

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

M5 Junction 10 Improvements Scheme

2 June 2025

Contents

1. INTRODUCTION	1
Background.....	1
Habitats Regulations Assessment	1
The Report on the Implications for European Sites (“RIES”) and consultation with the appropriate nature conservation body	2
Changes to the Application during examination	3
Documents referred to in this HRA Report	3
Structure of this HRA Report	3
2. DEVELOPMENT DESCRIPTION.....	4
3. LOCATION OF THE DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES..	4
Location and existing land use	4
European sites potentially affected by the Development.....	2
4. STAGE 1: ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS (“LSE”)	5
Potential effects from the Development.....	5
Sites and features which could be affected	5
Conclusion of initial screening	9
Summary of sites with no LSE.....	15
Summary of sites with LSE.....	15
Conservation objectives.....	16
5. STAGE 2: APPROPRIATE ASSESSMENT	16
Adverse Effects on the Integrity (“AEol”) of the Severn Estuary SAC and Ramsar Site	17
Conclusion of the appropriate assessment and integrity test	23
6. SUMMARY OF CONCLUSIONS	23

List of Figures

Figure 1 Location of the Development in relation to European sites potentially affected.....	4
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Appendices

Annex 1 Conservation Objectives	
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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 "M5 Junction 10 Improvement Scheme" ("the Development"). The HRA Report includes an Appropriate Assessment ("AA") for the purposes of regulation 63 of the Habitats Regulations.
- 1.2 The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 ("the 2019 Regulations") and these 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 Gloucestershire County Council ("the Applicant") submitted an application for development consent ("the Application") to the Planning Inspectorate ("the Inspectorate") on 19 December 2023 under section 37 of the Planning Act 2008 ("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 alteration of a highway within the meaning of sections 14(1)(h) and section 22 of the PA2008.
- 1.5 The Application was accepted for examination by the Inspectorate (under the delegated authority of the Secretary of State) on 16 January 2024.
- 1.6 The Applicant requested changes to the Development to which the Application relates during the examination, as set out in Section 1.5 of the Examining Authority's ("ExA") Recommendation Report ("the Recommendation Report"). Eight changes to the Development were put forward as two formal change request applications.
- 1.7 The change requests were accepted into the examination on 4 September 2024 and 1 October 2024. The ExA determined that neither of the proposed changes were so material that either individually or collectively they constituted a materially different project. Nor were the proposed changes considered, individually or cumulatively, to lead to the project being different in nature or substance to that which was originally applied for. The ExA issued two Procedural Decision confirming this on 17 September 2024 and 18 October 2024 subject to the subsequent fulfilment of duties under regulations 7, 8 and 9 of the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 ("CA Regulations"). The Applicant subsequently provided a regulation 9a notice and regulation 9b certificate to demonstrate that it had fulfilled those duties.
- 1.8 The examination concluded on 4 December 2024. The ExA submitted the Recommendation Report to the Secretary of State for Transport on 4 March 2025.
- 1.9 The Secretary of State's conclusions in relation to European sites have been informed by the Recommendation Report (including Appendix C of the Recommendation Report) and documents and representations submitted during the examination.

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 policy¹, 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 [ER C.1.4].
- 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—
(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 [ER C.1.17]. 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 AA for the purposes of regulation 63 of the Habitats Regulations.

The Report on the Implications for European Sites (“RIES”) and consultation with the appropriate nature conservation body

- 1.16 The ExA, with support from the Planning Inspectorate’s Environmental Services Team, produced a Report on the Implications for European Sites (“the RIES”) [PD-019]. 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 5 of the examination (1 October 2024). 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 22 October 2024 and 19 November 2024 [ER C.1.13].
- 1.17 Regulation 63(3) of the Habitats Regulations requires competent authorities (in this case the Secretary of State), if they undertake an AA, to consult the appropriate nature

¹ Paragraph 194 of the National Planning Policy Framework (NPPF) December 2024.

conservation body and have regard to any representations made by that body. Section 5 of this HRA sets out further information on how that consultation had been undertaken.

- 1.18 The Applicant provided comments on the RIES [REP9-005] at Deadline 9 (19 November 2024). Although specific comments on the RIES were not received by NE responses to the examination were provided by NE in respect of Habitats Regulations matters.
- 1.19 A signed Statement of Common Ground (“SoCG”) between the Applicant and NE was submitted with the DCO application at Deadline 10 (28 November 2024). Subsequent references to the SoCG between the Applicant and NE in this HRA Report are to the Deadline 10 version. The SoCG confirmed that all matters relating to HRA were agreed between the two parties and that there were no HRA matters outstanding between them in respect of the Development.

Changes to the Application during examination

- 1.20 In respect of the amendments to the Application by way of the change requests identified above and described at Section 1.5 of the Recommendation Report, the Secretary of State notes that the changes would make no material difference to the outcome of the ES and HRA conclusions [ER C.1.21 – C.1.29].

Documents referred to in this HRA Report

- 1.21 This HRA Report has taken account of and should be read in conjunction with the documents produced as part of the application and examination available on the Planning Inspectorate website.
- 1.22 The Applicant submitted with the DCO application:
- “Environmental Statement Appendix 7.13: Habitats Regulation Assessment: Screening [APP-099], updated as [REP3-024]” (referred to as the “HRA Screening Report”)
 - “Environmental Statement Appendix 7.13: Habitats Regulation Assessment: Screening Addendum [AS-094]
 - Environmental Statement Appendix 7.14: Habitats Regulation Assessment: Statement to Inform Appropriate Assessment [APP-100], updated as [REP3-026] (referred to as the “HRA SIAA”)
 - Environmental Statement Chapter 2 – The Scheme [APP-061]
 - Environmental Statement Chapter 7 Biodiversity [APP-066], updated as [REP1-012] and [REP10-043]
 - Environmental Statement Appendices 7.1 – 7.12 [APP-086 to APP-098] and 7.15 - 7.19 [APP-101 to APP-105 and AS-022].
- 1.23 The above-mentioned documents are the principal documents prepared by the Applicant in support of HRA matters [ER C.1.16].
- 1.24 The ExA has set out records of examination procedure, evidence and reasoning to support their HRA in Appendix C [ER 4.1.1 and ER C.1.1].

Structure of this HRA Report

- 1.25 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 projects (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 AA and conclusions (HRA Stage 2).
- Section 6 summarises the Secretary of State's conclusion in respect of HRA Stages 1 and 2.

2. DEVELOPMENT DESCRIPTION

- 2.1 A description of the Development and its setting is included in Chapter 2 of the Applicant's document titled 'Introduction to the Application TR010063 - APP 1.1' dated December 2023 [APP-001]. The Development is described in paragraph 6 of the Secretary of State's decision letter dated 4 June 2025.
- 2.2 In brief summary the DCO as applied for would provide:
- alterations to the existing motorway junction 10 on the M5;
 - widening of the A4019 (Tewkesbury Road) to a two-lane carriageway from Withybridge Lane to Gallagher Retail Park; and
 - the construction of a new link road to the west of Cheltenham between the A4019 and the B4634 [ER 1.3.8].
- 2.3 The Development is proposed to be constructed within a period of 30 months [ER 3.4.25] (planned to commence in 2025, and open for traffic in 2027) [Environmental Management Plan (1st iteration) APP-136, paragraph 1.6.1].
- 2.4 The Applicant's HRA Screening and HRA SIAA report consider the likely significant effects ("LSE") of the construction and operation of the Development.

3. LOCATION OF THE DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES

Location and existing land use

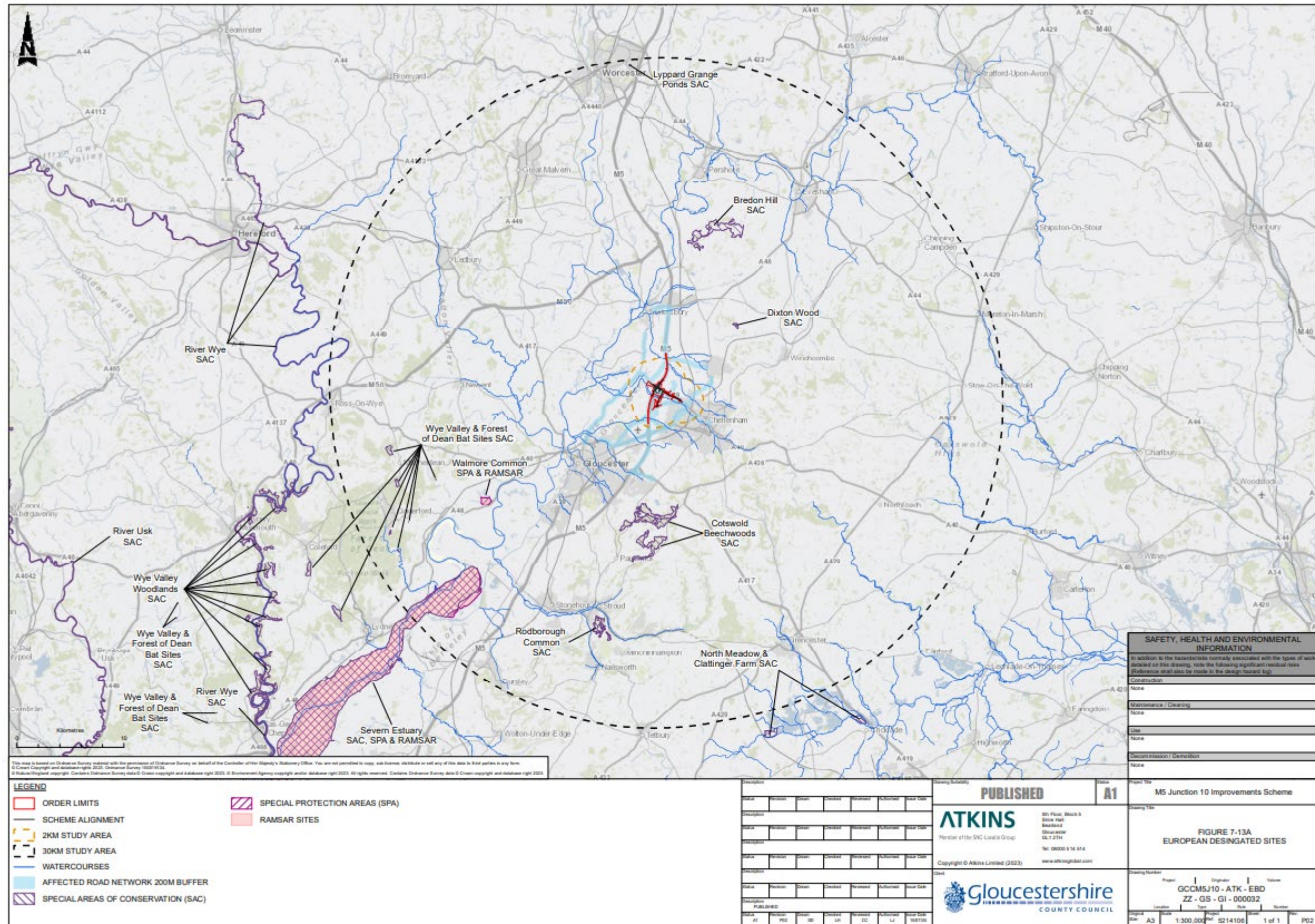
- 3.1 The Development lies to the west and northwest of the town of Cheltenham, in the county of Gloucestershire and is located within the administrative areas of Gloucestershire County Council (GCC), Cheltenham Borough Council (CBC) and Tewkesbury Borough Council (TBC) [ER 1.3.1].
- 3.2 The Applicant's ES Chapter 2 [APP-061] and the Recommendation Report at ER 1.3.3 set out the existing land use and nature of the Development site:
- The site is predominantly rural in nature; being areas of grazing pasture and arable;
 - It includes important areas of lowland meadow and floodplain grazing marsh and traditional orchards;
 - The Cotswold Area of Outstanding Natural Beauty (now National Landscape) is located 6km to the east with the land rising to the Cotswold scarp from the Severn Vale to the east of Cheltenham;
 - A number of water courses cross the Development most notably the River Chelt, Leigh Brook, and River Swilgate forming tributaries to the River Severn;
 - To the north of the A4019 and east of the M5 the land is affected by river and surface water flooding, while to the south of the A4019 the floodplain of the River Chelt extends either side of M5 Junction 10;
 - Within the Order Limits there are two groundwater bodies, the Severn Vale - Secondary Combined, and the Warwickshire Avon - Secondary Mudrocks.

European sites potentially affected by the Development

- 3.3 The Development is not connected with or necessary to the management of any of the European sites considered within the Applicant's HRA Screening [REP3-024] and HRA SIAA report [REP3-026] [ER 4.2.1 and ER C.1.17].
- 3.4 The Applicant considered the potential for LSE on the following seven European sites [ER 4.3.1]:
- Wye Valley and Forest of Dean Bat Sites SAC. The SAC represents a complex of 13 component SSSIs on the border between England and Wales. The nearest of these (Blaisdon Hall SSSI) is located 21 km west of the Development [REP3-024, paragraph 3.1.2].
 - Walmore Common SPA. The site has been included as there is the potential for functionally linked land to be affected by the Development. The site is 17.5km south-west of the Development [REP3-024, paragraph 3].
 - Walmore Common Ramsar site. As above.
 - Severn Estuary SAC. All watercourses which are crossed by the Development (River Chelt, Leigh Brook, and their tributaries) eventually flow into the River Severn, which is approximately 7.5 km downstream from the closest Development interaction. The Severn Estuary SAC/SPA/Ramsar site designations boundary is a further 40 km downstream (a total distance of approximately 47.5 km downstream of the Development) [REP3-024, paragraph 3.1.7].
 - Severn Estuary SPA. As above.
 - Severn Estuary Ramsar site. As above.
 - Cotswold Beechwoods SAC. An objective of the Development is to unlock proposed housing developments in the area, therefore although this site does not fall into the screening criteria it has still been screened within the Applicant's HRA. The site is 7.4km from the Development [REP3-024, paragraphs 3.1.13 and 3.1.14].
- 3.5 Plans showing the European sites identified in the Applicant's HRA Screening report and their location relative to the Development are shown in Figure 7-13a Appendix A of the Applicant's HRA Screening [REP3-024] [ER C.1.16]. The figure is reproduced as Figure 1 below.
- 3.6 The Applicant's approach to identifying relevant European sites which are to be scoped into the HRA assessment is set out at Section 2.2 of the Applicant's HRA Screening Report [REP3-024]. The approach adopted included the identification of European sites in accordance with Design Manual for Roads and Bridges (DMRB) guidance LA 115 and thus considered the following screening criteria:
- is within 2km of a European site or functionally linked land;
 - is within 30km of a SACs, where bats are noted as one of the qualifying interests;
 - crosses or lies adjacent to, upstream of, or downstream of, a watercourse which is designated in part or wholly as a European site;
 - has a potential hydrological or hydrogeological linkage to a European site containing a groundwater dependent terrestrial ecosystem (GWDTE) which triggers the assessment of European sites in accordance with LA 113 Road Drainage and the Water Environment;
 - has an affected road network (ARN) which triggers the criteria for assessment of European sites in line with DMRB LA 105 (any European site within 200m);
 - In addition, paragraph 3.7.2 of LA 115 states that additional European Sites should be subject to screening where other forms of ecological connectivity exist between them and the Development [ER C.1.19].

- 3.7 The Development, Walmore Common SPA/Ramsar and Cotswold Beechwoods SAC are located entirely within England and their boundaries do not overlap with areas of devolved administrations or with those of other European Economic Area (EEA) States.
- 3.8 Both Wye Valley and Forest of Dean Bat Sites SAC, and Severn Estuary SAC, Ramsar site and SPA (which overlap in extent), are partly located within England and the devolved administration of Wales [REP3-026, paragraphs 4.1.1. and REP3-024, paragraph 3.1.2]
- 3.9 The Secretary of State notes that IPs generally agreed that the correct sites had been identified and included in the Applicant's HRA Report and supporting evidence [ER 4.3.2]. The Secretary of State is therefore satisfied that no other European site needs to be addressed in this HRA Report.

OFFICIAL-SENSITIVE



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

Potential effects from the Development

- 4.1 Section 3 and 4 of the HRA Screening Report [REP3-024] sets out the Applicant’s assessment of LSE.
- 4.2 Paragraphs 2.2.16–2.2.17 [REP3-024] state that the HRA screening was reviewed in light of 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”)² to ensure that no mitigation or avoidance measures were taken into account in reaching the HRA screening conclusion. In subsequent case law matters which are properly characterised as integral features of the project should reasonably be included in an HRA screening decision.
- 4.3 Paragraphs 2.2.18 of the Applicant’s HRA Screening Report refers to the ‘Wealden Judgement’³ which prompted Natural England to make public their own internal guidance on assessing the effects of road traffic emissions on European Sites⁴. The guidance provides further information on the in combination assessment at screening stage with regard to air quality effects.
- 4.4 Paragraph 2.2.15 and HRA Screening Matrices included as appendices within [REP3-024] identified the following potential impact pathways associated with the construction and operation of the Development as having the potential to give rise to LSE on European sites:
- Reduction of habitat area
 - Disturbance to key species
 - Habitat or species fragmentation
 - Reduction in species density
 - Changes in key indicators of conservation value (water quality etc)
 - Climate change
- 4.5 The Secretary of State is not aware of any evidence that was presented during the examination that the Development was likely to give rise to any other effects on European sites.

Sites and features which could be affected

- 4.6 The Applicant’s HRA Screening Report screened those European sites and qualifying features identified in Table 1 below to establish if significant effects were likely. The Secretary of State is content that this list includes all the sites and qualifying features which require to be considered.
- 4.7 The Applicant’s screening matrices are included as Appendix B-M of the Applicant’s HRA Screening Report [REP3-024].

² ECJ case reference C-323/17, available: <http://curia.europa.eu/juris/document/document.jsf?docid=200970&doclang=EN> (Accessed 17/04/2025)

³ Case no: CO/3943/2016 [Wealden District Council v Secretary of State for Communities and Local Government and Others Natural England \(Interested Party\) - vLex United Kingdom](#) (Accessed 30/05/2025)

⁴ [Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#) (Accessed 30/05/2025)

Table 1 European sites and qualifying features screened for potential LSE by the Applicant

Protected Site	Distance from DCO boundary	Distance from ARN	Designated features (JNCC information sheet accessed 15.05.2025)
Wye Valley and Forest of Dean Bat Sites SAC UK0014794	21km (west)	>200m	S1303 Lesser horseshoe bat, <i>Rhinolophus hipposideros</i> S1304 Greater horseshoe bat, <i>Rhinolophus ferrumequinum</i> https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0014794.pdf
Walmore Common SPA UK9007051	17.5km (southwest)	>200m	A037 Bewick's swan, <i>Cygnus columbianus bewickii</i> https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9007051.pdf
Walmore Common Ramsar site UK11076	17.5km (southwest)	>200m	Internationally important populations of wintering birds (Ramsar Criterion 6) including Bewick's swan, <i>Cygnus columbianus bewickii</i> https://jncc.gov.uk/jncc-assets/RIS/UK11076.pdf
Severn Estuary SAC UK0013030	47.5km (southwest)	>200m	Annex I habitats that are a primary reason for selection: H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)

			<p>Annex I habitats present as a qualifying feature, but not primary reason for selection of site:</p> <p>H1110 Sandbanks which are slightly covered by sea water all the time</p> <p>H1170 Reefs</p> <p>Annex II species that are a primary reason for selection of site:</p> <p>S1095 Sea lamprey, <i>Petromyzon marinus</i></p> <p>S1099 River lamprey, <i>Lampetra fluviatilis</i></p> <p>S1103 Twaite shad, <i>Alosa fallax</i></p> <p>https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0013030.pdf</p>
<p>Severn Estuary SPA</p> <p>UK9015022</p>	47.5km (southwest)	>200m	<p>A037 Bewick's swan, <i>Cygnus columbianus bewickii</i></p> <p>A051 Gadwall, <i>Mareca strepera</i></p> <p>A394 Greater white-fronted goose, <i>Anser albifrons albifrons</i></p> <p>A149 Dunlin, <i>Calidris alpina alpina</i></p> <p>A048 Shelduck, <i>Tadorna tadorna</i></p> <p>A162 Redshank, <i>Tringa totanus</i></p> <p>Ringed Plover⁵</p> <p>Internationally important assemblage of birds</p> <p>https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9015022.pdf</p>

⁵ Although not included on the most recent update of the Natura 2000 Standard Data Form for the Severn Estuary SPA, ringed plover is included here because the 2009 advice issued under Regulation 33(2)(a) of the Conservation of Natural Habitats and Species Regulations 1994 (as amended) lists this species as a qualifying species added during the 2001 SPA Review [Applications HRA Screening Report REP3-024].

<p>Severn Estuary Ramsar UK11081</p>	<p>47.5km (southwest)</p>	<p>>200m</p>	<p>H1130 Estuarine habitats (Ramsar Criteria 1 and 3)</p> <p>H1110 Sandbanks which are slightly covered by sea water all the time</p> <p>H1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>Migratory fish (Ramsar Criteria 4 and 8) including: Atlantic salmon, eel, sea trout, Allis shad, sea lamprey, river lamprey, twaite shad</p> <p>Wintering waterfowl assemblage on international importance (Ramsar Criterion 5)</p> <p>Internationally important populations of wintering birds (Ramsar Criterion 6)</p> <p>Breeding lesser black-backed gull was identified subsequent to designation for possible future consideration under Ramsar Criterion 6 and was included within the Applicant's assessment. However, it is not currently a qualifying feature of this site</p> <p>https://jncc.gov.uk/jncc-assets/RIS/UK11081.pdf</p>
<p>Cotswold Beechwoods SAC UK0013658</p>			<p>H6210 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")</p> <p>H9130 <i>Asperulo-Fagetum</i> beech forests</p> <p>https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0013658.pdf</p>

Conclusion of initial screening

- 4.8 The Applicant's HRA Screening Report concludes that the Development would have no LSE either alone or in combination with other plans and projects on Wye Valley and Forest of Dean Bat SAC Sites, Walmore Common SPA, Walmore Common Ramsar site, Severn Estuary SPA, and Cotswold Beechwood SAC. This conclusion was reached for all potential effects considered and all qualifying features.
- 4.9 Potential LSE was identified from the Development alone on the Severn Estuary SAC and Severn Estuary Ramsar site.
- 4.10 The HRA conclusions of the initial screening assessment for all sites are discussed in turn below. The Recommendation Report and the RIES provide further information on sites and features which were considered, and for which LSE were screened out. The Secretary of State is satisfied to adopt the rationale and conclusions of the ExA for all sites and features screened out at the LSE assessment.

Wye Valley and Forest of Dean Bat SAC

- 4.11 The Applicant's coarse screening assessment for the Wye Valley and Forest of Dean Bat SAC is presented at paragraphs 3.2.1-3.2.6 and the Screening Matrix can be found in Appendix B and I [REP3-024].
- 4.12 The Applicant has concluded that the Development;
- would not result in a reduction in habitat area from within the SAC;
 - would not affect functionally linked habitats, as the distance is considered too great for a significant functional linkage between the Development and the qualifying feature bat populations. This is because the distance is at least seven times larger than the core sustenance zones identified by the Bat Conservation Trust for lesser horseshoe bats (2 km) and greater horseshoe bats (3 km). In terms of bat behaviour in this site, flight lines and feeding grounds within the wider ecological network are critical in supporting the SAC. Lesser horseshoe bats tend to forage within two to three kilometres of their roost, with density of bats associated with the SAC declining sharply after this. In the winter, the foraging range is thought to be around half this. A conservation objective of the SAC is to maintain a wide area of supporting habitat for bats, with the Site Improvement Plan suggesting the creation of a feeding area of a radius of approximately 4 km around maternity roosts. A radiotracking study of greater horseshoe bats in Dean Hall, a constituent SSSI of the SAC, found that bats forage up to 9 km from the roost using a number of night roosts during the feeding period. At a distance of 21 km at the nearest point, these foraging areas for bats associated with the SAC are significantly less than this. Therefore, the Development will not impact any habitat for bats associated with the SAC. In addition, the site is beyond the ARN, and as a result will not be impacted by air quality pollution impacts;
 - is too far from the SAC for there to be any direct disturbance (see above);
 - would not result in fragmentation of the SAC or any functionally linked habitats;
 - would not result in a reduction in species density of qualifying features;
 - would not result in any changes in any key indicators of conservation value; and
 - climate change is not listed as a threat or pressure in relation to this site.
- 4.13 No likely significant effects on the structure (i.e. the distribution and abundance of habitats) of the SAC are anticipated as a result of the Development alone or in-combination with other plans or projects.
- 4.14 No likely significant effects on the function (i.e. the capacity of the SAC to support the qualifying features) of the SAC are anticipated as a result of the Development alone or in combination with other plans or projects.

- 4.15 **The Secretary of State agrees** with the Applicant's assessment and is able to conclude that as there are no elements of the proposals which are likely to have any significant impacts upon the SAC alone, no in combination effects with other plans or projects are anticipated. No further assessment of Wye Valley and Forest of Dean Bat SAC is required.

Walmore Common SPA and Walmore Common Ramsar site

- 4.16 The Applicant's coarse screening assessment for Walmore common SPA and Ramsar site is set out at 3.2.7, further consideration is set out at 4.1, and the Screening Matrix can be found in Appendix C and J (Walmore Common SPA) and D and K (Walmore Common Ramsar site) [REP3-024].
- 4.17 Walmore Common SPA and Ramsar site are located 17.5 km south-west of the Development. Although this is a considerable distance, the agricultural habitats present within the Development extent have the potential to support the qualifying populations of Bewick's swan which are associated with the SPA and Ramsar site. As set out in the Applicant's report at Section 4 and Appendix C and D a more detailed assessment for screening was undertaken which included monthly wintering and migratory bird surveys undertaken within 250m of the Development from September 2019 to March 2020 inclusive. During the surveys, no Berwick's swans were identified.
- 4.18 The Applicant also sought biological records for within 1km of the Development Boundary from the Gloucestershire Centre of Environmental Records and no records of Berwick's swan were returned. The Applicant concluded that the bird surveys and desk study work undertaken indicated that Berwick's swan does not regularly use and is not dependent on the habitat in the vicinity of the Development.
- 4.19 The Applicant has concluded that the Development;
- is too far from the SPA and Ramsar site for there to be any direct disturbance. The Development would not result in disturbance of Bewick's swans within functionally linked habitats either, as there is not considered to be a significant functional linkage between the Development and the qualifying feature population (see above);
 - would not result in fragmentation of the SPA and Ramsar site or any significant functionally linked habitats;
 - would not result in a reduction in species density of qualifying features;
 - would not result in any changes in any key indicators of conservation value; and
 - climate change is not listed as a threat or pressure in relation to this site.

- 4.20 No likely significant effects on the structure (i.e. the distribution and abundance of habitats) of the SPA/Ramsar site are anticipated as a result of the Development alone or in combination with other plans or projects.

- 4.21 No likely significant effects on the function (i.e. the capacity of the SPA/Ramsar site to support the qualifying features) of the SPA/Ramsar site are anticipated as a result of the Development alone or in combination with other plans or projects.

- 4.22 **The Secretary of State agrees** with the Applicant's assessment and is able to conclude that as there are no elements of the proposals which are likely to have any significant impacts upon the SPA and Ramsar site alone no in combination effects with other plans or projects are anticipated. No further Assessment of Walmore Common SPA and Ramsar Site is required.

Severn Estuary SAC/SPA/Ramsar site

- 4.23 The Applicant's coarse screening assessment for the Severn Estuary SAC/SPA/Ramsar site is presented at 3.2.8, further consideration is set out at 4.3 and table 4-2, and the Screening Matrices can be found in Appendix E, F, L and G. The Severn Estuary SAC/SPA/Ramsar site is 21km south west of the Development, or 40km downstream via the shortest hydrological connection.

- 4.24 For clarity the Secretary of State has separated the three designations into subheading when screening LSE.

Severn Estuary SAC

- 4.25 The Applicant has concluded that:

- the Development would not result in a reduction in habitat area from within the SAC itself. However, the Applicant's survey results (detailed in Applicant's Technical Appendix 7.12 – Aquatic Ecology Survey Application document TR010063/APP/6.15) indicate that river lamprey are potentially present in the vicinity of the Development within the River Chelt. The Development therefore may result in a temporary reduction in the extent of functionally linked habitat in the event that dewatering part of the River Chelt channel is required during construction;
- the Development is too far from the SAC for there to be any disturbance to species within the SAC itself. However, as set out above the Applicant's survey results indicate that river lamprey are potentially present in the vicinity of the Development within the River Chelt. As such, there is potential for short-term impacts to this species within or surrounding the Development as a result of noise or vibration disturbance during construction of the new Link Road, in particular the construction of the new bridge over the River Chelt. The new bridge abutments will be set back from the banks of the River Chelt by 4 meters. Rotary piling will be required in the construction of the bridge. In addition, a temporary River Chelt crossing will be required during construction;
- the Development would not result in a physical barrier to fish migration but the disturbance and potential pollution impacts described above and below respectively could potentially result in habitat fragmentation/barrier effects;
- there is the potential for injury/mortality to river lamprey ammocoetes if they are present within burrows in the sediment of the River Chelt in the event that dewatering of part of the channel is required during construction;
- water quality impacts to functionally linked habitat within the River Chelt as a result of a pollution event during construction and operation, and consequent detrimental effects to migratory river lamprey cannot be ruled out. Such impacts could arise through changes to water quality as a result of mobilisation of suspended sediments leading to silt laden runoff entering watercourses; and potential for accidental contamination associated with the spillage or leakage of fuels, lubricants and other chemicals required for construction. In particular, such impacts could occur during the construction of the new bridge over the River Chelt and the temporary River Chelt crossing. Operational phase water quality impacts could arise as a result of contaminated road runoff entering the River Chelt; and
- climate change is not listed as a threat or pressure in relation to this site.

- 4.26 The **Secretary of State agrees** with the conclusion of the Applicant that the evidence indicates that water quality impacts to functionally linked habitat within the River Chelt as a result of a pollution event during construction and operation, and consequent detrimental effects to river lamprey associated with the Severn Estuary SAC cannot be ruled out.

- 4.27 **The Secretary of State agrees** with the conclusion of the Applicant that disturbance impacts to migratory river lamprey associated with the Severn Estuary SAC using functionally linked habitat within the River Chelt during construction cannot be ruled out. Injury or mortality to river lamprey ammocoetes if they are present within burrows in the sediment of the River Chelt in the event that dewatering of part of the channel is required during construction cannot be ruled out. Fragmentation as a result of disturbance and pollution, which could result in barrier effects, with river lamprey unable to disperse or move along the River Chelt, cannot be ruled out.

Severn Estuary SPA

4.28 The Applicant has concluded that:

- the Development would not result in a reduction in habitat area from within the SPA. In order to determine if the Development site supports the designated features of the SPA monthly wintering and migratory bird surveys were undertaken within 250 m of the Development from September 2019 to March 2020 inclusive (detailed within Technical Appendix 7.9 Wintering Bird Survey Application document TR010063/APP/6.15). The Applicant also reviewed a recent study which identifies functionally linked land associated with the Severn Estuary SPA. The wintering and migratory bird surveys recorded two qualifying species of the Severn Estuary SPA: lapwing (two individuals) and mallard (peak count of nine individuals). Given the low numbers recorded they are unlikely to be a significant component of the SPA populations. The maps that accompany a recent study that the Applicant reviewed do not identify that these species regularly move between the SPA and the study area. However, the study also indicates that lapwing have been recorded within the Survey Area (in the vicinity of Boddington Manor Farm, adjacent to the Development) in numbers which reached or exceeded the equivalent of the 1% SPA population criterion for importance on at least one occasion. No lapwing were recorded at this location during the wintering and passage bird surveys, and as the study indicates that there are no regular movements between the SPA and this location it is therefore considered that this area is not regularly used by or of significant importance for lapwing. The habitats within the Survey Area are not considered to provide a role in maintaining the SPA populations or be functionally linked to the SPA.
- the Development is too far from the SPA for there to be any direct disturbance. The Development would not result in disturbance of qualifying feature populations within functionally linked habitats either, as there is not considered to be a significant functional linkage between the Development and the qualifying feature populations (see above);
- the Development would not result in fragmentation of the SPA or any significant functionally linked habitats;
- the Development would not result in a reduction in species density of qualifying features;
- the Development would not result in any changes in any key indicators of conservation value. As described above, potential for impacts to the SPA and functionally linked habitat as a result of changes in key indicators of conservation value such as water quality or air quality are not anticipated. Recreational pressure resulting in disturbance to functionally linked habitats at Coombe Hill Canal SSSI (Coombe Hill Canal SSSI is of high importance to all of the wintering surface-feeding ducks and lapwing, and is of high importance to mallard and snipe in autumn and to gadwall and mallard in spring) as a result of the Development facilitating housing developments in the area has been ruled out. This is on the basis that there are planning policies in place to deal with the potential effects and ensure that cumulative effects do not occur. Such planning policies are relevant to, and will be implemented by, the surrounding housing developments; and
- climate change is not listed as a threat or pressure in relation to this site.

4.29 **The Secretary of State agrees** with the Applicant that no likely significant effects on the structure (i.e. the distribution and abundance of habitats) of the SPA are anticipated as a result of the Development alone or in combination with other plans or projects.

4.30 **The Secretary of State agrees** with the Applicant that no likely significant effects on the function (i.e. the capacity of the SPA to support the qualifying features) of the SPA are anticipated as a result of the Development alone or in combination with other plans or projects.

4.31 No further Assessment of Severn Estuary SPA is required.

Severn Estuary Ramsar Site

4.32 The Applicant has concluded that:

- the Development would not result in a reduction in habitat area from within the Ramsar site. Monthly wintering and migratory bird surveys were undertaken within 250 m of the Development from September 2019 to March 2020 inclusive (detailed within Technical Appendix 7.9 Wintering Bird Survey (Application document TR010063/APP/6.15)). Lesser black-backed gull was recorded in reasonably high numbers on one occasion (a peak count of 148 in September 2019). It is considered that these individuals are likely to be from breeding populations within urban areas such as Cheltenham and/or Gloucester, which are closer to the Development than the Ramsar site breeding colonies at Steep Holm and Flat Holm (approximately 90 km south west). Cheltenham Borough Council states that "Lesser Black-Backed Gulls nest in the residential areas of Cheltenham and on industrial units in the Kingsditch area". The JNCC Seabird Monitoring Programme online database states that the Gloucestershire Urban Gulls Cheltenham site (85627) supported 273 lesser black-backed gull apparently occupied territories in 2011 (year of last count) and the Gloucester City: Gloucester site (86737) supported 2230 lesser black-backed gull apparently occupied nests in 2009 (year of last count). It follows that the lesser black-backed gulls recorded are unlikely to be part of the Ramsar site qualifying feature population. The habitats within the Survey Area are not considered to provide a role in maintaining the Ramsar site bird populations.
- The Development would not result in disturbance of qualifying bird species within functionally linked habitats, as there is not considered to be a significant functional linkage between the Development and the qualifying feature populations (see above);
- Survey results and desk study records (detailed in Technical Appendix 7.12 – Aquatic Ecology Survey (Application document TR010063/APP/6.15) indicate that European eel, Atlantic salmon, sea trout and river lamprey are present in the vicinity of the Development within the River Chelt. The Development may result in a temporary reduction in the extent of functionally linked habitat in the event that dewatering part of the River Chelt channel is required during construction;
- the Development is too far from the Ramsar site for there to be any disturbance to species within the Ramsar site itself. However, as stated above survey results and desk study records (detailed in Technical Appendix 7.12 – Aquatic Ecology Survey (Application document TR010063/APP/6.15) indicate that European eel, Atlantic salmon, sea trout and river lamprey are present, or potentially present, in the vicinity of the Development within the River Chelt. As such, there is potential for short-term impacts to these species within or surrounding the Development as a result of noise or vibration disturbance during construction of the new Link Road, in particular the construction of the new bridge over the River Chelt. The new bridge abutments will be set back from the banks of the River Chelt by 4 m. Rotary piling will be required in the construction of the bridge. In addition, a temporary River Chelt crossing will be required during construction.
- although the Development would not result in a physical barrier to fish migration, the disturbance and pollution impacts described above and below respectively could potentially result in habitat fragmentation/barrier effects;
- there is the potential for injury/mortality to river lamprey ammocoetes if they are present within burrows in the sediment of the River Chelt in the event that dewatering of part of the channel is required during construction;
- water quality impacts to functionally linked habitat within the River Chelt as a result of a pollution event during construction and operation, and consequent detrimental effects to migratory European eel, Atlantic salmon, sea trout and river lamprey associated with the Severn Estuary Ramsar site cannot be ruled out. Such impacts could arise through changes to water quality as a result of mobilisation of suspended sediments leading to silt laden runoff entering watercourses; and potential for accidental contamination associated with the spillage or leakage of fuels, lubricants and other chemicals required for construction. In particular, such impacts could occur during the construction of the new bridge over the River Chelt and the temporary River Chelt crossing. Operational

phase hydrological impacts could arise as a result of contaminated road runoff entering the River Chelt.

- Recreational pressure resulting in disturbance to functionally linked habitats at Coombe Hill Canal SSSI (Coombe Hill Canal SSSI is of high importance to all of the wintering surface-feeding ducks and lapwing, and is of high importance to mallard and snipe in autumn and to gadwall and mallard in spring) as a result of the Development facilitating housing developments in the area has been ruled out. This is on the basis that there are planning policies in place to deal with the potential effects and ensure that cumulative effects do not occur. Such planning policies are relevant to, and will be implemented by, the surrounding housing developments; and
- climate change is not listed as a threat or pressure in relation to this site.

4.33 **The Secretary of State agrees** with the Applicant's conclusion that the evidence indicates that water quality impacts to functionally linked habitat within the River Chelt as a result of a pollution event during construction and operation, and consequent detrimental effects to migratory European eel, Atlantic salmon, sea trout and river lamprey associated with the Severn Estuary Ramsar site cannot be ruled out.

4.34 **The Secretary of State agrees** with the Applicant's conclusion that disturbance impacts to migratory European eel, Atlantic salmon, sea trout and river lamprey associated with the Severn Estuary Ramsar site using functionally linked habitat within the River Chelt during construction cannot be ruled out. Injury or mortality to river lamprey ammocoetes if they are present within burrows in the sediment of the River Chelt in the event that dewatering of part of the channel is required during construction cannot be ruled out. Fragmentation as a result of disturbance and pollution, which could result in barrier effects, with European eel, Atlantic salmon, sea trout and river lamprey unable to disperse or move along the River Chelt, cannot be ruled out.

Cotswold Beechwoods SAC

4.35 The Applicant's coarse screening assessment for the Cotswold Beechwoods SAC is presented at 3.2.11, further consideration is set out at 4.3 and the Screening Matrix can be found in Appendix H. The Development is located approximately 7.4 km from the SAC. The only potential impact pathway that has been identified is the potential for in combination recreational impacts as a result of the Development facilitating housing developments within 15.4 km of the SAC, a zone of influence around the SAC within which housing growth may result in an increase in recreational use of the SAC. The assessment below discusses this potential impact pathway in more detail.

4.36 The Applicant has concluded that the Development:

- would not result in a reduction in habitat area from within the SAC;
- all of the qualifying features of the SAC are Annexe 1 habitats, therefore disturbance impacts can be discounted;
- would not result in fragmentation of the SAC;
- would not result in a reduction in species density of qualifying features;
- recreational pressure can cause erosion of ground flora, nutrification and soil compaction, a particular issue around ancient trees. The evidence presented in the Applicant's HRA Screening report indicates that potential in combination effects of the combined housing developments within the area, some of which the Development will facilitate, are known, and planning policies are in place to deal with the potential effects, to ensure that cumulative effects do not occur. Such planning policies are relevant to, and will be implemented by, the surrounding housing developments.
- Climate change is not listed as a threat or pressure in relation to this site.

4.37 **The Secretary of State agrees** with the Applicant's conclusion that no likely significant effects on the structure (i.e. the distribution and abundance of habitats) of the SAC are

anticipated as a result of the Development alone or in combination with other plans or projects.

4.38 **The Secretary of State agrees** with the Applicant's conclusion that no likely significant effects on the function (i.e. the capacity of the SAC to support the qualifying features) of the SAC are anticipated as a result of the Development alone or in combination with other plans or projects.

4.39 No further assessment of Cotswold Beechwoods SAC is required.

Summary of sites with no LSE

4.40 The Secretary of State notes the ExA's Summary of findings in relation to LSE as set out at ER 4.4. The Secretary of State has reviewed the information within the Applicant's HRA Screening Report [REP3-024] and the Recommendation Report and RIES.

4.41 The Applicant addressed potential in combination effects arising from the Proposed Development within section 2.2 [REP3-024] which sets out the methodology applied. A specific list of projects included in the in combination assessment was not included in the HRA Screening Report [APP-099] or SIAA [APP-100] but was confirmed in response to FWQ3.1.9 [PD-010] by the Applicant in REP3-043.

4.42 The Applicant's HRA Screening [REP3-024] concluded no LSE from the Proposed Development in combination (where these impacts are not already considered to result in LSE from the Proposed Development alone, as clarified in [REP9-005]) on any of the qualifying features of the sites listed in Table 1 [ER C.2.10].

4.43 Based on this information, the Secretary of State agrees with the conclusion of no LSE from the Proposed Development alone, or in combination with other plans and projects, on any of the qualifying features of:

- Wye Valley and Forest of Dean SAC (Section 3.2 and Appendices B and I) – Agreed by NE at [\[RR-027\]](#), paragraph 3.2.3],
- Walmore Common SPA (Section 4.1 and Appendices C and J) - Agreed by NE at [\[RR-027\]](#), paragraph 3.2.4],
- Walmore Common RAMSAR site (Section 4.1 and Appendices D and K)- Agreed by NE at [\[RR-027\]](#), paragraph 3.2.4],
- Severn Estuary SPA (Section 4.2 and Appendices F and L), and
- Cotswold Beechwood SAC (Section 3.2, 4.3 and Appendices H and M) [ER C.2.8].

4.44 The Secretary of State is satisfied that Natural England agreed with the applicant's conclusions for the above sites as evidenced by the final SoCG between the Applicant and Natural England [REP10-078] [ER 3.7.59].

4.45 The Applicant's conclusion of no LSE to Wye Valley and Forest of Dean Bat SAC Sites, Walmore Common SPA/Ramsar site, Severn Estuary SPA, Cotswold Beechwood SAC alone or in combination, was accepted by the ExA during the examination [ER C.2.62].

Summary of sites with LSE

4.46 Based on the information submitted the Secretary of state agrees with the Applicant's conclusion that LSE cannot be excluded from following sites alone:

Severn Estuary SAC

- During construction of the Proposed Development in respect of River Lamprey for the following reasons:
 - temporary reduction of habitat area (functionally linked land),
 - disturbance to key species,
 - direct injury/mortality (reduction in species density), and

- habitat/species fragmentation.
- During construction and operation:
 - due to changes in key indicators of conservation value (listed as changes to water quality).

Severn Estuary Ramsar

- During construction of the Proposed Development in respect of European eel, Atlantic salmon, Sea trout, River lamprey and fish assemblage, for the following reasons:
 - temporary reduction of habitat area (functionally linked habitat),
 - disturbance to key species,
 - direct injury or mortality (reduction in species density) lamprey only, and
 - habitat or species fragmentation.
- During Construction and Operation:
 - due to changes in key indicators of conservation value (water quality) [ER 4.4.2].

4.47 The Secretary of State agrees with the screening summary tables as set out in the RIES at table A1.4 and A1.6 and notes that the conclusions were not disputed by any Interested Party during the examination. These effects, together with any in combination effects, are therefore considered in the Secretary of State's AA at Section 5 below.

Conservation objectives

- 4.48 As mentioned in paragraph 1.12 above, where an AA is required in respect of a European site, regulation 63(1) of the Habitats Regulations requires that it be an AA of the implications of the plan or project for the site in view of its conservation objectives. Government guidance⁶ also recommends that in carrying out the stage one assessment (screening), applicants must check if the proposal could have a significant effect on a European site that could affect its conservation objectives.
- 4.49 The conservation objectives relevant to this HRA Report, as published by NE and the Joint Nature Conservation Committee ("JNCC"), are provided in Annex 1 of this HRA Report. The Applicant has set out the conservation objectives in Section 4.3 of the HRA SIAA report [REP3-026].

5. STAGE 2: APPROPRIATE ASSESSMENT

- 5.1 As LSE cannot be excluded in respect of two European sites the Secretary of State as the competent authority is required to undertake an AA 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 as set out in paragraphs 1.16 to 1.19 of

⁶ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site> (Accessed 07/05/2025)

this HRA Report. The RIES [PD-019] was published on 22 October 2024 and an opportunity for comments to be made on it was timetabled for Deadline 9 (19 November 2024).

- 5.3 The ExA has recommended that the RIES, and consultation on it, may be relied upon as an appropriate body of information to enable the Secretary of State to fulfil their duties of consultation under regulation 63(3) of the Habitats Regulations [ER C.1.14].
- 5.4 The Secretary of State notes that although NE did not specifically provide a response to the RIES consultation, NE were actively engaged with the examination providing a response to the applicant's stage 1 screening assessment [REP3-076] and later confirmation of their agreement with the Applicant's findings and outcomes in respect of HRA matters in their signed final SoCG at Deadline 10 [REP10-078].
- 5.5 In light of Natural England's relevant representations and the recommendation made by the ExA, the Secretary of State is satisfied that NE have been sufficiently consulted in line with regulation 63 of the Habitats Regulations.
- 5.6 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 doubt⁷.

Adverse Effects on the Integrity ("AEol") of the Severn Estuary SAC and Ramsar Site

- 5.7 The outcomes of the Applicant's assessment of effects on integrity are set out in Section 6 - 8 of the HRA SIAA [REP3-026].
- 5.8 The Secretary of State has undertaken an objective scientific assessment of the implications of the Development on the qualifying features of the Severn Estuary SAC and Ramsar site, using best scientific knowledge. The assessment has been made in light of the conservation objectives for the SAC and Ramsar site, which are set out in Annex 1 of this HRA Report and Appendix E and F of the Applicant's SIAA [REP3-026].
- 5.9 Section 6 of the Applicant's SIAA [REP3-026] sets out the potential impacts on the Severn Estuary SAC and Ramsar Site as summarised above.
- 5.10 Section 6.7 of the applicant's HRA SIAA report [REP3-024] details the duration of impacts. Construction impacts are identified over a 14 month period, with piling confined to a 5 day period, so construction related effects are therefore temporary. Operational pollution effects could be permanent, although a one off pollution incident would be temporary.
- 5.11 The Applicant has proposed mitigation measures set out in section 7 of the applicant's HRA SIAA [REP3-026] to address potential adverse impacts on the SAC and Ramsar site. A summary of the Secretary of State's AA is presented below.

Alone

Temporary reduction in habitat (functionally linked habitat) and direct injury or mortality (reduction in species density) during construction

- 5.12 The Applicant's Stage 1 screening exercise concluded that the impact pathway of a temporary reduction in habitat (functionally linked habitat) during construction would result in potential LSE on the qualifying features of [ER C.4.28]:
 - Severn Estuary SAC – river lamprey.
 - Severn Estuary Ramsar site – European eel, Atlantic salmon, sea trout, river lamprey, fish assemblage.

⁷ CJEU Case C-127/02 Waddenzee 7 September 2004, Reference for a preliminary ruling from the Raad van State (Netherlands) in the proceedings: Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij. [EUR-Lex - 62002CJ0127 - EN - EUR-Lex](#) (Accessed 30/05/2025).

- 5.13 The Stage 1 screening exercise concluded that the impact pathway of direct injury or mortality would result in potential LSE on the qualifying features of:
- Severn Estuary SAC – river lamprey.
 - Severn Estuary Ramsar site – river lamprey [ER C.4.29].
- 5.14 The main source for the potential for adverse effects on River Lamprey, European Eel, Atlantic Salmon, Sea Trout and Fish Assemblage during construction is where partial dewatering of the river channel is required in order to install hard bank protection along both banks underneath the River Chelt bridge in order to ensure that access under the bridge is maintained [ER C.4.31]. The dewatering could result in injury or mortality to river lamprey ammocoetes present in burrows in the sediment and would be an irreversible impact to individual fish [ER C.4.32].
- 5.15 The Applicant's HRA SIAA [REP3-026] considers that as an area of approximately 20m length of channel may be impacted, only a small area of functionally linked habitat for river lamprey would be affected, and consequently only low numbers of individual fish would be impacted, in particularly when taking into account the extensive catchment area and availability of alternative watercourses within this catchment area [ER C.4.33].
- 5.16 The HRA SIAA [REP3-026] identifies the key conservation objective for the SAC, relevant to this impact pathway as the need to maintain the size of the populations of species in the Severn Estuary and the rivers in which lamprey are in decline. While there are no conservation objectives in place for Ramsar sites it has been assumed that the conservation objectives for the SAC can be 'read across' to the assessment of effects on the Ramsar site [ER C.4.34].

Mitigation measures

- 5.17 The Applicant has detailed the proposed mitigation measures at paragraph 7.2.3 of the SIAA report [REP3-026] which will be secured via the Register of Environmental Actions and Commitments (REAC) [REP10-066]. The measures will be overseen by the principal contractor and overseen by a suitably qualified and experienced Ecological Clerk of Works [ER C.4.35]. Mitigation measures include [ER C.4.36]:
- All haul roads, lay down areas and compounds will be located at least 10 m from watercourses, except where access is required to specific locations for works to bridges/culverts for example. Where possible, site tracking routes will be arranged to avoid watercourse margins to limit disturbance to watercourse riparian and bankside habitats and fish species.
 - Soft start procedures will be implemented to gradually increase the sound/vibration intensity over a period of time. The aim is to gradually habituate migratory fish to increased noise/vibration or temporarily deter migratory fish before the full volume/vibration intensity is reached so that noise exposure is reduced. Soft start up methods will be employed on plant being used for any in-channel works and works within 20 m of the River Chelt, including piling, at the start of each working day to ensure sudden disturbance to fish and other wildlife is minimised as far as practically possible. The soft-start duration should be a period of not less than 20 minutes and should piling cease for a period greater than 20 minutes, the soft start procedure must be repeated.
 - Ten piles would be rotary bored on each side of the River Chelt. Rotary piling results in less noise and vibration than percussive piling.
 - Prior to any in-channel works or de-watering, measures shall be implemented that act to temporarily displace fish from the working area. Measures may include the removal of channel features from the working area that provide cover such as large wood to reduce the overall attractiveness of the working area for fish species. This is particularly relevant to benthic species such as European eel that frequently occupy voids between larger substrates. Such in channel features that provide cover will be replaced after the construction works.

- In the event that dewatering is required during the installation of bank protection, only part of the width of the channel will be dewatered. Therefore, continuity of flow and fish passage would be maintained at all times during construction. A fish rescue plan will be developed in consultation with the Environment Agency and Natural England, which may include the need to relocate lamprey ammocoetes prior to dewatering in order to reduce the potential for injury/mortality. The fish rescue plan will also include a requirement for an ecological watching brief. The requirement for which is secured in B23 of the REAC [REP4-018].
- Appropriate screening of any pumping equipment during dewatering activities will be implemented (2 mm screens) to avoid any potential entrainment/mortality of fish during the works.
- Potential use of temporary stop nets across the channel upstream of the works to prevent fish from becoming entrained in the working area.
- Where possible, works most likely to cause disturbance to migratory species in the River Chelt (i.e., the construction of the new bridge crossing and installation of bank protection associated with the crossing) will be timed to occur outside of the key ecologically sensitive periods for migratory fish species. Due to the range of species potentially present, it may not be practical to avoid all sensitive periods. However, based on the fisheries habitat provision at the crossing and confirmed species presence the migratory and/or spawning periods for European eel, river lamprey and sea/brown trout will be the focus of the timing consideration. February to July and October to November will be avoided as far as possible, as they are the key migratory periods for European eel, which also avoids the spawning period for lamprey (March to April), sea trout and Atlantic salmon (peaks in October to November). These periods will be confirmed through ongoing consultation with Natural England and the Environment Agency.

5.18 Where works during migratory periods are unavoidable, no night-time (taken to be between 30 minutes prior to sunset until 30 minutes following sunrise) vibration work will be undertaken. If night working is essential, minimal and directional lighting will be used.

5.19 No IPs raised any other queries on this matter or in relation to the conclusion of no AEol [ER C.4.40].

5.20 On the basis of the above information and the mitigation proposed, the ExA was satisfied that this LSE pathway will not result in AEol to the European site from the Proposed Development alone [ER C.4.41]. The Secretary of State adopts this conclusion.

Disturbance to key species during construction

5.21 The Applicant's Stage 1 screening exercise concluded that this impact pathway would result in potential LSE on the qualifying features [ER C.4.42]:

- Severn Estuary SAC – river lamprey.
- Severn Estuary Ramsar site – European eel, Atlantic salmon, sea trout, river lamprey, fish assemblage.

Potential for AEol

5.22 The Assessment of potential AEol is provided in the HRA SIAA [REP3-026] section 6.3, 6.4 and 6.6 [ER C.4.43].

5.23 Disturbance as a result of noise and vibration during construction may cause fish species to avoid or move away from the affected area, in particular during the following key periods [ER C.4.44]:

- European eel – during upstream migration between February and July, or downstream between October and November.
- river lamprey - during upstream migration to spawning grounds during winter and spring, where mating takes place in March and April, and downstream between July and September.

- For trout and salmon - November to February, with peaks in October and November.

- 5.24 Disturbance may temporarily and locally displace fish from feeding and shelter resources near to the source of the disturbance but is unlikely to cause any reduced fitness or individual mortality that could result in a long term or population level effect, and the short-term nature of the works means that this impact is considered to be temporary in nature [ER C.4.45].
- 5.25 The HRA SIAA [REP3-026] identifies the main source of potential disturbance as noise and vibration impacts during construction, in particular the requirement for piling [ER C.4.46].
- 5.26 Considering a worst-case scenario of percussive piling, estimations of near-source (10 m) pile driving identified a mean peak of 198dB and a mean sound exposure level of 171dB, which is below the injury thresholds and temporary threshold shift for the identified qualifying features [ER C.4.47].
- 5.27 In relation to vibration, taking percussive piling as a worst-case scenario, assessments showed that the area potentially affected by vibration of greater than 13 mm/s is within 10 m of the activity [ER C.4.48].
- 5.28 Piling would be set back from the river by at least 4 m, therefore the underwater acoustic signals generated as a result are likely to be lower as the noise will attenuate further before entering the water column [ER C.4.49].
- 5.29 It is anticipated that rotary piling will be used for the Proposed Development and therefore it is likely that the worst-case scenario distances or levels of noise and vibration would be considerably less in reality [ER C.4.50].
- 5.30 Taking into account the extensive catchment area and availability of alternative watercourses within this catchment area, the Applicant considers that only a small area of functionally linked habitat for European eel, Atlantic salmon, sea trout and river lamprey would be affected, and consequently only low numbers of individual fish would be impacted [ER C.4.51].
- 5.31 The HRA SIAA [REP3-026] considers that the key conservation objectives (for the SAC, as no conservation objectives are noted for the Ramsar site) relevant to this impact pathway are identified as the need to maintain migratory passage of both adult and juveniles through the Severn Estuary between the Bristol Channel and any of their spawning rivers, and ensure passage is not obstructed or impeded [ER C.4.52].

Mitigation Measures

- 5.32 The mitigation measures considered relevant to conclude no AEoI from this impact pathway are the same as those listed above in relation to paragraphs 7.2.3 of [REP3-026] [ER C.4.53].
- 5.33 No IPs raised any other queries on this matter or in relation to the conclusion of no AEoI [ER C.4.54].
- 5.34 On the basis of the above information and the mitigation proposed, the ExA is satisfied that this LSE pathway will not result in AEoI to the European site from the Proposed Development alone [ER C.4.55]. The Secretary of State adopts this conclusion.

Habitat or Species Fragmentation during construction

- 5.35 The Stage 1 screening exercise concluded that this impact pathway would result in potential LSE on the qualifying features [ER C.4.56]:
- Severn Estuary SAC – river lamprey.
 - Severn Estuary Ramsar site – European eel, Atlantic Salmon, sea trout, river lamprey, fish assemblage.

Potential for AEoI

- 5.36 The assessment of potential AEoI is provided in the HRA SIAA [REP3-026] section 6.5 [ER C.4.57].

- 5.37 The HRA SIAA [REP3-026] considers that the disturbance effects described above could also result in habitat fragmentation/barrier effects, with European eel, Atlantic salmon, sea trout and river lamprey and fish assemblages unable to disperse or move along the River Chelt as a result of such disturbance. Similarly, pollution events (detailed below) could also result in fragmentation [ER C.4.58].
- 5.38 The HRA SIAA [REP3-026] identifies that in the event that dewatering is required during the installation of bank protection, only part of the width of the channel would be dewatered. Furthermore, there will be no new permanent in-river structures. Therefore, fish passage would be physically maintained at all times during construction and operation. Taking into account the extensive catchment area and availability of alternative watercourses within this catchment area, it is likely that only low numbers of individual fish would be impacted [ER C.4.59].
- 5.39 The key conservation objectives (for the SAC, with these also being relied on for the Ramsar site) relevant to this impact pathway are identified as the need to maintain migratory passage of both adult and juveniles through the Severn Estuary between the Bristol Channel and any of their spawning rivers, and ensure passage is not obstructed or impeded [ER C.4.60].

Mitigation measures

- 5.40 The mitigation measures considered relevant to conclude no AEoI from this impact pathway are the same as those listed above in relation to paragraphs 7.2.3 and 7.2.4 of [REP3-026] [ER C.4.61].
- 5.41 No IPs raised any other queries on this matter or in relation to the conclusion of no AEoI [ER C.4.62].
- 5.42 On the basis of the above information and the mitigation proposed, the ExA was satisfied that this LSE pathway will not result in AEoI to the European site from the Proposed Development alone [ER C.4.63]. The Secretary of State agrees with this conclusion.

Changes in key indicators of conservation value (water quality) during construction and operation

- 5.43 The Stage 1 screening exercise concluded that this impact pathway would result in potential LSE on the qualifying features [ER C.4.64]:
- Severn Estuary SAC – river lamprey.
 - Severn Estuary Ramsar site – European eel, Atlantic salmon, sea trout, river lamprey, fish assemblage.

Potential for AEoI

- 5.44 The assessment of potential AEoI is provided in the HRA SIAA [REP3-026], sections 6.1, 6.3 and 6.6 [ER C.4.64].
- 5.45 Pollution impacts could result in injury or mortality to European eel, Atlantic salmon, sea trout, river lamprey, fish assemblage or their prey species, or damage functionally linked habitat within the River Chelt during construction and operation which could in turn negatively impact these species. Such impacts have the potential to be irreversible to individual fish [ER C.4.65].
- 5.46 Hydrological impacts to functionally linked habitat within the River Chelt as a result of a pollution event during construction and operation could in theory be reversed with an appropriate clean-up operation/remedial action followed by habitat management [ER C.4.66].
- 5.47 The HRA SIAA [REP3-026] identifies that construction phase water quality impacts could arise as a result of mobilisation of suspended sediments leading to silt laden runoff entering watercourses, and the potential for accidental contamination associated with the spillage or leakage of fuels, lubricants and other chemicals required for construction. Operational

phase water quality impacts could arise as a result of contaminated road runoff entering the River Chelt [ER C.4.67].

- 5.48 The HRA SIAA [REP3-026] however identifies that soluble pollutants are considered to be sufficiently diluted beyond 1 km. The Severn Estuary catchment area covers an area of over 21,000 km² and over 600 rivers drain into the estuary. In the unlikely event that a pollution incident occurs and affects a 1 km stretch of the River Chelt, only a small area of functionally linked habitat for European eel, Atlantic salmon, sea trout and river lamprey would be affected, and consequently only low numbers of individual fish would be impacted [ER C.4.68].
- 5.49 The key conservation objectives (for the SAC, with these also being relied on for the assessment of the Ramsar site) identified are:
- The need to maintain migratory passage of both adult and juveniles through the Severn Estuary between the Bristol Channel and any of their spawning rivers and ensure passage is not obstructed or impeded by poor water quality.
 - Maintain the size of the populations of species in the Severn Estuary and the rivers which drain into it and ensure toxic contaminants in the water column and sediment are below levels which would pose a risk to fish passage, population size and abundance of prey species [ER C.4.69].

Mitigation measures

- 5.50 The mitigation measures relied upon to conclude no AEoI are detailed in paragraphs 7.2.1 – 7.2.2 (Construction) and 7.3 (Operation) of the applicant's HRA SIAA [REP3-026] [ER C.4.70].
- 5.51 The construction related mitigation measures relied upon to conclude no AEoI are detailed in paragraph 7.2.3, all of which are proposed to be secured within the REAC [REP10-066] and followed by the Principal Contractor [ER C.4.71].
- 5.52 In summary the requirements / commitments include:
- All debris arising from the construction and works will be effectively encapsulated and removed from site.
 - No pollutants to be permitted to enter drainage or run-off to a watercourse.
 - The contractor will ensure that they have a robust Pollution Response Plan in place before works start.
 - Any pollution incident will be contained and cleaned up immediately and reported.
 - Provision will be made for the installation of silt control measures within watercourses e.g., silt curtains, to prevent downstream propagation of fine sediment generated through bankside/in-channel working in watercourses.
 - No storage of oils or chemicals will be allowed within 10 m of a watercourse [REP3-026, paragraph 7.2.1].
- 5.53 The operational mitigation is predominately in the form of the use of SuDS. The drainage design uses swales and ditches where possible, rather than pipework. Where there are additional areas of impermeable surfacing, the highway drainage will be routed to attenuation basins before discharge into surface watercourses. The swales, ditches and attenuation basins will allow suspended solids to settle out and remove soluble pollutants to varying degrees before discharge to the River Chelt and Leigh Brook [ER C.4.72].
- 5.54 The HRA SIAA provides details on the proposed drainage catchments, and how the potential for pollution has been assessed using the Highways England Water Risk Assessment Tool. The results of the routine runoff assessment show that all drainage catchments (which discharge to the Leigh Brook or River Chelt) pass the acute impacts from soluble pollutants assessment, chronic impacts from sediment bound pollutants assessment and are compliant with the freshwater Environmental Quality Standards for dissolved copper and zinc with the Proposed Development in place [ER C.4.74].

- 5.55 The results of a spillage assessment show the annual probability of a pollution incident occurring as a result of a spillage is less than 0.01 (1%) with the Proposed Development in place [ER C.4.75].
- 5.56 No IPs raised any other queries on this matter or in relation to the conclusion of no AEol [ER C.4.76].
- 5.57 On the basis of the above information and the mitigation proposed, the ExA is satisfied that this LSE pathway will not result in AEol to the European site from the Proposed Development alone [ER C.4.77]. The Secretary of State agrees with this conclusion.

In combination Assessment – All pathways

- 5.58 The mitigation measures to be implemented would ensure that impacts of the Development upon the River Lamprey, European Eel, Atlantic Salmon, Sea Trout and Fish Assemblage associated with the Severn Estuary SAC and Ramsar site would be negligible. There are therefore no elements of the proposals which would adversely affect the integrity of the Severn Estuary SAC and Ramsar site, either alone or in combination with other plans or project. The Secretary of State agrees with the conclusion of the Applicant and the ExA that no in combination assessment was required [ER C.4.78].
- 5.59 The Secretary of State notes that no IPs raised any other queries on this matter or in relation to the conclusion of no AEol [ER C.4.79].
- 5.60 Based on the above information and the mitigation proposed, the ExA was satisfied that LSE pathway(s) will not result in AEol to the European sites and can therefore be excluded from the Proposed Development in combination [ER C.4.80].

Conclusion of the AA and integrity test

- 5.61 As the competent authority for Transport related NSIPs the Secretary of State for Transport has undertaken an AA under regulation 63 of the Habitats Regulations in relation to the Severn Estuary SAC and Ramsar site.
- 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 the Severn Estuary SAC and Ramsar arising from this development and is satisfied that the Development will not adversely affect the integrity of those sites.
- 5.63 The Secretary of State notes that Natural England agree with the applicant's conclusion of no adverse effect on site integrity in respect of the Severn Estuary SAC and Ramsar site [RR-027].

6. SUMMARY OF CONCLUSIONS

- 6.1 The Secretary of State has carefully considered all the information presented within the application, during the Examination and the representations made by IPs, along with the Recommendation Report and the responses to the Secretary of State's further consultations.
- 6.2 The Development is not directly connected with, or necessary to, the management of a European site, and is likely to have a significant effect on the Severn Estuary SAC and Ramsar site. The Secretary of State therefore carried out an AA to determine any AEol of these European sites.
- 6.3 The Secretary of State concludes that the Project alone and in combination would not result in an adverse effect on the integrity of the Severn Estuary SAC and Ramsar site.
- 6.4 The Secretary of State is satisfied that the overall coherence of the national site network would be protected by the implementation of mitigation measures secured through the DCO.
- 6.5 The Secretary of State has therefore concluded, as competent authority for the purposes of the Habitats Regulations, that taking into account the package of mitigation measures which

will be secured in the DCO and other documents, it is permissible for her to give consent for the Development.

Annex 1 Conservation Objectives

Available from: <http://publications.naturalengland.org.uk/category/6490068894089216>⁸

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.

There are no conservation objectives published for Ramsar sites. For the purposes of this HRA Report, the Secretary of State is satisfied that the criteria of the Severn Estuary Ramsar site are reflected by the qualifying features for the Severn Estuary SPA. These conservation objectives have therefore been considered as a suitable proxy for the Ramsar site. More information on the Severn Estuary Ramsar can be found on the JNCC information sheet [untitled \(jncc.gov.uk\)](#)

Cotswolds Beechwoods SAC (UK0013658)

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Qualifying Features:

H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco Brometalia); Dry grasslands and scrublands on chalk or limestone.

H9130. Asperulo-Fagetum beech forests; Beech forests on neutral to rich soils.

Walmore Common SPA (UK9007051)

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

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.

Qualifying Features:

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding).

Wye Valley and Forest of Dean Bat Sites SAC (UK0014794)

⁸ Accessed 07/05/2025

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed below), and subject to natural change;

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 the habitats of qualifying species
- The structure and function of the habitats of qualifying species
- The supporting processes on which the habitats of qualifying species rely
- The populations of qualifying species, and
- The distribution of qualifying species within the site.

Qualifying Features:

S1303. Rhinolophus hipposideros Lesser horseshoe bat

S1304. Rhinolophus ferrumequinum Greater horseshoe bat

Severn Estuary SAC (UK0013030)

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed below), and subject to natural change;

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.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1170. Reefs

H1330. Atlantic salt meadows (Glauco-Puccinellietalia maritimae); Atlantic salt meadows

S1095. Petromyzon marinus; Sea lamprey

S1099. Lampetra fluviatilis; River lamprey

S1103. Alosa fallax; Twaite shad

Severn Estuary SPA (UK9015022)

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the ‘Qualifying Features’ listed below), and subject to natural change;

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 sit

Qualifying Features:

A037 *Cygnus columbianus bewickii*; Bewick’s swan (Non-breeding)

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)

A051 *Anas strepera*; Gadwall (Non-breeding)

A149 *Calidris alpina alpina*; Dunlin (Non-breeding)

A162 *Tringa totanus*; Common redshank (Non-breeding)

A394 *Anser albifrons albifrons*; Greater white-fronted goose (Non-breeding)