that NE at Deadline 7 agreed with this conclusion [ER 5.4.19]. The Secretary of State has not received information to disagree with this conclusion.

#### *Changes in Hydrology and Fluvial Geomorphological Processes*

- 5.13 Impacts from construction works associated with, and the operation of, the viaduct, culverts and flood attenuation features were identified in the SIAA (see paragraphs 1.5.156 to 1.5.200 [APP-235]). The Development also has potential to lead to alterations in flood flows [ER 5.4.20].
- 5.14 The Geomorphology Modelling Report Appendix 14.9: Detailed Geomorphological Modelling, [APP-228]) was undertaken to inform the design of the viaduct, flood storage areas and culverts to minimise any adverse effects on geomorphology and the risk of fish stranding during extreme flood events. It is noted that no additional hard structures are proposed to be introduced to the riparian zone (associated with new attenuation basin discharges) into the SAC or functionally linked watercourses; discharge outlets will be open ditches where currently existing natural bank structures enable the free river migration/ geomorphological change to occur. According to that report the modelling data predicts with certainty that fluvial geomorphological processes both within the channel and on the floodplain would not be significantly affected by the Trout Beck viaduct therefore no AEoI are anticipated on features of the SAC. The ExA notes that NE agreed with this conclusion at Deadline 7 [ER 5.4.21]. The Secretary of State has not received information to disagree with this conclusion.

#### *Disturbance of Mobile Species and Species Fragmentation and Species Mortality / Injury*

- 5.15 The potential for disturbance to affect otter, white-clawed crayfish and fish features during construction; water crossings may also introduce obstacles causing habitat fragmentation was identified in the SIAA [APP-235].
- 5.16 Mitigation through implementation of best practice measures and best practice watercourse crossing design to ensure that species can pass freely through crossings and construction activities will not give rise to disturbance i.e. through excessive noise, working during breeding seasons, lighting design. During construction, an Ecological Clerk of Works would be employed for any instream works or dewatering activities where any required translocation would occur before dewatering commences.
- 5.17 These measures are secured through the EMP [REP8-005] and the PDP [REP8-061]. With these measures in place, the SIAA concludes no AEol on SAC features. The ExA notes that at Deadline 7 NE agreed with this conclusion [ER 5.4.24]. The Secretary of State agrees with this conclusion.

#### Conclusion for River Eden SAC

##### *From the Development Alone*

- 5.18 The ExA is satisfied that with the proposed mitigation in place there would be no AEol on the River Eden SAC from the Development on its own. The mitigation is appropriately secured through the EMP [REP8-005] and PDP [REP8-061]. NE agreed at Deadline 4 [REP4-033] that the mitigation secured through the EMP and PDP that there would be no AEol [ER 5.4.24].
- 5.19 The ExA is also satisfied that no mitigation is put forward for air quality impacts and there would be no AEol on the basis that the nature of the impact upon Watercourses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation means air quality impacts would be minimal due to the habitat being predominantly underwater and flushed regularly [ER 5.4.25].
- 5.20 The Secretary of State has not received additional information to disagree with these conclusions.

##### *In Combination Effects*

- 5.21 The River Eden SAC was identified as the only site requiring a separate in-combination assessment which is provided in paragraphs 1.5.294 to 1.5.318 of the SIAA [APP-235].
- 5.22 The projects included in the in-combination assessment are:
- Flakebridge River Restoration, Frith Beck.
  - Appleby Flood Risk Scheme.
  - Carleton Road Housing Development of up to 149 residential dwellings. And;
  - Eden Rivers Trust Trout Beck Restoration.
- 5.23 The Secretary of State notes that the ExA set out that NE did not raise any concerns over the in-combination assessment for the River Eden SAC and confirmed

agreement with the River Eden SAC assessment conclusions at Deadline 7 [ER 5.4.28].

- 5.24 The ecological report submitted for the Carleton Road Housing Development concluded that there is sufficient distance and barriers to the River Eden SAC such that there is no pathway for effects. The Applicant concluded there is no potential for in-combination effects with the Development.
- 5.25 The Appleby Flood Risk Scheme's appropriate assessment concluded no AEol during its construction on the basis that best practice mitigation measures (see paragraph 1.5.308 of the SIAA [APP-235]) would mitigate potential effects. No AEol were identified during operation. The Applicant ruled out any potential in-combination effects because it is anticipated that the construction periods would not overlap and in addition, mitigation was in place to deal with the effects of the flood risk scheme.
- 5.26 The Eden Rivers Trust Trout Beck Restoration is the only project identified in the SIAA that could potentially interact with the A66. The project is located within the SAC in the Temple Sowerby to Appleby section of the A66, immediately adjacent to the proposed Trout Beck crossing. The Eden Rivers Trust restoration scheme is assumed by the Applicant to be delivered concurrently with the Development and that the Eden Rivers Trust restoration scheme will implement standard best practice construction measures. Much of the Eden River restoration construction work, the Applicant explains, would involve the creation of a secondary channel which would be offline during construction. Residual effects have not been identified during operation for the restoration scheme. On the basis that the secured mitigation measures for the Development would be in place during construction and operation (as set out in the above section), the Applicant concludes there would be no AEol from in-combination effects.
- 5.27 Based on the above reasoning and NE's agreement with the Applicant's conclusion, the ExA was satisfied there would be no in-combination effects on the River Eden SAC. The Secretary of State agrees with this conclusion.

#### North Pennine Moors SAC and North Pennine Moors SPA

##### *Air Quality Effects*

- 5.28 As discussed in the SIAA [APP-235] air quality is the only impact pathway identified as having LSE on North Pennine Moors SAC (paragraphs 1.6.11 to 1.6.13) and North Pennine Moors SPA (1.7.1 to 1.7.8). The issue remained outstanding during examination and during the Secretary of State's determination period. The impact pathway for both designated sites is the same because the habitats within the SAC also provide the supporting habitats for the breeding birds of the SPA. To avoid repetition the air quality assessment for both the SAC and SPA is given below.
- 5.29 The Applicant excluded AEol from air quality effects on the following features of the SPA/SAC:
- North Pennine Moors SPA – breeding birds: golden plover, hen harrier, merlin and peregrine falcon;
  - North Pennine Moors SAC – marsh saxifrage and the Annex I habitats listed in Table A11 to Appendix A of the ExA's Report.



- 5.30 Paragraph 1.7.14 of the SIAA [APP-235] explains that air quality has the potential to impact on suitable habitat for breeding and foraging birds features of the SPA. The conservation objectives and supplementary advice set out that the following habitats are required to support breeding for qualifying bird species:
- Cliffs and crags with low disturbance.
  - Blanket bog.
  - Wet heath.
  - Dry heath.
  - Montane heath
- 5.31 Appendix 2.1 of the ES [APP-147] demonstrates that impacts would be negligible beyond 65m from the edge of the ARN. Blanket bog is the only recorded qualifying habitat within the study area (as shown in Appendix E of the SIAA [APP-235]) which may provide suitable breeding habitat for all the SPA bird species, and which is also a qualifying feature of the SAC. Marsh saxifrage, an Annex II plant species feature of the North Pennine Moors SAC was not recorded within the study area so would not be affected by the alterations in air quality.
- 5.32 The Secretary of State notes that NE [RR-180] raised concerns that other sources of air pollution may not have been included in the assessment, in particular for the in combination assessment (e.g., agriculture) of the North Pennine Moors SPA/SAC. The Applicant confirmed in the SoCG (Rev4) [REP8-027] that the baseline data sourced from DEFRA included emissions from other sectors but did not identify specific point source emissions. This process is in line with the DMRB methodology.
- 5.33 The Applicant's SIAA identifies that, in line with DMRB LA115 guidance, an increase of more than 1000 Annual Average Daily Traffic (AADT) has potential for air quality impacts and requires further assessment. An increase of 5941 AADT from the Development alone during operation is modelled in ES Appendix 5.4 [APP-153] within 200m of the North Pennine Moors SPA/SAC. As air quality construction impacts are not predicted to be above the 1000 AADT threshold which requires more detailed assessment, these impacts were not considered further [ER 5.4.40].
- 5.34 Impacts from air quality have potential to undermine the 'maintain and restore' conservation objectives of the SPA and SAC sites which require critical loads are not exceeded. Paragraph 4.1.13 of the Applicant's Supplementary Note [REP9-036] explains that an exceedance of critical loads from nitrogen deposition has potential to modify the substrate's chemical status which accelerates/damages plant growth and alters vegetation structure and composition. This in turn causes the loss of typical sensitive species associated with blanket bog.
- 5.35 The nitrogen critical load for blanket bogs is 5 – 10 kilograms per hectare per year (kgN/ha/yr). The Secretary of State notes that the nitrogen critical load is already exceeded, the background being 19.4 kgN/ha/yr. The modelling presented in Appendix 5.4 of the ES identified points which demonstrated an exceedance of 1% of the critical load due to the Development up to 60m from the ARN. There is a maximum predicted increase of 0.9kgN/ha/yr from the Development alone. This contribution decreases beyond this distance and the Applicant considered it to be negligible.

- 5.36 The Applicant assessment estimated that the total area of blanket bog only (not recorded as a mosaic with acid/marshy grassland) within 60m of the ARN was 4.01ha which equates to 0.01% of the blanket bog within the whole SPA/SAC. On this basis the Applicant concluded that the contribution made by the Development in the context of nitrogen sources from air pollution during operation is negligible and there is no need for mitigation [SIAA APP-235].
- 5.37 The method applied to the air quality assessment was disputed by NE. NE responded to the Ammonia Technical Note in its Annex I response to the RIES [REP7-181] in which they highlighted their concerns with the air quality assessment:
- Both ammonia and nitrogen oxide (NO<sub>x</sub>) have differing impacts to that of nitrogen and therefore should be assessed separately against their relevant critical level.
  - The area of blanket bog was only identified as a separate habitat and not as part of a mosaic and therefore the amount potentially impacted has been underestimated in the SIAA. NE state around 8ha of blanket bog and mosaic habitat is present in the zone of influence of the Development.
  - The 'negligible' impact is still an increase in the current exceedance of the critical load and therefore requires mitigation.
  - Species richness should not be used as a measure of change at bog sites because the observed relationship between species richness and nitrogen deposition is not curvi-linear (Natural England Commissioned Report 210)<sup>3</sup>. It is not considered an appropriate metric by bog specialists to assess change as there are very few species present in this habitat type.
- 5.38 It is NE view that air quality impacts would potentially undermine the maintain and restore objectives of the blanket bog qualifying feature for the SAC. The target for the air quality sub-attribute is 'restore as necessary the site-relevant critical load for blanket bog'.
- 5.39 The joint position statement provided by NE and the Applicant at Deadline 9 agreed that the proposed wording in Annex A of the Rule 17 was not appropriate. It was acknowledged that there was disagreement as to whether the Development would have an AEol on the North Pennine Moors SPA/SAC from air quality impacts.
- 5.40 In response to NE's concerns the Applicant submitted a Habitats Regulation Assessment Supplementary Note for the North Pennine Moors SPA/SAC [REP9-036] (the Supplementary Note) to the Examination at Deadline 9 (26 May 2023).
- 5.41 The Supplementary Note included an assessment of ammonia and NO<sub>x</sub> against the critical levels for blanket bog. Paragraphs 2.1.9 to 2.1.19 and Table A3 of the Supplementary Note [REP9-036] assesses impacts from ammonia on lichens, bryophytes and higher plants as part of blanket bog species on a sensitivity test basis using the National Highways tool developed with NE. Predicted concentrations for higher plants as a result of the Development are well below the critical levels and

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<sup>3</sup> Natural England Commissioned Report 210 (2016)  
<https://publications.naturalengland.org.uk/publication/5354697970941952>

therefore, the Applicant concluded that there would be no significant effects on higher plants (see Table A3 of [REP9-036]).

- 5.42 Species richness was not used in the updated assessment of the implications for the SAC's conservation objectives. The area of blanket bog assessed was increased to include areas within a mosaic habitat (assessed as 8.28ha in total within 200m of the ARN) (paragraph 4.1.22 of [REP9-036]).
- 5.43 The Supplementary Note [REP9-036] explains that the critical levels for nitrogen oxides (NO<sub>x</sub>) will not be exceeded (paragraph 4.1.48 and Table 2). However, impacts from ammonia concentrations and nitrogen deposition are identified to exceed the respective critical level for ammonia concentrations and critical load for nitrogen deposition. The modelled maximum increase and exceedance of the lower critical level for ammonia (1 µg/m<sup>3</sup>) on lichens and bryophytes occurred 5m from the ARN as a 13.7% increase. This reduces to an increase relative to the lower critical level of 3.5% at 65m from the edge of the road.
- 5.44 The Applicant considers the effect of nitrogen deposition on the maintain and restore conservation objectives (see paragraphs 4.1.13 to 4.1.37 of the Supplementary Note). The current nitrogen background values are 19.4kgN/ha/yr (without the Development) which already exceeds the blanket bog nitrogen critical load 5 – 10kgN/ha/yr). The Applicant's assessment identified that the Development would introduce a maximum of 17.6% (0.9kg N/ha/yr) increase in nitrogen deposition relative to the lower critical load for blanket bog (5kg N/ha/yr) 5m from the road edge reducing to 1.1% at 65m.
- 5.45 In Section 4 of the Supplementary Note, the Applicant discusses why these exceedances do not undermine the conservation objectives for the blanket bog. It is explained that the coherence of the ecological structure and function is maintained in twelve of the thirteen qualifying habitats, which make up 99.98% of the SPA/SAC with only 0.021% of blanket bog habitat being affected. In terms of total nitrogen contribution in the SPA/SAC, the Applicant explains that transport contributes 6.5% with livestock being the largest contributor at 61.6%. It is further explained that if all nitrogen from transport on a local scale was removed it would reduce the total nitrogen deposition from 17.8kgN/ha/yr down to 17.2kgN/ha/yr, which is still three times the lower nitrogen critical load for blanket bog.
- 5.46 NE disputed these points in their response (dated 14 July 2023) to the Supplementary Note. Blanket bog and its surrounding mosaic habitats are a main designated feature of the SAC. The habitat's relative importance of the area affected in terms of the rarity, location, distribution, vulnerability to change and ecological structure which the affected area contributes to the overall integrity of the site. NE explain that the site's contribution to the conservation status of that habitat type should exert a stronger influence over decision makers than the spatial extent of the effect. NE did not agree that blanket bog and surrounding mosaic as a small part of the SAC is an appropriate argument to justify a conclusion of no adverse effect on integrity on its own.
- 5.47 In relation to restoration of the blanket bog, the Applicant considered that any restoration activity would focus on other main sources (i.e., livestock). The Applicant's view is based on evidence that transport emissions are predicted to steadily decline over time due to policies, such as the Transport Decarbonisation Plan (paragraphs

4.1.33 to 4.1.37 [REP9-036]). The DEFRA Emission Factor Toolkit (EFT) version 11 was used, and the Applicant considers it to be conservative in its estimates. In paragraph 5.1.5 the Applicant indicates that the Development would not hinder restoration across the vast majority (99.98%) of the SAC, which remain unaffected by the Development. The Applicant also considered that in the long-term the air quality effects presented immediately adjacent to the ARN are not permanent and there is potential for recovery and reversibility of the air quality impacts presented in future years. The Applicant is confident that the impacts of road transport and from the additional contributions from the Development will not delay attainment of the Lower Critical Load of 5kg N/ha/yr due to reasons presented in Section 4 of the Supplementary Note (26 May 2023).

- 5.48 In their letter of 14 July 2023, NE requested clarification from the Applicant on how a permanent road can cause only a short or temporary impact. They explain that temporary impacts are normally defined as short term peaks in emissions such as construction or demolition activities.
- 5.49 In response to this and the Secretary of State's Request for Information ("RfI") (dated 11 August 2023), the Applicant submitted a Second Supplementary Note - North Pennine Moors SAC/SPA which formed Annex I of their letter (dated 25 August 2023). Section 2 of the Second Supplementary Note reiterates the Applicant's position and additionally provides clarification to NE's concerns raised in their 14 July 2023 letter. The Applicant re-affirms their view that the Development would not hinder the SAC's current ability to achieve favourable conservation status for the Blanket Bog qualifying habitat and in the view of the Applicant did not result in an adverse effect on site integrity.
- 5.50 The Applicant sought to explain their view of how a permanent road can cause only a short or temporary impact on the North Pennine Moors SAC. A clarification of the future trends from traffic emission reductions is presented in Paragraph 2.1.20 of the Applicant's Annex I of the Second Supplementary Note. Reductions are expected through Government policy, such as the Transport Decarbonisation Plan where uptake of electric vehicles is promoted and the ban of the sale of new petrol and diesel vehicles by 2030.
- 5.51 However, NE responded (dated 8 September 2023) following the Secretary of State's request for information (11 August 2023). They did not consider the key question had been answered with regard to whether beyond reasonable scientific doubt, the increase of air pollution due to the Development will (or will not) have an adverse effect on the integrity of the site by reference to the effect that the increased air emissions caused by the Development will have on the North Pennine Moors SAC and in particular the bog habitat. NE noted that the EFT makes clear that where emissions are to be used after 2030 to inform air quality assessments that the appropriate limitations of the analysis must be provided as part of the assessment. NE were unclear if the Applicant had considered these limitations in their assessment. It is also NE's view that "*it is also currently unknown if future predictions are overly optimistic*".
- 5.52 The Secretary of State noted in paragraph 5.1.1 of the Second Supplementary Note that the Applicant maintained their position that they consider that the small increase in pollutants as a result of the Proposed Development would not affect the coherence of the SAC's ecological structure and function across its whole area, noting that

99.98% of the blanket bog feature of the SAC, and that twelve of the thirteen qualifying habitats of the SAC remain unaffected by the Development. However, at paragraph 5.1.6 it is noted that the Applicant has set out that if steps were needed to improve the site's resilience to enable the Secretary of State to conclude that there would be no AEoI, they were willing to work with relevant parties to develop and implement a Blanket Bog and Land Management Plan ("BBLMP").

- 5.53 The Secretary of State notes that the Applicant acknowledges at paragraph 3.2.1 of the Second Supplementary Note that there are increases in nitrogen deposition due to the operation of the Development. The BBLMP, however, focuses on other non-transport pressures which the Applicant regards as impeding the ability to restore the SAC and enhance its resilience.
- 5.54 The Applicant set out that the BBLMP is not mitigation and/or compensation but could be secured as an assurance of there being no adverse effects on integrity as a result of the Development, as explained at paragraph 1.1.1 of the Second Supplementary Note.
- 5.55 In NE's 8 September response to the Applicant's Second Supplementary Note it highlighted the following:
- insufficient information had been provided regarding the air quality impact from the Scheme on the blanket bog and the surrounding mosaic habitat in the North Pennine Moors SAC;
  - the measures in the proposed BBLMP while welcomed, would not prevent the impacts from the Scheme and is therefore not mitigation; and
  - the status of the BBLMP appears to be more compensatory rather than mitigation.
- 5.56 The Secretary of State set out in his letter of 15 September 2023 that he is minded to agree with NE that the BBLMP is not a mitigation measure because it does not address the air quality impacts from the Development. The Secretary of State further considers that it does not enable a conclusion beyond reasonable scientific doubt of no Adverse Effect on Integrity on the North Pennine Moors SAC to be reached. Further clarification was therefore requested from the Applicant to:
- address the information gaps set out by NE;
  - in anticipation that appropriate mitigation measures cannot be agreed and secured, and it continues not to be possible to reach a conclusion beyond scientific doubt of No Adverse Effect on Integrity in relation to the North Pennine Moors SAC, information to support the case for derogation and the provision of details of compensation measures that are agreed with NE.
  - draft provisions for the Development Consent Order in order to secure such agreed compensation measures.
- 5.57 In response, the Applicant (letter dated 5 October 2023), in consultation with NE, was not able to identify other mitigation measures, such as speed restriction, that could be implemented to fully address NE's concerns on the HRA conclusions and deliver the Development objectives.

### Conclusion for North Pennine Moors SPA

5.58 Suitable breeding habitats for the SPA qualifying bird species were presented in the Applicant's SIAA and reproduced in this Report (see 5.30). The SIAA explains that only the blanket bog was recorded in the study area of 60m from the ARN. The Applicant has estimated that the total area of blanket bog within the study area is approximately 4.01ha, equating to 0.01% in the SPA. It is noted that the blanket bog is not a priority habitat feature of the SPA. Section 4 of the Applicant's Supplementary Note (26 May 2023) explains that the ecological structure and function is maintained in twelve of the thirteen qualifying SAC habitats, which make up 99.98% of suitable breeding habitat in the SPA. As the majority (99.98%) of these habitats are unaffected by the Development, the remaining habitats can therefore provide suitable and sufficient breeding habitat for the qualifying SPA bird features meaning the bird populations are not adversely affected. For the North Pennine Moors SPA, the Secretary of State therefore is content to conclude no adverse effect from degradation of habitat from air quality impacts.

### Conclusion for North Pennine Moors SAC

5.59 At the close of Examination, NE disputed the Applicant's conclusion of no adverse effect on site integrity in relation to air quality effects from the Development on the blanket bog Annex I feature of the north Pennine Moors SAC either alone or in combination with other projects [ER 6.2.35]. The ExA considered that whilst there was no agreement between the Applicant and NE over the conclusions of no adverse effect on site integrity [ER 5.5.3], it was considered that there was reasonable expectation that the issue would be resolved, and that NE would be able to advise the Secretary of State that there would be no adverse effect on integrity [ER 5.5.3]. Where this could not be agreed the ExA recommended that the Secretary of State consider the following options [ER6.3.8]:

- Withhold consent;
- Remove Scheme 06 from the Order and grant consent for the remaining Development; or
- Engage regulation 64 of the Habitats Regulations which requires consideration of the three legal tests at the derogations stage.

5.60 The Secretary of State notes that since the close of Examination there has been no agreement between the Applicant and NE on the conclusion of no Adverse Effect on Integrity. With regard to the options set out by the ExA on the removal of Scheme 06 for the reasons set out below, this would not mitigate the impacts from the Development and was agreed by NE (in their letter dated 8 September 2023). Based on the information provided since the close of examination and through the consultations the Secretary of State considers that a conclusion of no adverse effect on site integrity cannot be ruled out beyond scientific doubt due to the potential impact on the Annex I blanket bog habitat of the North Pennine Moors SAC. The Secretary of State has decided it is necessary to engage regulation 64 of the Habitats Regulations.

## Overall Conclusion of the appropriate assessment

- 5.61 As the competent authority for Transport Nationally Significant Infrastructure Projects as defined under the PA2008, the Secretary of State for Transport has undertaken an appropriate assessment under regulation 63 of the Habitats Regulations in relation to the following European sites:
- River Eden SAC
  - North Pennine Moors SAC
  - North Pennine Moors SPA
- 5.62 The Secretary of State is satisfied that, given the relative scale and magnitude of the identified effects on the qualifying features of these European sites and where relevant, the measures in place to avoid and reduce the potential harmful effects, there would not be any implications for the achievement of the conservation objectives for River Eden SAC. Those conservation objectives are set out in Annex 2 of this HRA Report.
- 5.63 In relation to the North Pennine Moors SAC and SPA, the Secretary of State is satisfied that there would be no AEol on the qualifying Annex I habitats and Annex II species of the SAC; and the qualifying bird features and their supporting breeding habitats where relevant to the SPA. There are measures in place to avoid and reduce the potentially harmful effects, so that there would be no implications for the achievement of the conservation objectives, which are set out in Appendix 2 of this HRA Report.
- 5.64 The exception to the conclusion made in paragraph 5.62 above being the Annex I blanket bog habitat of North Pennine Moors SAC. It is not a feature of North Pennine Moors SPA which has birds as the only qualifying features. However, the enhancement of the bog habitat in the SAC will have indirect benefits for feeding and breeding to the qualifying features of the SPA. The Secretary of State agrees with NE that AEol could occur at the SAC from air quality due to the operation of the Development increasing the nitrogen deposition and ammonia concentrations. The Secretary of State has not identified any further mitigation measures that could be imposed in respect of direct and indirect impacts from air quality on habitat degradation, which would remove the AEol identified and has therefore proceeded to consider the derogation provisions of the Habitat Regulations, as presented in Sections 6 to 9 below.
- 5.65 Based on the submissions to the examination as summarised in the ExA's RIES and Report, together with the further consultations undertaken by the Secretary of State after the close of examination the Secretary of State is satisfied that the views of NE as the appropriate nature conservation body have been considered and that they align with the position taken by the Secretary of State.

## 6. STAGE 3: CONSIDERATION OF ALTERNATIVE SOLUTIONS

6.1 During the consideration of alternative solutions, the Secretary of State has had regard to the guidance provided by Department of Environment and Rural Affairs (Defra), NE, Welsh Government and Natural Resources Wales on ‘Habitats regulations assessment: protecting a European Site’ (the 2021 “Joint Guidance”)<sup>4</sup>. The Secretary of State has also had regard to relevant caselaw and guidance available to him.

### Development objectives

6.2 The Applicant sets out the objectives which the Development is trying to achieve by theme in Table 2 of the Applicant's ‘Habitats Regulations Assessment: Information submitted without prejudice to support a Derogation case’ (“the Applicant’s Derogation case”) (set out in Annex 6 to the Applicant’s response of 27 October 2023).

Theme	Development Objectives
Economic	Regional: support the economic growth objectives of the Northern Powerhouse and Government levelling up agenda
	Ensure the improvement and long-term development of the Strategic Road Network
	Maintain and improve access for tourism served by the A66
	Seek and improve access to services and jobs for local road users and the local community
Transport	Improve road safety, during construction, operation and maintenance for all, including road users, non-motorised users (NMU), road workers, local business and local residents
	Improve road journey time reliability for road users
	Improve and promote A66 as a strategic connection for all traffic and users
	Improve the resilience of the route to the impact of events such as incidents, roadworks and severe weather events
	Seek to improve NMU provision along the route
Community	Reduce the impact of the route on severance for local communities
Environment	Minimise adverse impacts on the environment and where possible optimise environmental improvement opportunities

### Consideration of Alternative solutions

6.3 Chapter 3 of the Applicant’s ES sets out their assessment of alternatives. The ExA’s consideration of the Applicant’s assessment of alternatives and options appraisals is set out in paragraphs ER 4.3.1 to 4.3.4 of the Report.

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<sup>4</sup> Defra, NE, Welsh Government and Natural Resources Wales (2021) ‘Habitats Regulations Assessment: protecting a European Site’ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>



6.4 In accordance with the Joint Guidance published by Defra, the Secretary of State does not consider the development of alternative modes of transport (e.g. building a new railway line) to meet the objectives of the Development. The Secretary of State has therefore focussed on Alternative highway scheme options considered by (or available to) the Applicant (including the Do Nothing option) and alternative highway scheme options put forward by the Applicant in their Annex 6 of their HRA Information submitted without prejudice to support a Derogation case to achieve the same objectives. These are summarised as follows and set out in more detail below:

- The ‘Do Nothing’ option that would see no element of the Development progressed
- Alternative dualling routes, which would upgrade an alternative route to the A66, in a different location, to dual carriageway standard
- Dualling the A66 with additional works local to the North Pennine Moors SAC, which would see the Development progress as promoted, with localised additional works to the Brough to Bowes section of the existing A66 (currently dual carriageway and outside the A66 Northern Trans-Pennine Project DCO Order limits)
- Non-dualling alternative
- Alternative modes

#### Do nothing

6.5 This “alternative” would see no element of the Development progressed at all. Not proceeding with the Development would remove the risk of habitat loss though degradation from changes in air quality in the North Pennine Moors SAC.

6.6 The Secretary of State however notes that the do nothing scenario would not achieve the Development objectives and concurs with the Applicant’s conclusion in the Applicant’s derogation case. This means that it would result in continued congestion, delay and unreliable journey times, not address the safety concerns and not support economic growth.

6.7 The Secretary of State also agrees that because none of the overall objectives of the Development is met, the ‘Do Nothing’ is not an alternative solution (paragraph 3.4.6).

#### Alternative dualling routes

##### *Upgrade A684*

6.8 The A684 is approximately 48km south of the A66 at its western end. The existing route is single carriageway along its 82km length. The option would be to upgrade the A684 to dual carriageway standard along its whole length. This has the potential to meet some of the Development objectives, such as improving road safety and improved resilience for a route with a history of closures due to incidents and severe weather. Currently the A684 is not part of the Strategic Road Network and therefore not a recognised freight route. Upgrading to dual carriageway standard is unlikely to provide better national connectivity given the terrain and resultant fuel / speed

efficiency impacts on heavy freight vehicles. Therefore, it does not conform to the Economic and Transport Development objectives.

- 6.9 The cost of providing alternative infrastructure would also likely be prohibitive to the implementation of this alternative as it would be substantially greater than the Development, such as upgrading 82 km to dual carriageway standard as opposed to 29km. Multiple by-passes would most likely be required to avoid further severance of communities, as well as a number of river crossings, and a crossing of the Settle to Carlisle rail line under the A684 near Garsdale. The land required for this route would result in adverse effects upon the environment and most notably the impact on biodiversity due to large sections of offline works. The A684 passes through the Yorkshire Dales National Park, which is a protected landscape due to its special qualities of significant value. The land required within the National Park would pose a risk to these special qualities particularly in relation to biodiversity and landscape value and would need to demonstrate compliance with enhanced landscape protections attached to the site in policy terms.
- 6.10 The A684 does not interact with the North Pennine Moors SAC, which is 900m at its nearest location. However, two further SACs may be impacted from the upgrading the A684, namely the North Pennine Dales Meadow SAC and the Ox Close SAC. Direct effects are not likely on all three SACs but indirect effects from air quality cannot be ruled out due to traffic being taken closer to North Pennine Dales Meadow and Ox Close SACs. This alternative does not meet the Transport and Economic objectives. Additionally, the costs, financially and environmentally are prohibitive given the length of dualling required and potential loss of biodiversity. Furthermore, this option would have direct effects on North Yorkshire Dales National Park and potential adverse effects on integrity of the SAC.
- 6.11 The Secretary of State does not consider the upgrade of the A684 is a viable alternative to the A66 that will both achieve the objectives and reduce the impact on the National Site Network.

#### *Upgrade A69*

- 6.12 The A69 is the other main route across the Pennines. Apart from short dualled sections at both the eastern and western ends it is 55 miles (approximately 88.5km) of single carriageway. A potential alternative is to upgrade the A69 to dual carriageway standard. Improvements have the potential to meet some of the Development objectives, for example upgrading would improve road safety and resilience for a route with a history of closures due to incidents.
- 6.13 Due to significant impacts on environmental receptors such as Northumberland National Park, North Pennines AONB and significant heritage assets, such as Hadrian's Wall and Vindolanda this option does not meet the Environment objective. The route alignment of the A69 passes between both the North Pennines AONB and Northumberland National Park and at various points lies immediately next to these sites. Offline sections are likely to have significant landscape impacts due to the sensitivity of these sites and would need to demonstrate compliance with the requirements of enhanced protections attached to these designations in policy terms.

The Applicant's own Business Case for the A69 in its Appendix 7 to the Project Development Overview Report explains that there are some strategic benefits to dualling the A69 but economically weak if it includes a by-pass for Warwick Bridge.

- 6.14 It is noted that the A69 does not interact with the North Pennine Moors SAC, being located approximately 1.2 km to the south at its closest location, dualling this route are not likely to have an adverse effect on integrity. However, the A69 crosses the River Eden SAC at Warwick-on-Eden and Low Geltbridge which could result in localised impacts associated with watercourse crossing upgrades. The Tyne and Allen River Gravels SAC is the only other SAC which could be affected but it is approximately 400m south of the existing A69 but with best practice watercourse crossing design, adverse effects are considered unlikely. However, there is potential for these sites to experience indirect effects through changes in air quality on the North Pennine Moors SAC from the Affected Road Network depending on the route options identified.
- 6.15 When considering the strategic case for the A66 and the reasons for its selection, the Applicant concluded that the upgrading of the A69 to dual carriageway standards was not an alternative to the A66 Development as proposed. The upgrading of the A69 could result in indirect effects on the North Pennine Moors SAC as well as potential adverse effects on Northumberland National Park, North Pennines AONB and heritage assets along this route. The Secretary of State does not consider the upgrade of the A69 as a suitable alternative to the A66.

Implement Development as proposed with additional works to route adjacent to North Pennine Moors SAC

*Alternative route of existing A66 between Brough and Bowes – offline construction to the south*

- 6.16 This option would realign the existing A66 to dual carriageway standard between Brough and Bowes and construct a new dual carriageway to the south of the existing highway alignment. The A66 would still be running through the SAC for about 1km at its western extent. Thereafter there is a potential corridor between the existing A66 and a historic railway line, which is approximately 1 km from the SAC. There is potential for this option to conform to the Economic and Transport objectives of the Development, in that it would offer the same benefits to road safety, operation and maintenance journey time and resilience of the route as the existing A66.
- 6.17 It may however create community severance not currently affected by the existing alignment of the A66. Existing properties would be sandwiched between the new dualled carriageway and the existing A66, unless the properties were acquired. Offline construction would have significant associated environmental impacts including substantial land take. Historical field patterns, established forestry and some priority habitats would be impacted negatively. Additionally, there would be visual impacts of new sections of road and new structures would have to be considered. This option would not meet the Community and Environment objectives of the Development.

- 6.18 With regard to financial viability, this alternative would incur additional costs to the Development as proposed including those associated with the construction of approximately 7km of new dual carriageway. There would also be costs in amending the current alignment to make it suitable for local access and for walkers, cyclists and horse riders. The route would still pass through the North Pennine Moors SAC at the western extent but a new section to the south would bring the realignment construction within the boundary of the North Pennine Moors AONB. This option is not likely to be legally or financially feasible.
- 6.19 This option can be considered to be less damaging to the North Pennine Moors SAC. Re-routing the road to the south of the existing A66 would limit the indirect effects of air quality during operation to a shorter section and would reduce the length of road interacting with the blanket bog. This assessment assumes that no land take is directly required in the SAC. No other SAC are affected by this option. However, as mentioned this option would not meet the Community and Environment objectives of the Development. The Applicant considers that this option may not be financially feasible as it requires prohibitively expensive, significant offline construction and would have adverse effects on the North Pennine Moors AONB. Based on these factors, the Secretary of State considers that this is not a suitable alternative to the Development.

*Alternative route of existing A66 between Brough and Bowes – offline construction to the north*

- 6.20 This route would realign the existing A66 dual carriageway between Brough and Bowes and construct a new dual carriageway to the north of the existing road. There is a potential corridor between the SAC between Stainmore and Bowes, of approximately 17km in length which runs through a gap of 300m between Cotherstone Moor SSSI and Bowes Moor SSSI, both of which are part of the North Pennine Moors SAC.
- 6.21 There is potential for this option to conform to the Economic and Transport objectives of the Development, in that it would offer the same benefits to road safety, operation and maintenance, journey time reliability and resilience of the route as the existing A66. The existing dual carriageway would remain and become a local route and improve the facilities, where currently these are limited, for walkers, cyclists and horse riders. The construction of a new dual carriageway would not improve the issues of severance and poor local access provision. Offline construction would have significant environmental impacts including substantial land take, visual impact of new sections of road and associated new structures across the moors where currently there is none. This option would not meet the Community and Environment Development objectives.
- 6.22 Additional costs would be incurred as it would require approximately 17km of new dual carriageway to replace existing provision, plus connections to the new sections east of Brough and west of Bowes. Additional costs would also be required for realignment and amendment of the existing carriageway to make it suitable for local access to walkers, cyclists and horse riders. The route would continue to pass through the SAC as it currently does impacting on areas of high biodiversity value.

Construction of new dual carriageway to the north of the existing A66 would place new construction within the boundaries of the North Pennines AONB and would need to be compliant with the requirements of enhanced protections attached to such designations. The Applicant considers that this option may not be financially, technically or legally feasible due to substantially increased cost, policy designation and environmental challenges.

- 6.23 As mentioned above, this option runs between Cotherstone Moor SSSI and Bowes Moor SSSI, both are part of the SAC. This option may reduce the potential effects of poor air quality on the southern parts of the SAC but may increase the likelihood of effects to the northern section. The re-routing to the north may limit air quality effects to a shorter section of the existing A66 and potentially reduce emissions on SAC habitat (e.g., blanket bog). As this route runs between two sections of the SAC/SPA there should be no land take of SAC habitat. However, there is an increased potential of adverse effects on the North Pennine Moors SPA Annex II bird species due to higher mortality risk of from increased collision rates from high-speed traffic.
- 6.24 The Secretary of State notes that this option does not meet the Community and Environment Development objects. It may have more adverse effects on site integrity to the SAC, as well as adverse effects on the North Pennines AONB. The Secretary of State accepts that this option is not an alternative to the A66 Development.

### **Non-dualling alternatives**

#### *Tunnel beneath North Pennine Moors SAC*

- 6.25 This option would construct a new dual carriageway through a 7 to 8km tunnel passing beneath the SAC. There would be a requirement to realign the existing dual carriageway between Brough and Bowes to access the new tunnel. The existing road would be repurposed as a local connection, reducing community severance by improving access and facilities for walkers, cyclists and horse riders. Due to the onerous environmental impacts associated with tunnelling this alternative would not meet the Environmental objective of the Development. This option does have the potential to meet some of the Economic, Transport and Community objectives for those reasons outlined.
- 6.26 Tunnelling projects of this scale are technically challenging to deliver, especially beneath a designated site, as here. There would be significant increases in capital cost and additional higher operational and maintenance budget required. For instance, pumping stations to manage drainage and potential flood incidents.
- 6.27 Although this option may reduce the air quality impacts on the SAC expected from the operational phase of the A66 Development it would not eliminate adverse effects on the integrity of the SAC. Indeed, it may worsen the impacts as there would be localised air quality impacts at ventilation locations and tunnel entrances and would be in addition to the emissions arising from the existing surface level carriageway (retained for local access to meet reducing community severance objectives). The same adverse impacts effecting the SAC would remain. In addition, there are likely

to be hydrological and geomorphological impacts from underground earthworks which may affect groundwater levels, upon which the blanket bog relies.

- 6.28 This proposed alternative would not meet all the Development objectives, particularly the Environmental objective due to the significant environmental impacts associated with tunnelling of this scale. It is highly likely that this option would result in adverse effects on site integrity of the SAC in addition to potentially adverse effects on the integrity of the River Eden SAC. Accordingly, the Secretary of State does not consider this option to be a suitable alternative.

*Reduce existing dualled A66 to single carriageway though SAC Section*

- 6.29 This option would be to reduce the current level of dual carriageway between east of Stainmore and west of Bowes, a length of approximately 7-8 km. Due to this reduced scope it would not meet the Development objectives. Introducing a single carriageway section to a route already negatively impacted by road standard inconsistencies will not improve or maintain the long term development of the SRN. Tourism, services and jobs for local users would be negatively impacted due to reducing the current level of service provided by the A66. Single carriageway roads tend to have higher risk of incidents and show higher accident rates, as defined by the DfT COBALT software. Where incidents occur on single carriageways resilience would also be reduced. Maintenance would be more onerous on a single carriageway route due to the need to implement lane closures and stop/go traffic management for routine works. Journey time reliability would be impacted through a combination of reducing speed limits, reverting to mixed usage between cars, cyclists, high HGV, slow-moving agricultural vehicles and the increased likelihood of standing traffic which would in turn have adverse air quality impacts on the local area.
- 6.30 This option would incur additional costs due to the Development as proposed to convert 7-8km of existing dual carriageway to single, plus connections to local roads. It may reduce air quality impacts on the SAC due to reduced vehicle movements, but this is potentially offset by the increased likelihood of standing traffic and air pollution impacts on the wider area. Drivers are likely to seek alternative routes which may affect other designations, such as the Noth Pennine Dales Meadow SAC/SPA and the Helbeck and Swindale Woods SAC. This may also change the Affected Road Network for the Development and increase vehicle emissions from the B road to these designations.
- 6.31 Downgrading the existing A66 would not be in accordance with the Development objectives and may have adverse effects on site integrity of the SAC and potentially other sites of the National Site Network. The Secretary of State therefore does not consider this option to be an alternative solution to the A66 Development.

**Other non-dualling alternatives**

- 6.32 A number of non-dualling options were investigated by the Applicant but none of these alternatives would include the dualling of the single carriageway lengths of the existing A66. For example,

- Impose restrictions on HGVs, other freight traffic to reduce the adverse effects on the integrity of the SAC by reducing the number of vehicles travelling on the route and/or the speed at which they travel,
- implementing improvements to junctions along the length of the A66 to provide localised access and safety improvements,
- improvements to signage and real time traffic data along the A66 to reduce traffic volumes by providing information on alternative routes and raising awareness of incidents that may impact journey times.

6.33 Such alternatives would result in constraints on the scope of the A66 Northern Trans-Pennine Development and would not deliver the strategic needs case and the majority of Development objectives would not be met. As such, the Secretary of State does not consider these options as appropriate alternatives to the A66 Development.

### **Alternative modes**

6.34 The Secretary of State notes that the Applicant reviewed other modes of transport during the early stages of the Development to inform the Northern Trans-Pennine Routes Strategic Study (section 3.3 of the Project Development Overview Report APP-244).

6.35 Rail infrastructure and services was considered as alternatives to road-based travel along the A66 route. However, this was found to be unsuitable as there is no existing rail link between Penrith and Darlington which could be adopted for the purpose of public transport and for freight.

6.36 During the Northern Trans-Pennine Routes Strategic Study, the Stakeholder Reference Group indicated that bus service provision was low with partial coverage and infrequent services. Improved public transport provision would help improve access to services and jobs for local road users and the local community, and access for tourism served by the A66. There would not be any benefit to hauliers and the wider freight economy. There would potentially be a reduction in car use along the route, but not on freight traffic. These alternatives would not meet the Development objectives and are not alternative solutions to the A66.

6.37 The Secretary of State concludes that these options do not meet the strategic need for the Development and thus are not suitable alternatives to the A66 Development.

### **Conclusions on Alternative Solutions**

6.38 The Secretary of State has considered information on alternatives submitted by the Applicant and was satisfied that no feasible alternative solution exists that would represent a lesser effect. Having identified the objectives of the Development and considered all alternative solutions that provide a means of fulfilling these objectives, the Secretary of State is also satisfied that no alternative solutions are available.

## **7. STAGE 4: IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST**

- 7.1 The Habitats Regulations derogation provisions provide that a project having an AEol of a European site may proceed (subject to a positive conclusion on alternative solutions and provision for any necessary compensation) if the project must be carried out for Imperative Reasons of Overriding Public Interest (“IROPI”)
- 7.2 IROPI can include social and economic benefits, in addition to reasons of human health, public safety, or beneficial consequences of primary importance to the environment. Where a priority habitat or species would be affected, social and economic benefits can only be considered if an opinion has been obtained from the appropriate authority supporting this approach.
- 7.3 The North Pennine Moors SAC hosts Blanket bog, which is considered by NE, in their letter dated 20 December 2023 in response to the Secretary of State’s consultation on 7 December 2023, as being a mosaic of both active and non-active forms of blanket bog. The active sections of the bog have the ability to return to favourable condition and indicates that it meets the requirements to be described as a priority habitat. NE set out that they had reviewed the Applicant’s walkover survey and found no evidence to suggest the blanket bog within the affected boundary is ‘degraded’ or ‘not actively forming new peat’. NE set out that the Applicant’s Target notes, which accompany the walkover survey, identifies several species that have the characteristics of the vegetation that is normally peat forming (i.e. moss assemblage with Sphagnum, the presence of cotton-grasses and heather) and that on a precautionary basis the Applicant had assessed the blanket bog as priority habitat for the purpose of their without prejudice derogation case. Other IPs, such as the Friends of the Lake District, Transport Action Network, Dr Martin in their responses to the 7 December 2023 consultation also set out that the information in the Applicant’s walkover survey does not provide evidence that the blanket bog is not a priority habitat. The Secretary of State is content that NE’s response confirms that the blanket bog is priority natural habitat.
- 7.4 The Secretary of State agrees that the Applicant treated the blanket bog as a priority habitat in their walk over survey. The Secretary of State agrees with NE that sections of the blanket bog habitat identified meets the requirements to be described as priority natural habitat. Taking this precautionary approach at each stage of the HRA process is in line with the Joint Guidance on HRA. Approximately 8ha of this habitat would be adversely affected by the Development. Given the impact on a priority habitat, the IROPI to be considered under regulation 64(2)(a) of the Habitats Regulations are those of human health, public safety or beneficial consequences of primary importance to the environment, in the first instance. The updated HRA Guidance advises that social or economic benefits may be other IROPI and sets out the process to be followed if the Secretary of State decides to seek the opinion of the Secretary of State for Environment, Food and Rural Affairs about this under regulation 64(2)(b).
- 7.5 The parameters of IROPI are explored in ‘the 2021 Joint Guidance’ which identify the following principles:
- imperative – it is essential that it proceeds for public interest reasons;



- in the public interest – it has benefits for the public, not just benefits for private interests; and
- overriding – the public interest outweighs the harm or risk, to the integrity of the European site that is predicted by the appropriate assessment.

7.6 The Joint HRA guidance sets out that national strategic plans, policy statements and major projects are more likely to have high level of public interest and to be able to show overriding public interest. Additionally, the guidance identifies that plans or projects that only provide short-term or very localised benefits are less likely to be able to demonstrate IROPI.

7.7 The Applicant provided a case for IROPI in section 4 of their without prejudice derogation case. The Secretary of State has reviewed this information and having regard to relevant guidance has considered the three key elements of the IROPI test below.

### **The Applicant's case for IROPI**

7.8 The Applicant set out in section 4.3 of the without prejudice derogation case a compelling case for why the Development is “imperative” and that those reasons are in the ‘public interest’ and that the public interest reasons are ‘overriding’. The arguments are structured around public safety, human health, socio-economic benefits and environmental improvements.

#### Public safety

7.9 The Applicant explains in paragraph 4.3.2 that the A66 Development is necessary so it can deliver urgent safety upgrades to the existing A66. This was detailed in the Case for the Project in 3.2 ES Chapter 2: the Project to improve road safety, during construction and operation and maintenance for all including road users, walkers, cyclists, horse riders, non-motorised users, road workers, local businesses and residents. National policy confirms the need for public safety road improvements. In particular, the NSPNN (paragraph 4.60) states:

*“New highways developments provide an opportunity to make significant improvements. Some developments may have safety as a key objective, but where safety is not the main driver of a development the opportunity should be taken to improve safety, including introducing the most modern and effective measures where appropriate. Highway developments can potentially generate significant accident reduction benefits when they are well designed.”*

7.10 Although the A66 is recognised as being of national and regional strategic importance it is still 30km (18 miles) of single carriageway in six separate sections along its 80km (50 miles) length. This has a detrimental impact on users through road safety, reliability, resilience and overall attractiveness of the route (paragraph 4.3.4). There are also local slow moving agricultural traffic and non-motorised users traffic making short journeys. These forms of traffic can have adverse effect on other road users, especially on the single carriageway sections. This mix of carriageway as well as poorly available diversionary routes that can be utilised when incidents occur negatively affects road safety (paragraph 4.3.5).

- 7.11 The Applicant explains that the A66 has average casualties 50% higher than the average across the Strategic Road Network, with road traffic accidents being the major cause of incidents and closures (paragraph 4.3.15). There are several accident cluster sites with a direct correlation between road accidents within the single carriageway lengths of the A66 route and where dualled lengths meet or are reduced to single carriageway paragraph 4.3.6). The Applicant's analysis suggests that the Development could save 281 personal injury accidents over the 60 year period resulting in an overall reduction of 530 casualties (paragraph 4.3.20). As set out above, the need for public safety road improvements is reflected in the National Policy Statement for National Networks ("NPSNN"). The Applicant explains that the urgent need to reduce fatalities and other accidents and improve public safety for all is in the public interest for the benefit of road users (4.3.21). The upgraded A66 is contributing to the Government's long-term plan for the strategic road network providing benefit to road users, non-motorised users, people living and working in the local area and across the wider region (paragraph 4.3.21).
- 7.12 The Applicant explains that the Development would improve forward visibility by removing short merges and diverges through simplifying junction accesses on and off the A66, including right turns across live traffic. By removing these complexities, it is predicted that road safety for users would improve overall (paragraph 4.3.7).
- 7.13 By having a consistent dual carriageway standard speed of 70mph, except for 50mph at Kemplay Bank, is also predicted to reduce the number of accidents. The current varying road standards lead to difficulties in overtaking, poor forward visibility and difficulties at junctions due to short merges and diverges and right turnings off and on to the A66 and these matters are considered to add complexity to the road and are a factor in increased road accidents. The existing A66 route will be repurposed as part of the local road network providing better safer routes for cyclists and pedestrians (paragraph 4.3.8).
- 7.14 The Applicant describes where public rights of way are severed by the upgraded A66, then these have been grouped and redirected to the nearest grade-separated crossing facility to provide safer places to cross the new dual carriageway. These new crossings may be grade-separated junction, accommodation underpass or overbridge or a designated walker, cyclist and horse rider underpass or bridge. All these are improvements in the current A66 (paragraph 4.3.9).
- 7.15 The Secretary of State is satisfied that the Development will offer imperative benefits to public safety, such as reduction in fatalities, by the predicted overall road safety improvement for users and providing better and safer cyclists and pedestrian routes.

#### Human Health

- 7.16 The Applicant reiterated that one of the Development objectives reflects the need for human health improvements: "*seeking to improve access to services and jobs for local road users and local community; minimising adverse impacts on the environment and where possible optimise environmental improvement opportunities; and reducing impact of the route on severance of local communities.*"

- 7.17 The Applicant in providing their case for imperative human health benefits that would be delivered by the improved A66 have drawn upon their human health assessment in their Environmental Statement Chapter 13 [APP-056].
- 7.18 Beneficial impacts to population and human health receptors are expected through re-connecting communities and providing better links between settlements along the route as well as improving access to services such as healthcare, employment areas and education. The human health impact of the Development is assessed as being positive overall in operation due to improved connectivity, improved access to health facilities, creation of improved public right of way network to encourage active travel [paragraph 4.3.26].
- 7.19 The Development is also expected to result in permanent, route wide, significant beneficial effect for walkers, cyclists and horse riders by reducing severance and improved connectivity and better local travel patterns through provision of new walking and cycling routes. A more accessible and better-connected route will help to make active travel options more attractive with concurrent health benefit effects for walkers, cyclists and horse riders and increased use by walkers, cyclists and horse riders (paragraph 4.3.27). The Operational Assessment in Chapter 13 of the Environmental Statement indicated that the benefits by Scheme may not be significant, the route-wide benefits would be of moderate benefit but permanent and significant for walkers, cyclists and horse riders across the whole route (paragraph 4.3.28).
- 7.20 The Environmental Statement Chapter 13 explains that the improvements to the A66 would reduce driver stress through less congestion, increased connectivity and reliability of the route contributing to positive wellbeing effects for users (paragraphs 4.3.29 and 4.3.30).
- 7.21 Congestion is expected to be reduced leading to more reliable, shorter journey times. This is expected to improve connectivity which can benefit mental and physical health through access to employment, education facilities, health and social care, sporting, leisure and cultural facilities and increased opportunities for social interaction. The Applicant considers that the improved connectivity resulting from the Development is likely to result in an increase in the number of people accessing these resources which has been assessed as a positive health effect.
- 7.22 The Noise and Vibration Assessment [ES Chapter 12, APP-055] identifies beneficial effects on residential and non-residential receptors with a reported beneficial health effect. The operation of the Development is predicted to give rise to beneficial effects on 408 residential and 46 non-residential receptors and predicted to experience a reduction in noise where the existing A66 is by-passed and where the traffic volume on the by-passed roads decreases. The Rokeby scheme will encourage traffic to use the A66 instead of travelling through Barnard Castle with a decrease in traffic flow and noise emissions within the town. This will result in a significant beneficial effect on 60 residential and 27 non-residential receptors with improved wellbeing through increased enjoyment of outdoor space and a perceived improvement in the quality of the living environment.

- 7.23 The Development will generate new job opportunities in the study area throughout the five-year construction period with the creation of a range of jobs. The Skills and Employment Strategy [2.7 Environmental Management Plan Annex B12, APP-032] will seek to enable local people to access the employment and training opportunities resulting from the presence of the large scale 5 year construction project which may lead to positive health outcomes and the ability to access healthier lifestyle choices through increased income. When operational the Development will improve accessibility of employment sites, with businesses benefiting from the improved connectivity, aiding businesses with efficiency and helping to lower costs leading to improved overall earnings and positive likely significant effects on the quality of life. There is the potential for long term health benefits resulting from improved future employment prospects (paragraphs 4.3.33 and 4.3.34).
- 7.24 The Applicant explains that the Development is a long-term infrastructure project, providing benefits to human health to road users, non-motorised users and people living and working in the local area and across the wider region (paragraph 4.3.36). They explain that it will contribute to the transformation of the North of England with associated health outcomes through mental health and access to healthier lifestyle choices and benefits from improved future employment prospects, improved accessibility and reduced severance (paragraphs 4.3.35 and 4.3.37).
- 7.25 Whilst the Secretary of State recognises that there will be some negative impacts on human health as set out in the ES and these are considered in the decision letter with regard to the weight given to them in the planning balance and the Secretary of State has similarly taken into account those negative impacts for these purposes, the Secretary of State is satisfied that overall the Development will deliver lasting net benefits imperative for human health.

### **The Secretary of State's conclusions on the IROPI case**

- 7.26 The Secretary of State notes the issues raised by Transport Action Network ("TAN") and other IPs regarding impacts of air quality and noise on human health appear not to be addressed in the IROPI section of the Applicant's without prejudice derogation case. TAN in their response dated 22 September 2023 set out three points regarding the IROPI test that firstly insufficient information has been provided to justify any assertion that the IROPI tests have been met; secondly that there have been no assessment of alternative solutions that do not entail adverse effects on integrity; and thirdly that there has been no assessment of what reasons would amount to IROPI and that reasons relating to human health, public safety or beneficial are engaged and even if such reasons were to amount to IROPI, an explanation would be needed as to why public safety benefits could not be achieved by an alternative solution. In dealing with the first point the Secretary of State takes the view that sufficient information has been provided to allow him to appropriately consider matters. He further notes the reference TAN has made to the PINS Advice Note Ten: Habitats Regulations Assessment and that applicants should include with their DCO application such information as may reasonably be required to assess potential derogations and in his view the Applicant has reasonably provided enough information. In relation to the second point, the Secretary of State has considered the Applicant's assessment of the alternative solutions has been fully undertaken. The

third point raised by TAN relates to the assertion that the IROPI reasons are not engaged. Dr Boswell also raised these points. The Secretary of State takes a different view and is satisfied that the reasons of public safety and human health allow him to reach the conclusion that the IROPI test has been satisfied. Dr Martin in her response dated 21 December 2023 raises the concern that the human health benefits ignores the negative human health effects of the increase in noise pollution especially during construction and the decline in air quality. The Secretary of State, while noting the concerns raised, is satisfied that the impact of air quality and noise on human health has been appropriately assessed in the Applicant's ES and covered in his consideration set out in the Decision Letter. The Secretary of State notes that there are other human health impacts not set out in the IROPI section of the Applicant's without prejudice derogation case but the Secretary of State is satisfied that these are fully addressed in the ExA's Report and the accompanying Decision Letter.

- 7.27 The NPSNN sets out the need for, and the Government's policies to deliver, improvement through NSIPs to the national road and rail networks in England. The NPSNN highlights the importance of the strategic road network in providing critical links between areas, enabling safe and reliable journeys. The existing A66 is a key national and strategic transport corridor, being the most direct east-west route between Tees Valley, North, South and West Yorkshire, the East Midlands, eastern England, north Cumbria and the central belt of Scotland and Cairnryan (for ferry access to Ireland). The ExA noted the importance of the A66 to users in Scotland, Northern Ireland and the north and east of England [ER 6.2.1], and that it is a key national and regional corridor in the movement of goods and people [ER 4.2.1].
- 7.28 On the basis of the evidence submitted by the Applicant and in the ExA's Report, the Secretary of State is satisfied that there are imperative reasons for improving the A66 to reduce casualties and to provide better access for local community to amenities and jobs which can support improved physical and mental health. The Secretary of State is content that the long term benefits the Development will deliver are imperative reasons for the project to proceed and are in the public interest.
- 7.29 In considering whether there are overriding reasons in the public interest for the Development to be allowed, the Secretary of State is required to determine the balance between the harm to the integrity of the SAC and the benefits that would accrue from the Development. In terms of the harm to the SAC, the extent of the damage to the blanket bog represents a relatively small fraction of the area in the SAC (0.021%). An active blanket bog is classed as a priority feature and on a precautionary basis is assumed to be priority habitat for the purpose of this assessment. As noted above, where a priority habitat feature is affected, the reasons can only include socio-economic matters in the event that the appropriate authority advises that this is acceptable. Whilst the Secretary of State notes that reasons relating to the environment as well as social and economic benefits were put forward by the Applicant as imperative reasons of overriding public interest for the Development, the Secretary of State has not relied on these in his conclusion as he is satisfied that there are sufficient reasons of overriding public interest relating to public safety and human health.

- 7.30 The Secretary of State is of the view that with regard to the balance between the harm to the integrity of the SAC and the benefits, there are overriding public safety and human health reasons to progress the Development and that there are imperative reasons of overriding public interest for the Development to proceed.
- 7.31 In accordance with regulations 64 and 68 of the Habitats Regulations, where a project is agreed to, notwithstanding a negative assessment of the implications to a site of the UK National Site Network, this is subject to securing any necessary compensatory measures to ensure the overall coherence of the National Site Network. Compensatory measures are discussed further at Section 8 of this HRA report.

## 8. STAGE 5: COMPENSATORY MEASURES

- 8.1 The Secretary of State having in accordance with regulation 64 determined that there are no alternative solutions, and that the Development must be carried out for imperative reasons for overriding public interest, has considered below the requirements of regulation 68, which are to secure that any necessary compensatory measures are taken to ensure that the overall coherence of the national site network is protected.

### **The proposed compensatory measures**

- 8.2 As described in section 5 of this HRA report, implementation of the Development could lead to indirect impacts from air quality on habitat loss and habitat degradation to Annex I blanket bog habitat in the North Pennine Moors SAC.
- 8.3 The impacts relate to effects from an increase in nitrogen deposition, ammonia and nitrogen oxide emissions on an area of blanket bog habitat totalling approximately 8.28ha (subject to rounding), which has the potential to cause damage to or loss of species or degradation of habitat.
- 8.4 The Applicant has worked closely with NE to develop an Outline Blanket Bog Compensation and Management Plan (OBCMP) which sets out the proposed compensation measures. The Applicant states that the OBCMP will be a certified document under the DCO. The DCO will provide for a Detailed Blanket Bog Compensation and Maintenance Plan (DBCMP) to be produced by the Applicant, in accordance with the OBCMP, and in consultation with NE and implemented to the Secretary of State's satisfaction.
- 8.5 The North Pennine Moors SAC has approximately 39,181.58ha of blanket bog. Beyond the SAC boundary the North Pennines AONB has almost 30% of England's blanket bog habitat. The North Pennines AONB has around 90,000ha of peatland, the majority of which is blanket bog.
- 8.6 The compensation site may be located within the North Pennine Moors SAC boundary, adjacent to the SAC boundary, or in other areas of blanket bog where restoration would provide maintained or improved overall coherence of the National Site Network. The Joint Guidance states that "*Compensatory measures can include creating or restoring the same or very similar habitat on areas of little or no conservation value:*
- *within the same site – if it exists*
  - *at a suitable location outside the site*

*If the area providing compensatory measures is not within the European site, it should become designated as part of the European site. Until that happens, it's protected by government planning policy."*

- 8.7 The Applicant has been in regular consultation with NE with regard to the compensatory measures that could be implemented, the size/area of compensation site, the identification of the compensation site and the draft DCO mechanism. NE's

views and comments have been incorporated into the final OBCMP. The Applicant has also had initial discussions with the North Pennines AONB Partnership regarding opportunities for compensation land within the North Pennines AONB.

- 8.8 The Applicant has set out that it will continue to engage with NE, North Pennine AONB Partnership, landowners and other stakeholders to identify an area of blanket bog that will be restored to deliver the necessary compensatory measures and monitoring programme in the DBCMP to protect the overall coherence of the National Site Network.
- 8.9 The area of bog affected has been calculated to be approximately 8.28ha (subject to rounding). During consultation, NE have agreed a compensation area of approximately 10ha of blanket bog, based on a ratio of marginally more than 1:1, would be appropriate as the potential effect is a deterioration in blanket bog condition rather than complete loss of habitat.
- 8.10 The Secretary of State is aware that a site has not been selected at the completion of this HRA report. However, the Applicant has stated that site selection in consultation with NE will be in accordance with the provisions of the securing mechanism contained within the DCO, and other stakeholders such as the North Pennines AONB Partnership, as appropriate. Site selection criteria is likely to be based on the following,
- Distance from the impacted area, preference is for suitable sites closer over those that are further away.
  - Location in relation to the boundary of the SAC. In particular an area within the fragmentation action zone<sup>5</sup> of the SAC would be prioritised within the SAC, or a site in the network enhancement zone<sup>6</sup> outside the existing SAC boundary, where the proposed compensation would reduce fragmentation and improve resilience of the blanket bog.
  - Current status of the habitat, the pressures leading to it being of minimal conservation value and the ability to provide measurable and meaningful improvement as compensation.
  - Site ownership status and ability to reach agreement on implementation and long-term management.
  - Ensuring the compensation measures themselves will not themselves have a negative effect on the National Site Network.
- 8.11 The Secretary of State notes that the suite of restoration and rehabilitation measures that have been proposed in the OBCMP are best practice based on scientific evidence and accepted by NE as being established methods to restore blanket bog. The pressures and threats to blanket bog within the North Pennine Moors SAC were identified through review of various relevant NE reports and observations from site visits and have informed the measures presented with the OBCMP. These measures

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<sup>5</sup> in Habitats Networks (England) spatial data set published by Natural England  
<https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england>

<sup>6</sup> in Habitats Networks (England) spatial data set published by Natural England  
<https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdbfaeb159/habitat-networks-england>



include grip and gully blocking, peat bank/hag reprofiling, drain management, and any other measures that will be relevant to the compensation site selected. It is anticipated that a minimum of ten years will be required for the compensation measures to become successful.

8.12 The restoration measures would improve the condition of blanket bog in the selected location to fully compensate the negative impacts of the A66 and ensure that overall coherence of the national site network is protected. The restoration measures are described in detail in the OBCMP but in summary are:

- Rewetting is the primary method of restoring drained blanket bog, such as blocking grips, gullies and drains to promote the water table to rise and encourage the growth of peat forming moss species.
- Reprofiling peat banks/hags followed by inoculation with peat forming moss species encourages active peat growth, improves structural diversity of the peat and the composition of the vegetative species. Peat banks/hags have bare edges with poor water retention and low species diversity resulting in bare peat within the site.
- Cutting tall heather reduces the overall height of the stands, reducing the risk of wildfire, reducing shading impacts on ground flora and peat forming species.
- Adaptive grazing will also be used where appropriate such as in areas of bare peat, trampling, over/under grazing occurs. Grazing can reduce the stands of grass species which can outcompete peat-forming species, trample heather stands and bracken reducing their shading effects and improving the vegetation on-site.
- A combination of these measures depending on the exact requirements of the selected site and the Applicant will work with NE, AONB Partnership and landowners in determining the most appropriate measures for the site when preparing the DBCMP.

### **Delivery mechanism**

8.13 The mechanism proposed by the Applicant to secure the compensation measures is through amendments to article 53, of, and Schedule 10 to, the draft DCO. In summary, the mainline A66 must not be completed and opened for public use until

- a Detailed Blanket Bog Compensation and Maintenance Plan, which has been prepared in accordance with the OBCMP, has been approved by the Secretary of State, following consultation with Natural England; and
- the approved Detailed Blanket Bog Compensation and Maintenance Plan has been implemented to the Secretary of State's satisfaction following consultation with Natural England.

8.14 Natural England's preferred approach for article 53(11) is that "*No part of the mainline A66 is to be commenced until a detailed blanket bog compensation and maintenance plan has been submitted to and approved in writing by the Secretary of State following consultation with Natural England*".

- 8.15 The Applicant provides an explanation of their preferred approach for article 53(11) is that “*The mainline A66 must not be completed and opened to the public use until—*
- (a) a detailed blanket bog compensation and maintenance plan, prepared in accordance with the outline blanket bog compensation and maintenance plan has been submitted to and approved in writing by the Secretary of State, following consultation with Natural England; and*
  - (b) the approved detailed blanket bog compensation and maintenance plan has been implemented to the Secretary of State’s satisfaction, following consultation with Natural England.”*
- 8.16 The Secretary of State has noted NE’s view but considers that the Applicant’s approach is acceptable. This decision is in line with the PINS Advice Note 10 (v9) which states,
- “3.32 Compensatory Measures should be in place and effective before the negative effect on a European site(s) could occur”.*

### **Financially feasible**

- 8.17 The Applicant has provided indicative costs for the restoration measures with examples of where such interventions have been successful. The bulk of costs are likely to be in upfront capital costs, for example peat damming, though there may be longer term recurring operational costs for measures such as grazing management. The Applicant has noted that on going vegetation and hydrological costs over the period of restoration will be needed to be incorporated. The total cost of restoration can be influenced by whether pre-restoration activities are needed or not and what is required at site level. These decisions are likely to be made once the compensation site has been selected but it is likely that at least one measure will be required at any site that is selected for restoration.
- 8.18 The indicative costs that the Applicant sets out in Table 7 are restricted to the costs of restoration works and do not include other costs associated with bog restoration such as fees and land agreements. The Applicant has had discussions with the North Pennines AONB Partnership and their experience with restoration of peat habitats within the AONB can cost in the region of £10,000 to £11,000 per hectare. This indicates a cost in the region of £150,000.
- 8.19 The Applicant considers these costs to be financially viable and states that they will be funded as part of the project delivery.

### **Agreement with the appropriate nature conservation body**

- 8.20 NE has been consulted by the Secretary of State and by the Applicant as part of their without prejudice derogation case, which included the package of compensatory measures. NE’s agreement was received on 29 November 2023 in which they stated they were satisfied with the suitability of the Outline Blanket Bog Compensation and Management Plan and it being pursuant to regulation 68 of the Habitats Regulations 2017 (as amended).

### **The Secretary of State's conclusion on compensatory measures**

- 8.21 The Secretary of State has considered the proposed compensation package and information provided by the Applicant and other interested parties during the post-examination consultations and has had due regard to the Joint HRA guidance. The Secretary of State is content that the proposed compensation measures will be effective and are appropriate, secured and agreed with NE as the appropriate nature conservation body. The Secretary of State concludes that they are legally, financially and technically feasible and that monitoring will be in place to ensure the compensatory measures are delivered and are in place for the time scales needed.
- 8.22 The Secretary of State has considered the provisions of regulation 68 of the Habitats Regulations to secure the necessary compensatory measures are taken to ensure the overall coherence of the National Site Network is protected and concludes that this would be satisfied with the compensatory measures in place.

## **9. SUMMARY OF CONCLUSIONS**

- 9.1 The Secretary of State has carefully considered all the information presented within the application, during examination and the representations made by IPs, along with the ExA's Report and the responses to the Secretary of State's further consultations and requests for information.
- 9.2 The Development is not directly connected with, or necessary to, the management of the European sites, and is not likely to have a significant effect on Helbeck and Swindale Woods SAC and Moor House Upper Teesdale SAC.
- 9.3 The Development is not directly connected with, or necessary to, the management of the European sites, and is likely to have a significant effect on River Eden SAC, North Pennine Moors SAC and North Pennine Moors SPA. The Secretary of State therefore carried out an appropriate assessment to determine whether there would be any adverse effects on site integrity of these European sites.
- 9.4 The Secretary of State concludes that when mitigation measures are taken into account, adverse effects on the integrity of the River Eden SAC, North Pennine Moors SAC and North Pennine Moors SPA can be excluded, but subject to the blanket bog priority habitat within the SAC, for which adverse effects could not be excluded.
- 9.5 The Secretary of State is satisfied that there are no alternative solutions that would fulfil the objectives of the Development and that there are imperative reasons for overriding public interest for the Development to be carried out. The Secretary of State is satisfied that the public benefits of the Development would override the impacts to the blanket bog priority habitat within the North Pennine Moors SAC, subject to the securing of compensatory measures.
- 9.6 The Secretary of State has therefore concluded, as competent authority for the purposes of the Habitats Regulations, that taking into account the package of compensatory measures it is permissible for him to give consent for the Development in spite of adverse effects which it would have on the integrity of on the blanket bog priority habitat within the North Pennine Moors SAC.

## **Annex 1 Documents used to inform this HRA Report**

### Application Documents

- Environmental Statement (including supporting figures and appendices)
- Habitat Regulations Assessment (HRA) Likely Significant Effects Report
- Habitat Regulations Assessment (HRA) Statement to Inform Appropriate Assessment
- Outline Environmental Management Plan (updated during the course of the examination)

### Examination Documents produced by Applicant

- Statement of Common Ground between National Highways and Natural England
- Statement of Common Ground between National Highways and the Environment Agency
- Response to the ExA's First Written Questions
- Response to the ExA's Second Written Questions
- Response to the ExA's Request for Further Information
- 7.52 HRA Supplementary Note – North Pennine Moors SAC/SPA, Deadline 9

### Examination Documents produced by Interested Parties

- Submissions of Natural England
- Submissions of the Environment Agency

### ExA Procedural Decisions

- Report on the Implications for European Sites
- ExA's First Written Questions
- ExA's Second Written Questions

### Submissions after close of examination

- Natural England (8<sup>th</sup> September 2023) response to Secretary of State letter dated 30<sup>th</sup> August 2023
  - National Highways (25<sup>th</sup> August 2023) Appendix A HRA Second Supplementary Note – North Pennine Moors SAC/SPA; response to Secretary of State request for information dated 11<sup>th</sup> August 2023.
  - National Highways (27 October 2023) Habitats Regulations Assessment: Position Statement Annex 5
  - National Highways (27 October 2023) Habitats Regulations Assessment: Information submitted without prejudice to support a Derogation Case Annex 6
  - Habitats Regulations Assessment: Information submitted without prejudice to support a Derogation case (27 October 2023) Annex 6. Annex 1: Outline Blanket Bog Compensation and Management Plan
  - National Highways (27 October 2023) Annex 2: Addendum to the Environmental Statement in relation to the Outline Blanket Bog Compensation and Management Plan
- NB. This list is not exhaustive. The HRA Report is informed by the Application and submissions to the examination, together with submissions after the close of examination during the period of determination and redetermination.

## Annex 2

Conservation objectives for the sites considered in the appropriate assessment

The conservation objectives reproduced below are available from:

<http://publications.naturalengland.org.uk/category/6490068894089216>

NB. In the case of all European sites identified below, the Conservation Objectives are to be read in conjunction with the accompanying Supplementary Advice documents, which provides more detailed advice and information to enable the Application and achievement of the Objectives set out.

### River Eden SAC (UK0012643)

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and,
- The distribution of qualifying species within the site.

### North Pennine Moors SAC (UK0030033)

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

### North Pennine Moors SPA (UK9006272)

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features; and
- The distribution of the qualifying features within the site.