The Planning Inspectorate
Yr Arolygiaeth Gynllunio

REPORT on the IMPLICATIONS for EUROPEAN SITES

Proposed A303 Amesbury to Berwick Down ('A303 Stonehenge')

An Examining Authority report prepared with the support of the Environmental Services Team

Planning Inspectorate Reference: TR010025

3 September 2019

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TABLE OF CONTENTS

LIST OF TABLES

ANNEXES

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1 INTRODUCTION

1.1 Background

1.1.1 Highways England (the Applicant) has applied to the Secretary of State for a development consent order (DCO) under section 37 of the Planning Act 2008 (PA2008) for the proposed 'A303 Amesbury to Berwick Down' ('A303 Stonehenge') (the Proposed Development). The Secretary of State has appointed an Examining Authority (ExA) to conduct an examination of the application, to report its findings and conclusions, and to make a recommendation to the Secretary of State as to the decision to be made on the application.

1.1.2 The relevant Secretary of State is the competent authority for the purposes of the Habitats Directive[1] and the Habitats Regulations[2] for applications submitted under the PA2008 regime. The findings and conclusions on nature conservation issues reported by the ExA will assist the Secretary of State in performing their duties under the Habitats Regulations.

1.1.3 This report compiles, documents and signposts information provided within the DCO application, and the information submitted throughout the examination by both the Applicant and Interested Parties (IPs), up to Deadline 7 of the examination (9 August 2019) in relation to potential effects to European Sites[3]. Where possible, this RIES also seeks to capture relevant submissions made at Issue Specific Hearings (ISH) 8-11 (whilst noting that Deadline 8 (6 September 2019, including written summaries of oral submissions put at these hearings) post-dates the publication of this RIES). It is not a standalone document and should be read in conjunction with the examination documents referred to. Where document references are presented in square brackets [] in the text of this report, that reference can be found in the Examination library published on the National Infrastructure Planning website at the following link:

http://infrastructure.planninginspectorate.gov.uk/document/TR010025-000484

1.1.4 It is issued to ensure that IPs including Natural England (NE) as the statutory nature conservation body (SNCB) are consulted formally on Habitats Regulations matters. This process may be relied on by the Secretary of State for the purposes of Regulation 63(3) of the Habitats

[1] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as codified) (the 'Habitats Directive').

[2] The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

[3] The term European Sites in this context is limited to sites within the UK and includes Sites of Community Importance (SCIs), Special Areas of Conservation (SACs) and candidate SACs, Special Protection Areas (SPAs), possible SACs, potential SPAs, Ramsar sites, proposed Ramsar sites, and any sites identified as compensatory measures for adverse effects on any of the above. For a full description of the designations to which the Habitats Regulations apply, and/ or are applied as a matter of Government policy, see PINS Advice Note 10 (AN10).

Regulations. Following consultation the responses will be considered by the ExA in making their recommendation to the Secretary of State and made available to the Secretary of State along with this report. The RIES will not be revised following consultation.

1.1.5 The Applicant has not identified any potential impacts on Natura 2000 sites in other European Economic Area (EEA) States [**APP-265**]. Only European sites are addressed in this report.

1.2 Documents used to inform this RIES

1.2.1 The Applicant provided the following documents as part of their DCO application in support of HRA matters:

- 'Habitat Regulations Assessment (HRA): Likely Significant Effects Report' [**APP-265**] (LSE report) (including HRA screening matrices in accordance with the Planning Inspectorate's (the Inspectorate) Advice note 10 (AN10)); and
- 'Habitat Regulations Assessment (HRA): Statement to Inform Appropriate Assessment' [**APP-266**] (SIAA) (including HRA integrity matrices in accordance with AN10).

1.2.2 In response to the Inspectorate's advice under s51 of the PA2008 following the acceptance of the Application [**PD-003**], the Applicant also provided a plan showing all six European sites identified in the HRA reports [AS-008].

Examination

1.2.3 In response to the ExA's questions and representations made by Interested Parties during the examination, the Applicant provided a 'Habitat Regulations Screening Assessment - Clarification Technical Note' (Appendix 1 of [**REP7-011**]), the reasons for which are discussed further in sections 3 and 4 of this RIES.

1.2.4 For those European sites and qualifying features where the Applicant's conclusions have been disputed or queried during the examination, the matrices have been updated by the ExA, with the support of the Inspectorate's Environmental Services Team using the documents listed below. The revised matrices are included as Annexes 1 and 2 to this RIES.

1.3 Structure of this RIES

1.3.1 The remainder of this report is as follows:

- **Section 2** identifies the European site(s) that have been considered within the DCO application and during the examination period (up to 3 September 2019, as discussed at paragraph 1.1.3 above). It provides an overview of the issues that have emerged during the examination.

- **Section 3** identifies the European site(s) and qualifying feature(s) screened by the Applicant for potential likely significant effects (LSE), either alone or in-combination with other plans and projects. The section also identifies where IPs have disputed the Applicant's conclusions, together with any additional European sites and qualifying features screened for potential likely significant effects during the examination.
- **Section 4** identifies the European site(s) and qualifying feature(s) which have been considered in terms of adverse effects on site integrity (AEoI), either alone or in-combination with other projects and plans. The section identifies where IPs have disputed the Applicant's conclusions, together with any additional European sites and qualifying features considered for AEoI during the examination.
- **Annex 1 and 2** comprise matrices for those European sites and qualifying features for which the Applicant's conclusions were disputed in relation to potential for LSE and AEoI. of European sites. They summarise the evidence submitted by the Applicant and IPs up to 3 September 2019 (as discussed at paragraph 1.1.3 above).

2 OVERVIEW

2.1 European Sites Considered

2.1.1 Although the Applicant has not specifically stated as such, the ExA considers that the project is not connected with or necessary to the management for nature conservation of any European site.

2.1.2 The Applicant's HRA Report [**APP-265**],[**APP-266**] identified the following European sites and features) for which the UK is responsible for inclusion within the assessment:

Table 2.1: Sites Screened into the HRA by applicant

Name of European Site	Features	
River Avon SAC	Water courses of plain to montane levels	92/43/EEC Annex I habitats that are a primary reason for selection
	Atlantic salmon	92/43/EEC Annex II species that are a primary reason for selection
	Brook lamprey	
	Bullhead	
	Desmoulin's whorl snail	
	Sea lamprey	
Salisbury Plain SAC	Common juniper formations on heaths or calcareous grasslands[A]	92/43/EEC Annex I habitats that are a primary reason for selection
	Semi-natural dry grasslands and scrubland facies on calcareous substrates	
	Marsh fritillary butterfly	92/43/EEC Annex II species that are a primary reason for site selection
Salisbury Plain SPA	Stone curlew	79/409/EEC Article 4.1, Annex I (Breeding season)
	Eurasian hobby	
	Common quail	
	Hen harrier	79/409/EEC Article 4.1, Annex I (Over winter)
Chilmark Quarries SAC	Greater horseshoe bat	92/43/EEC Annex II species that are a primary reason for selection
	Barbastelle bat	
	Bechstein's bat	

Name of European Site	Features	
	Lesser horseshoe bat	92/43/EEC Annex II species present as a qualifying feature, (but not primary reason for site selection)
Mottisfont Bats SAC	Barbastelle bat	92/43/EEC Annex II species that are a primary reason for selection
Mells Valley SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates	92/43/EEC Annex I habitats present as a qualifying feature (but not primary reason for selection)[B]
	Caves not open to the public	
	Greater horseshoe bat	92/43/EEC Annex II species that are a primary reason for selection

[A] *Matrix 1 (Appendix B) of [APP-265] states that this feature is not present within the affected area of the Proposed Development. This is not specifically stated in Table 3.2 of [APP-265] although this has not been disputed by any IPs during the examination (nor has it's exclusion from consideration for LSE).*

[B] *Table 3.6 of [REP2-065] states that qualifying Annex I habitats for the Mells Valley SAC were not considered further for the purpose of LSE due to the distance of the SAC from the Proposed Development (29.3km)*

2.1.3 No submissions have been received to date during the examination to suggest the Applicant's methodology and scope of the assessment has not correctly identified the relevant European sites.

2.1.4 The Applicant's approach to the identification of European sites for consideration is set out in sections 2 and 2.3 of [**APP-265**], which explains that consideration is given to:

- Any European sites within 2km of the route corridor or project boundary; and
- Any SACs within 30km where bats are noted as one of the qualifying interest features.

2.1.5 A plan showing all six European sites identified in the HRA reports and their location relative to the Proposed Development was provided in [AS-008].

2.1.6 In response to ExQ1 G.1.2, Wiltshire Council expressed their view that "*all potential impacts on the designated features of all European Sites within the calculated zone of influence have been correctly identified* [by the Applicant]" [**REP2-046**].

2.1.7 The comments of NE [**REP2-016**, **REP2-120**], the Stonehenge Alliance in [**REP2-135**] and the RSPB [**REP2-125**, **REP2-017**] raise matters that are discussed further in this report but none that relate to or dispute the extent of sites that are considered as part of the Applicant's HRA documentation.

2.1.8 The Environment Agency (EA) deferred HRA matters to NE in their response to ExQ1 [**REP2-095**].

2.2 HRA Matters Considered During the Examination

2.2.1 In respect of HRA matters, the Examination has largely focussed on:

- **Salisbury Plain SPA**
  - The adequacy of mitigation provisions around the direct loss of a stone curlew breeding plot at Parsonage Down;
  - Operational effects of the Proposed Development and potential increases to recreational disturbance of stone curlew at Normanton Down;
- **River Avon SAC**
  - Impacts of any construction dewatering that may be required and the extent to which this was accounted for in [**APP-265**];
  - The Applicant's conclusions of no LSE on the River Avon SAC (in respect of water quality elements);
- **Salisbury Plain SAC**
  - Potential impacts of construction dust;
  - Potential impacts of direct habitat modification proposed by the Applicant within the SAC.

2.2.2 These matters are discussed in the following sections of this RIES.

2.2.3 Matters relating to the adequacy of the Applicant's assessment and its conclusions for the Chilmark Quarries, Mottisfont Bats and Mells Valley SACs have not been raised by any IPs during the course of the examination. As such, the HRA matrices for these three sites presented by the Applicant in Appendix B of [**APP-265**] have not been updated by the ExA and do not appear as part of Annexes 1 or 2 of this RIES.

3 LIKELY SIGNIFICANT EFFECTS

3.1 The Applicant's Assessment

3.1.1 The Applicant has described how they have determined what would constitute a 'significant effect' within their HRA LSE report [**APP-265**]. In particular, paragraph 2.1.1 [**APP-265**] sets out the Applicant's own HRA process in accordance with the Design Manual for Roads and Bridges (DMRB) guidance (HD44/09). Annex C of HD/44/09 sets out the approach to the assessment of LSE.

3.1.2 The Applicant's HRA reports [**APP-265**, **APP-266**] also make reference to having been prepared in view of this guidance the general 2001 EC guidance on HRA: *"Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive"*.

3.1.3 Section 2.4 of [**APP-265**] presents the criteria for the identification of relevant projects for consideration as part of the in-combination assessment. Those plans and projects are:

- Wiltshire Core Strategy (Adopted 2015);
- Local Transport Plan 3: Joint Strategy for South Hampshire (to 2031);
- Wiltshire Local Transport Plan (2011 – 2026);
- Draft Devizes Neighbourhood plan (2014);
- Winchester District Local Plan Part 1 (Adopted 2013);
- Winchester District Joint Core Strategy DPD (Adopted 2013);
- Southampton Adopted Core Strategy (amended 2015);
- Warminster Neighbourhood Plan (2015 – 2026);
- New Forest District Local Plan (2016 – 2036);
- Test Valley Borough Revised Local Plan (Adopted 2016); and
- Army Basing Programme (announced 2015).

3.1.4 The ExA asked questions of the Applicant and IPs at ExQ1 (Ec.1.1) [**PD-008**] regarding the approach to the in-combination assessment and the plans and projects identified. In particular, other projects not listed in section 2.4 of [**APP-265**] were included within the Applicant's cumulative impact assessment chapter of the ES (Paragraph 15.2.20 of [**APP-053**]).

3.1.5 The Applicant explained the inherent differences between the definition of projects and relevant zones of influence (ZoI) for the HRA in-combination assessment and EIA cumulative assessment [**REP2-027**]. The HRA considered *"those projects or plans that could result in a significant effect on the European sites based on the existence of*

potential impact pathways and knowledge of the sensitivities of that site".

3.1.6 Particular consideration is given to in-combination effects of recreational pressures associated with new housing across Wiltshire which the Applicant considers in the HRA reports through the relevant Local Plans.

3.1.7 In their responses to ExQ1 (Ec.1.1), NE specifically recorded their satisfaction with the Applicant's HRA in-combination assessment [**REP2-120**], with Wiltshire Council stating that they were "*not aware of any other plans or projects that should be included*" [**REP2-046**].

3.1.8 The comments of other IPs in relation to HRA matters do not extend to disputing the scope of projects that have been screened in to the assessment of in-combination effects by the Applicant, including submissions made by the RSPB and the Stonehenge Alliance.

3.1.9 The Applicant's screening assessment [**APP-265**] concludes that the project would have no LSE, either alone or in-combination with other projects or plans, on any of the qualifying features of the European site(s) listed below:

- Chilmark Quarries SAC;
- Mottisfont Bats SAC; and
- Mells Valley SAC.

3.1.10 In relation to these sites, tables 3.4-3.6, matrices 4, 5 and 6 and Appendix C of [**APP-265**] summarise the Applicant's conclusions of no LSE in respect of these sites. These conclusions are largely on the basis of the geographic separation of the SACs from the Proposed Development and as a result, any foraging and commuting routes in and around the Proposed Development are not considered part of the core roost resource zone.

3.1.11 These conclusions have not been disputed by any IPs during the course of the examination.

3.2 Examination Issues around LSE Conclusions

3.2.1 This section focuses on the Applicant's conclusions of no LSE. Where the Applicant has taken forward European sites and qualifying features to consideration of AEoI, these are considered in Section 4 of this RIES.

3.2.2 The Applicant's HRA screening matrices provided at Appendix B of [**APP-265**] have also been updated by the ExA (to reflect the discussions in relation to the European sites described in this RIES) and which are provided at Annex 1 of this RIES.

River Avon SAC

Surface Water Quality

3.2.3 In ExQ1 Ec.1.24 [**PD-008**], the ExA asked the Applicant to clarify the basis on which conclusions of no LSE for water quality impacts for all qualifying features was reached.

3.2.4 In reaching a conclusion of no LSE, it appeared to the ExA that the Applicant was reliant on a suite of "measures" intended to avoid or reduce the harmful effects of the project on European sites, and that reliance for the purposes of no LSE may be contradictory to the ruling of the European Court of Justice (ECJ) in *People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)*[4].

3.2.5 In this regard, Table 3.1 of [**APP-265**] cited the following:

- 'Construction period measures' - incorporated into the Outline Environment Management Plan (OEMP) ([**APP-187**] as superseded up to Deadline 7 by [**AS-085**][5]) and ultimately to be delivered through contractual requirements and the Construction Environmental Management Plan (CEMP); and
- 'Operational measures' – physically incorporated into the engineering design, required in order to meet the Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and Environmental Permitting (England and Wales) Regulations 2010[6].

3.2.6 In response to ExQ1 Ec.1.24 [**REP2-027**], the Applicant stated that "*none of the aforementioned measures are being specifically introduced to avoid adverse effects on the SAC but to comply with other legislative requirements which would apply even if no SAC designation existed*". Further, such measures "*had already been incorporated into the Scheme before the HRA process was started in order to comply with other legislative requirements"*.

3.2.7 They also cited other instances where they have taken other potential effects on the SAC forward to the appropriate assessment stage "*because they* [certain measures] *were specifically introduced to avoid or reduce harmful effects*" on European site(s).

3.2.8 ExQ1 Ec.1.6 also sought clarification on these points from the Applicant, in particular relating to management of surface water run-off and potential impacts on the River Avon SAC catchment [**PD-008**].

3.2.9 In response [**REP2-027**], the Applicant explained that proposals for monitoring and maintaining the quality of water run-off would be secured through the OEMP and a drainage system constructed '*based on the mitigation measures included in the environmental statement and including means of pollution control*' through DCO requirement 10.

3.2.10 An assessment using the Highways England Water Risk Assessment Tool (HEWRAT) was also undertaken [**APP-279**]. The Applicant's view is that this assessment demonstrates an overall beneficial effect in relation to

[4] http://curia.europa.eu/juris/document/document.jsf?docid=200970&doclang=EN

[5] The ExA accepted an updated version of the OEMP (revision 4 dated 19 August) as [**AS-085**]. At the time of publication of this RIES, [**AS-085**] is the most recent version of OEMP.

[6] The ExA considers that this reference should be to The Environmental Permitting (England and Wales) Regulations 2016

discharge of surface water runoff into the River Avon compared to the existing situation. This position is also agreed by the EA (item 3.10 of [**REP2-012**],[**REP7-005**]).

3.2.11 In NE's response to ExQ1 Ec.1.24 [**REP2-120**], they agreed that "*Construction and operation of the Scheme theoretically carries the risk of effects on water quality*" but that "*there will be no effect on water quality as a result of construction or operation of this Scheme due to measures already required to ensure scheme compliance*" with other legislative provisions as cited by the Applicant. By way of conclusion, NE agree with the Applicant that "*As such the measures are not intended to avoid or reduce the harmful effects of the project on European sites per se, and the applicant appears not to be considering them as "mitigation" in the context of the Habitats Regulations*".

3.2.12 The ExA's questions in this regard were asked with the intention to understand the extent to which the measures referred to above were necessary to support the Applicant's conclusions of no LSE. Based on the responses received, it would appear that these measures do influence such findings, although the ExA understands the Applicant's position is that the inclusion of such measures are not be specifically for the purposes of avoiding or reducing significant effects on the European site. Nonetheless, the conclusions reached would appear to the ExA to place at least some degree of reliance on these measures. The SoS as the Competent Authority will ultimately need to address these points in discharging its duties under the Habitats Regulations.

Groundwater and Hydrology

3.2.13 The relevant representation of the EA raised some concerns regarding the assessment of risks to groundwater levels and flows posed by the tunnel itself [**RR-2060**], and that they were awaiting supplementary information from the Applicant.

3.2.14 The ExA posed questions of the Applicant, NE and the EA on these points, and in particular if / how these concerns related to the Applicant's conclusions of no LSE in relation changes to water level and flow in the River Avon SAC (Ec.1.14 of [**PD-008**]).

3.2.15 Other IPs raised similar concerns around these points, in particular the Stonehenge Alliance [**REP2-135**], who were of the view that "*There are current threats to the integrity of the SAC, including over-abstraction and pollution"* and that "*Concern about potential impacts on the SAC of the A303 Stonehenge scheme appear to have been limited by Highways England to the design of the proposed new bridge over the River Till*".

3.2.16 The Applicant did not directly respond to the points of the Stonehenge Alliance in [**REP2-135**] in their comments on written representations at Deadline 3 [**REP3-013**].

3.2.17 The Applicant responded to Ec.1.14 of [**PD-008**] at Deadline 2, setting out their position that it is "*unlikely that dewatering would be necessary for the construction of the tunnel or portals and therefore there would be no significant effects on the SAC as a result of dewatering. This is because of the combination of the likely construction method to be used*

and the location of the construction relative to the groundwater levels in the Chalk (i.e. construction above the water table)" [**REP2-027**].

3.2.18 In the OEMP at Deadline 4 [**REP4-020**] (as superseded by [**AS-085**]), the Applicant has committed to: "*Construction of the bored section of the tunnel shall be undertaken using closed face tunnelling techniques*". As outlined in their Deadline 3 submissions [**REP3-013**], the closed face techniques provide "*the best option for tunnelling in the chalk geology found in this location as it provides greater control on settlement and removes the need for dewatering during the main tunnel construction*".

3.2.19 Compliance with the OEMP [**AS-085**] is secured under DCO Requirement 4, and item D-CH32 of the OEMP states: "*Construction of the bored section of the tunnel shall be undertaken using closed face tunnelling techniques*". Section 2.4.32 of ES Chapter 2 [**APP-040**] refers to two tunnelling options (open and closed face), and D-CH32 of the OEMP is proposed to require the main contractor to use only closed face techniques. This restriction is not specifically reflected in the description of work no. 1F of the DCO itself [**REP6-005**].

3.2.20 In their responses to ExQ3 Fg.2.33 [**REP6-028**], the Applicant re-iterated that "*based on the current design and construction methods, no abstraction of groundwater is anticipated*" although "*It is possible that temporary and localised groundwater control could be required for the construction of the tunnel portal slab*". OEMP item MW-WAT8 requires "*construction techniques which minimise, so far as reasonably practicable, the need for and extent of dewatering and groundwater abstraction*".

3.2.21 In their response to ExQ2 Fg.2.33 and Fg.2.34 [**REP6-047**], the EA did not raise any concerns with regard to the Applicant's assessment of no LSE on the River Avon SAC in this regard. The EA also appeared to be content that should dewatering be required, "*the licensing regime will ensure that dewatering is only allowed where it has been demonstrated by the applicant or their contractor that the impacts of the proposed operation are acceptable"* and that the detail within Groundwater Management Plan and CEMPs prior to any licence application would provide sufficient safeguarding (ie it would not permitted if it cannot be demonstrated to the satisfaction of the EA that the impacts are acceptable). Their response also cited the Water Resources Act 1991, and that a licence would be required from the EA if any dewatering is proposed at a rate greater than 20 m^3/day, and this was re-iterated at by the Applicant at ISH10 [**EV-035**].

3.2.22 In their SoCG at Deadline 2, the EA appear content with the Applicant's conclusions of no LSE: "*ground investigations that have been conducted are appropriate to enable an adequate assessment of impacts for the submitted scheme on groundwater and surface water receptors*" and that "*The methodologies used for the A303 groundwater numerical model (including groundwater flood risk) and the groundwater impact assessment have been agreed with the EA as being appropriate*" [**REP2-012**].

3.2.23 NE's WR and their response to the ExA's first and second written questions [**REP2-120**], [**REP6-062**] do not raise substantive concerns around the conclusions of no LSE on the River Avon SAC based on the groundwater assessments undertaken by the Applicant.

3.2.24 However, items 4.6 and 4.7 of the SoCG with NE [**REP2-016**] stated that certain matters remained under discussion between NE and the Applicant in relation to the River Avon SAC:

- Uncertainty as to how accurate the groundwater flow modelling reflects water levels that are "critical" for the Desmoulin's whorl snail. NE are of the view that "*An appropriate assessment should therefore consider the confidence that can be applied to the outputs from the model…and whether further conceptualisation of the chalk geology would help to increase the confidence*". They also suggest a plan is needed to include:
  - monitoring sufficient to assess if potential impacts are materialising,
  - certainty that there are viable measures sufficient to mitigate worst case impacts,
  - commitment to delivery of such measures.
- Whilst NE recognise that temporary construction dewatering will be minimised as far as reasonably practicable, they still consider there is potential for "*a significant effect on ground water levels in the area and therefore on Desmoulin's whorl snail*";
- NE want to understand in more detail what "*20% betterment on the existing discharges"* to the River Avon will actually look like and how the Proposed Development aligns with the restoration of the physical condition of the SAC as part of the River Avon Restoration Plan. NE therefore advise that an appropriate assessment is required given that the Proposed Development could "*conceivably, preclude the necessary restoration of the physical condition of the SAC at this location*".

3.2.25 The Applicant's position in [**REP2-016**] is that "*the scheme would not have any adverse effect on the populations of Desmoulin's Whorl snail*".

3.2.26 At Deadline 6 [**REP6-024**], the Applicant stated that it was "*progressing a further HRA clarification note in respect of the River Avon SAC*", in response to these items.

3.2.27 This clarification note was provided as Appendix 1 to the Applicant's updated SoCG with NE at Deadline 7 [**REP7-011**], and in relation to the River Avon SAC covered the basis on which the following were screened out of the HRA as having no LSE:

- Effects on phosphatic chalk (paragraph 1.15 – 1.22, Appendix 1 of [**REP7-011**]):

  - Although phosphorus (as phosphate) poses a threat to the River Avon SAC, these are naturally present in the chalk geology and can also enter waterbodies from a range of anthropogenic activities. Leachate tests reported in [**APP-048**] and section 5.11 [**APP-273**]) reported concentrations of orthophosphate below the laboratory detection limits. These low concentrations contrast to higher concentrations measured in the River Avon, suggesting the origin of the phosphorus in the surface water is from the upper catchment rather than the phosphatic chalk. The leachate tests as referred to above suggest it is unlikely that they yield large concentrations of dissolved phosphorus. As such, the Applicant is of the view that abstraction and subsequent use of the chalk tunnel spoil (some of which will be generated from activities in the vicinity of Stonehenge Bottom) is unlikely to add to the phosphorus levels within the groundwater, and no LSE is concluded;

- Hydrological effects (including temporary and permanent effects to groundwater and surface water associated with the construction and operation of the Proposed Development) (paragraphs 1.23 – 1.47 Appendix 1 of [**REP7-011**]):

  - In terms of construction, the Groundwater Risk Assessment [**APP-282**] and sections 6.1 – 6.5 and Table 3.1 of the LSE report [**APP-265**] consider these matters and closed face tunnelling techniques will be used (D-CH32 of the OEMP) to "*minimise the need to undertake dewatering during construction*". Dewatering activities "*will be required to comply with the general water protection provisions of the relevant legislation. As such, no significant effects associated with dewatering have been identified, and as such temporary dewatering was screened out in the HRSA*". Such legislation includes the provisions of the Water Abstraction and Impounding (Exemptions) Regulations 2017. If dewatering was required, the OEMP secures the preparation and implementation of a Groundwater Management Plan (MW-WAT10) in consultation with the EA (including requirement for monitoring of groundwater if any changes "*would be considered significant*" (MW-WAT15)).

  - In respect of permanent effects, groundwater modelling in [**APP-282**] "*has undergone sensitivity testing to verify it under different conditions and has been independently review* [sic] *to confirm that it is both robust and precautionary*", and this is set out in Appendix 2 to [**REP7-011**], including the zones of influence of the tunnel on groundwater. The groundwater modelling in [**APP-282**] predicts negligible changes in flow in

any reach of the River Avon or the River Till at low flows in an average year (flow changes associated with the Proposed Development are anticipated to be less than 0.1% and 0.2% in the Rivers Avon and Till respectively). Appendix 11.6 of the ES [**APP-284**] concludes that the effects of the Proposed Development will be neutral "*due to the design measures identified in Table 2 [APP-284] regarding protection of surface and groundwater from construction of the tunnel and bridges (secured via the OEMP)*". In particular "*there would be no likely significant effect and no need for an appropriate assessment for effects on Desmoulin's whorl snail"*.

3.2.28 Appendix 2 of the SoCG with NE at Deadline 7 [**REP7-011**] also includes specific consideration of "Water Issues Related to River Avon SAC" as raised by NE in their Deadline 2 iteration of the SoCG [**REP2-016**]. In particular NE are in agreement that:

- An appropriate assessment is not required in respect of monitoring "*at the location of the Desmoulins whorl snail because there will be no impact from the scheme"* and that MW-WAT10 of the OEMP is sufficient (to conclude no LSE).
- The drainage design of the Proposed Development would have no adverse effect on water quality in the River Avon (OEMP [**AS-085**] MW-WAT 14 requires the surface water drainage system to reflect the mitigation measures in the ES and conformity with the OEMP is secured by requirement 10 of the DCO). Also agreed that the Proposed Development would not prevent the "construction" of the proposed River Avon improvement project.
- "*The effects on hydrology associated with permanent construction and operation activities have been assessed and are not significant so an Appropriate Assessment of these effects is not required".*

3.2.29 Sections 4 and 5 of the main body of the SoCG with NE record that there are no matters under discussion and no matters that are not agreed between NE and the Applicant [**REP7-011**].

3.2.30 An updated SoCG between the Applicant and the EA was also provided at DL7 [**REP7-005**] which states under 'matters agreed' that: "*The integrity of the River Till and River Avon SAC will not be significantly affected subject to the appropriate controls within the DCO application and any required environmental permits or licences*"[7]. Items 3.17 and 3.18 of [**REP7-005**] also express the EA's satisfaction that:

[7] The EA refer to both 'integrity' and the site being 'not significantly affected', and the ExA understands their position to be that there would be no LSE on the River Avon SAC.

- *The methodologies used for the A303 groundwater numerical model (including groundwater flood risk) and the groundwater impact assessment have been agreed with the EA as being appropriate;*
- *It is agreed that the ground investigations that have been conducted are appropriate to enable an adequate assessment of impacts for the submitted scheme on groundwater and surface water receptors. Highways England acknowledge that further ground investigation may be required to support the construction phase and detailed design.*

3.2.31 In response to Fg.2.23 of ExQ2 [**REP6-047**], the EA also outlined their satisfaction that "*MW-WAT10 of the OEMP secures the requirement for the Groundwater Management Plan to include a groundwater level and water quality monitoring and reporting programme*" and that MW-G7 and MW-WAT10 are "*a fundamental mechanism to provide a level of assurance that the scheme will not adversely affect the sensitive groundwater environment. We are satisfied with the proposed details of the plan from the outline provided in MW-WAT10"*.

3.2.32 The position of the Stonehenge Alliance at Deadline 6 remained as per their previous comments in their written representations [**REP2-131**], **REP2-135**] and [**REP4-087**] where they summarised that many of their concerns are around "*the inadequacy and incompleteness of existing Site Investigation Data (both in Drill and Well-logs), Groundwater Data and consequent G/W Modelling*". At [**REP6-064**], the Stonehenge Alliance "*continues to refute that Highways England groundwater modelling is "fit for purpose" for accurately modelling groundwater effects relevant to the proposed A303 tunnel*".

Shading of the River Till

3.2.33 The Applicant concluded that there would be a LSE associated with overshadowing from the Proposed Development's bridge over the River Till for all features, with the exception of the Desmoulin's whorl snail (Table 3.1 and Matrix 3 of [**APP-265**]). These are considered further in section 4 of this RIES.

3.2.34 The conclusions of no LSE for Desmoulin's whorl snail were discussed as part of the examination by NE (item 4.6 of [**REP2-016**]). As set out above, in their SoCG with the Applicant at Deadline 7 they agreed that there was "*no need for an appropriate assessment for effects on Desmoulin's whorl snail*" [**REP7-011**].

Air Quality Effects

3.2.35 In ExQ1 Ec.1.14 [**PD-008**], NE was asked to comment on the Applicant's assertion that increases in NOx during construction of the Proposed Development would result in no LSE to the vegetation of the River Avon SAC.

3.2.36 The Applicant was also asked at ExQ1 Ec.1.11 [**PD-008**] to clarify what if any, measures are in place to ensure no LSE to the SAC associated

with the proposed haul route over the River Till, and to quantify the estimated number of vehicle trips likely to be using the haul route.

3.2.37 The Applicant responded at [**REP2-027**] outlining where the quantification of vehicle trips is set out in the ES and describing what it calls embedded design measures and construction phase management measures to be employed.

3.2.38 NE's response at [**REP2-120**] agreed with the conclusions of the Applicant (no LSE). No other IPs have raised any concerns around air quality effects of the Proposed Development on the River Avon SAC.

3.2.39 The Applicant's conclusions of no LSE in relation to operational changes (increases) in NOx concentrations at the River Avon SAC have not been disputed by any IPs, and the supporting analysis behind these conclusions is presented in Appendix D of [**APP-265**].

Noise and vibration disturbance

3.2.40 The Applicant concludes no LSE on all qualifying features from noise disturbance during construction and operation, as set out in items 44) – 46), table 3.1 of [**APP-265**].

3.2.41 The ExA asked a number of questions regarding noise effects in and around the River Till at ExQ1 (e.g. Ns.1.33, Ns.1.36 and Ns.1.44 of [**PD-008**]). In response to these questions, the Applicant clarified that there is no piling proposed within the channels of the River Till or River Avon [**REP2-034**] through the design of the Proposed Development and there are commitments to non-impact piling, exclusion zones, sensitive lighting and suitable ecological supervision at the River Till viaduct as part of the OEMP [**AS-085**].

3.2.42 Neither NE or the EA have raised concerns in respect of no LSE conclusions for noise and vibration effects on the River Avon SAC, though the ExA notes that there were some discussions around the commitments to non-impact piling at the River Till at ISH5 [**REP4-049**]. None of these discussions raised any dispute over the Applicant's conclusions of no LSE to features of the River Avon SAC.

3.2.43 At this point, the ExA notes the comments made in paragraph 3.2.12 of this RIES, and they apply equally here. The ExA considers the conclusions of no LSE reached would appear to place at least some reliance on certain 'measures', regardless of whether they may not be specifically for the purposes of avoiding or reducing significant effects on the European site.

Salisbury Plain SAC

3.2.44 The Applicant has concluded LSE for all qualifying feature in relation to construction dust emissions, which is discussed further in section 4 of this RIES.

3.2.45 Similarly, to the River Avon SAC above, the Applicant's conclusions of no LSE in relation to operational changes (increases) in NOx concentrations at the Salisbury Plain SAC have not been disputed by any IPs, and the

evidential basis on which this conclusion is reached is presented in Appendix D of [**APP-265**].

3.2.46 Item 3.14 of the Applicant's SoCG with NE [**REP2-016**] records specific agreement for the Salisbury Plain SAC that "'*significant effects are not anticipated' from NOx emissions, or nitrogen deposition from the Scheme*".

3.2.47 In Appendix 1 of the Deadline 7 updated version of the SoCG with NE [**REP7-011**], the Applicant provided clarification in respect of NOx concentrations and nitrogen deposition on the Salisbury Plain SAC during the operation of the Proposed Development, affirming the Applicant's view of there being no LSE associated with this pathway (paragraphs 1.5 – 1.14, Appendix 1 of [**REP7-011**].

3.2.48 The Applicant's conclusions of no LSE from NOx emissions or nitrogen deposition during operation of the Proposed Development have not been disputed by IPs during the examination.

Salisbury Plain SPA

3.2.49 The Applicant has concluded potential for LSE to the stone curlew qualifying feature of the SPA under the following pathways (section 4.2 of [**APP-265**]:

- A net loss of stone curlew breeding opportunities and construction disturbance; and
- Effects on stone curlew in-combination with other plans and projects due to increased visitor-related disturbance during operation of the Proposed Development.

3.2.50 These matters are discussed further in section 4 of this RIES.

3.2.51 In relation to all impact pathways considered, the Applicant has concluded no LSE for all other qualifying features, namely hen harrier, common quail and hobby, for reasons summarised in Matrix 2 of [**APP-265**], namely that:

- Hen harrier does not breed in the SPA (and there are known roosting sites more than 10km from the scheme) and
- Quail and hobby are not tied to specific breeding plots and are less sensitive to disturbance than other qualifying features (species) of the SPA.

3.2.52 The Applicant's conclusions of no LSE alone and in-combination for these species has not been disputed by any IPs during the course of the examination. In particular, NE agreed in response to the ExA's first written questions that they "*concur with the applicant's conclusion of no likely significant effects on the other qualifying features* [except stone curlew]" [**REP2-120**].

Table 3.1: The Applicant's screening exercise and degree of agreement with Interested Parties

European Site	Impact(s)	Relevant Qualifying Feature(s)	LSE?	Disputed by IPs and / or Examination issue?
River Avon SAC (Table 3.1 and Matrix 3 of [**APP-265**])	Water Quality	All features (as per Table 2.1 of this RIES)	No (all features)	Yes ExQ1 Ec.1.24 [**PD-008**] Agreement between the Applicant and NE (items 4.6 and 4.7 of [**REP2-016**] and [**REP7-011**]) Agreed between the EA and the Applicant at Items 3.17 and 3.18 of [**REP7-005**]
	Shading of the River Till	All features (excluding Desmoulin's whorl snail)	Yes (all features)	N/a (taken forward to consideration of AEoI, see section 4 of this RIES)
		Desmoulin's whorl snail	No	No This aspect has not been disputed by IPs, but this qualifying feature is considered further in respect of other impacts in section 4 of this RIES
	Blockage of fish passage	Sea lamprey	No	No This aspect has not been commented on or otherwise disputed by IPs. Agreed between the EA and the Applicant at Item 3.6 of [**REP7-005**]
		Brook lamprey		
		Atlantic salmon		
		Bullhead		
	Changes to water level and flow	All features (as per Table 2.1 of this	No (all features)	Yes ExQ1[**PD-008**]

European Site	Impact(s)	Relevant Qualifying Feature(s)	LSE?	Disputed by IPs and / or Examination issue?
		RIES)		SoCG between the Applicant and NE (items 4.6 and 4.7 of [**REP2-016**]) Agreement between the Applicant and NE (items 4.6 and 4.7 of [**REP2-016**] and [**REP7-011**]) Agreed between the EA and the Applicant at Items 3.17 and 3.18 of [**REP7-005**]
	Disturbance (e.g. Noise and vibration)	Sea lamprey	No	No. Conclusions of LSE not disputed
		Brook lamprey		
		Atlantic salmon		
		Bullhead		
	Spread of invasive species	All features (as per Table 2.1 of this RIES)	No (all features)	No This aspect has not been commented on or otherwise disputed by IPs. EA have agreed at 3.9 of their SoCG with the Applicant [**REP2-012**] and [**REP7-005**].
	In combination effects (vehicle exhaust emissions)	All features (as per Table 2.1 of this RIES)	No (all features)	Yes ExQ1. Ec.1.14 [**PD-008**] NE agreed with the conclusions of no LSE [**REP2-120**]

European Site	Impact(s)	Relevant Qualifying Feature(s)	LSE?	Disputed by IPs and / or Examination issue?
Salisbury Plain SAC[8] Table 3.2 and Matrix 1 of [**APP-265**])	Dust deposition	Semi-natural dry grasslands and scrubland facies on calcareous substrates	Yes (construction) only)	N/a (taken forward to consideration of AEoI)
		Marsh fritillary		
	In combination effects (vehicle exhaust emissions)	Semi-natural dry grasslands and scrubland facies on calcareous substrates	No	Yes ExQ1 Ec.1.12 [**PD-008**] Agreement between the Applicant and NE (item 3.14 [**REP7-011**])
		Marsh fritillary		
Salisbury Plain SPA Table 3.3 and Matrix 2 of [**APP-265**])	Non-recreational disturbance	Stone curlew	Yes	N/a (stone curlew taken forward to consideration of AEoI for all impact pathways (with the exception of non-recreational disturbance during operation)
	Loss of breeding plots			
	In combination effects (recreational pressure)[9]			
	Non-recreational disturbance (construction	Hen harrier, common	No	No

[8] The *Juniperus communis* (formations on heaths and calcareous grasslands) qualifying feature of the SAC has been screened out of further consideration for all potential effects on the basis that it is "Not present in affected area" (matrix 2 of [APP-265]). This conclusion has not been disputed but any IPs during the examination.

[9] [APP-265] only considers potential for LSE from recreational pressures in-combination with other plans and projects (ie not specifically for recreational pressures from the Proposed Development alone). Item 48 of Table 3.3 states that, as a result of the Proposed Development, the "*original A303 road will cease to function as a barrier to pedestrians which will open up the land to the south of the WHS to the public. The removal of the old A303 as a barrier to foot traffic will allow visitors from the WHS to explore the Public Rights of Way (PRoW) to the south of the A303 which pass directly adjacent to the Normanton Down RSPB reserve. The Scheme would not provide unrestricted access to farmland south of the A303 and public access is expected to continue to be on the existing byways.*" The ExA therefore understands the Applicant's position that there is no LSE from recreational disturbance from the Proposed Development alone (as reflected in Matrix 2 of [APP-265]).

European Site	Impact(s)	Relevant Qualifying Feature(s)	LSE?	Disputed by IPs and / or Examination issue?
	and operation)	quail, hobby		The Applicant's conclusion of no LSE for all three species has not been disputed by any IPs. NE concurred with the applicant's conclusion of no LSE on these features (in their response to ExQ 1.15(ii)(c) [**REP2-120**].
	Loss of breeding plots			
	In combination effects (recreational pressure)			

4 ADVERSE EFFECTS ON INTEGRITY

4.1 Conservation Objectives

4.1.1 The conservation objectives along with reasons for designation and current pressures and threats to the site(s) for all of the European sites considered as part of the HRA assessments are provided in Appendix A of [**APP-265**] ('European Designated Sites Background'). For those sites taken forward to consideration of AEoI, this information was also provided at Appendix A of [**APP-266**]

4.2 The Integrity Test

4.2.1 The Applicant concluded that the project would have a LSE on the Salisbury Plain SAC, Salisbury Plain SPA and River Avon SAC.

4.2.2 Several matters relating to the identification of AEoI of European sites were discussed during the Examination. These are detailed below and considered separately in the context of each site in the following sections of this RIES.

4.2.3 Table 4.1 then identifies those sites and features where the Applicant's conclusion of no AEoI have been disputed by IPs during the Examination, and the Applicant's Stage 2 integrity matrices (Appendix C of [**APP-266**] have been updated for the relevant sites and features (see Annex 2 of this RIES).

River Avon SAC

4.2.4 As set out in paragraphs 3.2.3 - 3.2.33 of this RIES, questions arose around the Applicant's conclusions of no LSE in respect of compliance with the ECJ ruling in *People Over Wind, Peter Sweetman v Coillte Teoranta* (C-323/17) and the adequacy of the Applicant's groundwater modelling in reaching a conclusion no LSE.

4.2.5 Those arguments are not repeated here, and the Applicant remains of the view that "*none of the aforementioned measures* [in respect of water quality, water flows, non-native species and noise] *are being specifically introduced to avoid adverse effects on the SAC but to comply with other legislative requirements which would apply even if no SAC designation existed*". Further, such measures "*had already been incorporated into the Scheme before the HRA process was started in order to comply with other legislative requirements*" (ExQ1 Ec.1.24, [**REP2-027**]).

4.2.6 They also cited other instances where they have taken other potential effects on the SAC forward to the appropriate assessment stage "*because they* [certain measures] *were specifically introduced to avoid or reduce harmful effects*" on European site(s), and this includes impacts around shading of the River Till.

4.2.7 Therefore, [**APP-266**] only provides information to inform an appropriate assessment in respect of shading of the River Till (Section 6, Appendix C (matrix 3) and Appendix D of [**APP-266**]).

4.2.8 The Applicant's conclusions of no AEoI from shading of the River Till (alone or in combination with other plans and projects) have not been the subject of dispute during the course of the examination.

4.2.9 Although SoCG's between the Applicant and the EA [**REP7-005**] and NE [**REP7-011**] do not record specific agreement with the Applicant's conclusions of no AEoI for this matter in particular, they do not raise any concerns with the conclusions.

4.2.10 The position of the Stonehenge Alliance in respect of the Applicant's conclusion of LSE (as discussed at paragraph 3.2.29 of this RIES) is noted here. The Stonehenge Alliance "*continues to refute that Highways England groundwater modelling is "fit for purpose" for accurately modelling groundwater effects relevant to the proposed A303 tunnel*" [**REP6-064**].

Salisbury Plain SAC

4.2.11 The Applicant concluded LSE in relation to construction dust emissions as set out in section 4.1 of [**APP-265**].

4.2.12 In response to ExQ1 Ec.1.12, NE confirmed their satisfaction that the dust suppression measures set out in the OEMP would satisfactorily address any potential effects of dust deposition during construction in those parts of the SAC that lie relatively close to the works [**REP2-120**], and they did not dispute the Applicant's conclusions of no AEoI as reported in section 4.1 of [**APP-266**].

4.2.13 The Applicant's conclusion of no AEoI from dust deposition during construction (as set out in paragraph 4.1.3 of [**APP-266**]) has not been disputed during the examination. The Applicant did not identify any in-combination effects for this impact pathway and this too was not the subject of any dispute during the examination.

4.2.14 The ExA also asked questions about the Applicant's approach to mitigation for the Salisbury Plain SPA, which involved habitat modification within the Salisbury Plain SAC. This is considered further in following paragraphs of this RIES.

Salisbury Plain SPA

4.2.15 One of the key points of discussion during the examination has been the potential for AEoI on the stone curlew associated with:

- Clearance / direct loss of a known (and successful) stone curlew nesting plot (plus disturbance of nesting birds), and issues around a proposed replacement stone curlew plot within the bounds of the Salisbury Plain SAC; and
- Recreational disturbance to stone curlew during long term operation of the Proposed Development associated with changes to PRoW routes and access which will "*open up the area to recreational activity*" in and around existing plots.

Clearance / Replacement of Nesting Plot during Construction

4.2.16 Section 5.1 of [**APP-266**] explains that one regularly used stone curlew nesting plot (albeit outside the SPA) is expected to be "*rendered unusable as a direct result of the scheme due to land-take for the Winterbourne Stoke by-pass*". The Applicant is of the view that this plot supports "*0.5% of the British breeding population of the species*".

4.2.17 The Applicant concludes that the loss of this successful stone curlew plot will result in a net reduction in breeding opportunities for the species "*which could affect the ability of Salisbury Plain SPA to achieve its conservation objectives*".

4.2.18 As such, [**APP-266**] states that, in discussion with NE and RSPB, the Applicant agreed to provide a replacement plot before the existing plot is lost to the Winterbourne Stoke bypass, and that "*Since the plot to be lost is outside the SPA boundary itself the provision of a replacement plot does not class as 'compensation' sensu the Habitats Directive*".

4.2.19 The Applicant also sets out that the proposed new breeding plot will be located within the Salisbury Plain SAC boundary but "*will not itself result in an adverse effect on the integrity (the coherence of the structure and function) of the SAC*" given that the plot amounts to only 0.005% of the total area of the SAC, and that its creation would not constitute 'loss' of SAC habitat but rather a change to the overall grassland structure and is "*normal practice for a balance between the needs of the interest features*" due to the physical overlap between the SPA and SAC (paragraphs 5.1.5 – 5.1.7 of [**APP-266**]).

4.2.20 The ExA posed specific questions of the Applicant, RSPB and NE on these points at ExQ1 (Ec.1.15 – Ec.1.19 of [**PD-008**]).

4.2.21 In their responses to these questions at Deadline 2:

- The Applicant explained that [**REP2-027**]:
  - Legal agreements were being progressed between themselves, NE and RSPB to include requirements for the maintenance of the new stone curlew plots at Parsonage Down NNR and Winterbourne Down RSPB reserve for a minimum of 10 years post construction. The legal agreement would cover the location of stone curlew plot; size and scope of the plot; date range within which the plot will be created; specification of management; and the duration of agreement.
  - The replacement plot at Parsonage Down is considered to be of "*a higher quality to that of a fallow plot*" and as a result "*it is likely that the plot would be occupied readily…the replacement of a stone curlew plot is likely to be successful and thus no likely significant adverse effects on the integrity of the SPA both during construction and operation are likely*". The plot is being designed and delivered in conjunction with RSPB and NE in a manner that has been previously successful with the other plots around the wider Salisbury Plain area.

  - The provision of this plot will ensure no net loss of breeding plots and the Winterbourne Stoke bypass have the effect of moving the A303 further away from at least 4 other stone curlew plots within 1km of the current alignment.
  - Details of vegetation monitoring will be developed in consultation with NE prior to construction and will be captured within the monitoring requirements of the OEMP (MW-BIO8 and MW-BIO13) [**AS-085**].
  - The activities associated with DCO work No. 8 (creation of new chalk grassland habitat from tunnel arisings) (paragraph 5.1.5 of [**APP-266**] would not affect the success of the replacement breeding plot subject to mitigation measures in the OEMP (including PW-BIO5 and MW-BIO8) [**AS-085**].

- NE ([**REP2-017**] and [**REP2-120**]) were:
  - "*satisfied with the mitigation measures that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot*" and that the Applicant's "*justification as to why no adverse effects are envisaged on the stone curlew breeding plot to the south-west of Winterbourne Stoke appears reasonable*".
  - In agreement that although habitat within the boundary of the Salisbury Plain SAC will be modified for the benefit of the SPA, "*it is of moderately low quality and not SAC qualifying habitat*" and that in their view it is "*consistent with the Habitats Regulations*".
  - Satisfied that the location and specification of the replacement plot located on Parsonage Down was agreed, and that management of the plot is secured via OLEMP para 11.3.1 [**APP-267**]. "*While the applicant does rely on the success of this measure to conclude no AEOI, it is a very simple measure to implement…in essence, controlling any excessive vegetation on the plot using the stock on the holding outside of the breeding season".*
- RSPB ([**REP2-017**] and [**REP2-125**]) agree that "*indirect disturbance impacts on breeding stone curlew can be avoided with the implementation of suitable working practices during the construction phase*". RSPB is also "*satisfied with the mitigation measures detailed within the Environmental Statement (and their likely effectiveness) that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot at Parsonage Down"* (including the siting of the mitigation plot).

4.2.22 At [**REP2-027a**], the Applicant provided a confidential figure to show the location of the replacement stone curlew plot at Parsonage Down.

4.2.23 The matter of RSPB and NE agreement on the acceptability of modification to the Salisbury Plain SAC was also recorded at item 3.2 of ISH7 [**EV-011d**], [**REP4-035**].

4.2.24 The Stonehenge Alliance also made a substantive submission on stone curlew impacts at [**REP2-135**] as part of their written representations, as did other IPs including affected land owners (Appendix 1 [**REP2-104**]). The concerns of the Stonehenge Alliance (in terms of construction effects) were primarily that "*it cannot be considered certain that Stone Curlew would not be disturbed in or deterred from nesting…as a result of the noise, lights and activity of five years of road and tunnel construction work, c.0.5km away at nearest. Nor can it be certain that five years' construction activity over a wide stretch between Normanton Down and other areas south of the A303 and the SPA would not lead to considerable disturbance of the Stone Curlew population in this general area*". Similar concerns are also raised in [**REP2-104**]; that it cannot be "*assumed that there will be no impact of construction works upon breeding success of Stone Curlew. With the absence of scientific data regarding possible effects of noise and lights, and considering that road and tunnel construction work will take five years... it is highly likely that the birds will be deterred from areas needed for feeding, especially as tunnel construction will be c.0.5km away at the nearest point*."

4.2.25 The Applicant's response to [**REP2-104**] is presented at section 40.3 of [**REP3-013**]. The Applicant re-iterates that the approach to mitigation for stone curlew is described in ES Chapter 8, Biodiversity [**APP-046**] and the SIAA [**APP-266**], and in particular that the approach to mitigation and enhancement has been developed in consultation with the RSPB and NE (see paragraph 4.2.10 above). [**REP3-013**] does not provide any specific response from the Applicant to the Stonehenge Alliance's [**REP2-135**] submission.

4.2.26 In the ExA's second written questions, the Applicant was asked to clarify a number of points in respect of IP concerns around impacts to stone curlew (Ec.2.1 – Ec.2.3 of [**PD-014**]). In particular, the Applicant had explained at [**REP2-027**], [EV-011d] and [**REP4-035**] that there were "ongoing" discussions with RSPB and NE around separate legal agreements for stone curlew plots.

4.2.27 The ExA had also asked questions on the basis of the need for certainty in AEoI conclusions where the Applicant had made the statement "*in the unlikely event that the need for additional plots is triggered by unsuccessful mitigation*" [**REP2-017**]. The ExA notes that this point is somewhat related to the operational recreational disturbance issue considered later in this section of the RIES.

4.2.28 In their response [**REP6-024**], the Applicant reiterates that a replacement stone curlew plot at Parsonage Down (paragraph 5.1.5 [**APP-266**] and PW-BIO5 of the [**REP4-021**] (as superseded by [**AS-085**])) will be secured through a legal agreement and provided prior to

main construction (and secured for the construction period and 10 years thereafter).

4.2.29 The Applicant also submitted a "Habitat Regulations Screening Assessment Clarification Note" (HRSA Note) relating to stone curlew plots [**REP6-039**], which explains that drafts of the proposed agreements to secure these plots under s.253 of the Highways Act 1980 have been sent to NE and RSPB.

4.2.30 At Deadline 7, the Applicant also submitted a "*Habitat Regulations Screening Assessment - Clarification Technical Note*" (as Appendix A to an updated SoCG with NE [**REP7-011**])[10]. Paragraphs 1.61 – 1.65 of the clarification technical note outline the location and delivery mechanisms for the replacement breeding plot and that it "*will be delivered through a landowner agreement (in this instance with Natural England)*". The SoCG itself also records the specific agreement with NE that they are "*satisfied with the mitigation measures that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot. Natural England is satisfied with the siting of the stone curlew mitigation breeding plot (with the agreement of RSPB) within Parsonage Downs. The specifications of the stone curlew plot and fencing have been agreed.*" (SoCG item 3.12 [**REP7-011**]).

4.2.31 This is similarly agreed with RSPB in their updated SoCG with the Applicant (item 3.3 and 3.5 of [**REP7-013**]).

4.2.32 Paragraph 1.65 of the HRA clarification technical note [**REP7-011**] also states the Applicant's view that "*The proximity of the plot to an existing utilized plot, the location which meets all the selection criteria for a good quality plot and the type of plot proposed (scraped chalk with anti-predator provisions) together are considered to provide a high degree of confidence that the stone curlew plot will be utilised*". Provisions for monitoring of the replacement plot in consultation with NE and RSPB are secured through OEMP item PW-BIO5 [**AS-085**].

4.2.33 At Deadline 7, legal agreements relating to the Parsonage Down replacement stone curlew plot had yet to be submitted as part of the examination. The ExA understands that the agreement is to include the location of stone curlew plot; size and scope of the plot; date range within which the plot will be created; specification of management; and the duration of agreement (10 years from the year of opening of the Proposed Development (15 years from year of creation)).

4.2.34 The matter of the legal agreements (and their current status) was also explored at ISH11 on 30 August 2019 [**EV-034**],[**EV-034**]. The Applicant stated that they expect to have them in place before the end of the examination. The Applicant was also of the view that (in the absence of agreements being in place by the end of the examination): "*it's accepted by RSPB and NE that the number of sites is so great and the*

[10] For completeness, the ExA notes that paragraph 1.3.4 of [**REP7-011**] incorrectly refers to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and the Conservation of Habitats and Species Regulations 2010, both of which have been revoked by 2017 versions of the respective Regulations (as cited elsewhere in the Application documents).

willing landowners are so great, as evidenced by our diligence and discussions to date, that the commitment to provide the sites is enough in order to give the certainty of the sites being there. So while we are certainly aiming to have the agreements in place by the end of the examination for absolute certainty, from those stakeholders' perspectives the commitment is enough".

4.2.35 The positions of the Stonehenge Alliance [**REP7-048**] and affected land owners [**REP6-087**] in respect of these issues remain largely as per their previous submissions and they remain concerned about the secure implementation of mitigation in absence of the legal agreement (at Deadline 7) and, in the case of [**REP6-087**], they "*do not agree that the Applicant has taken suitable and proportionate measures*" in the assessment or the devising of mitigation measures.

Recreational disturbance to stone curlew during long term operation

4.2.36 At this point the ExA notes that many of the submissions referred to above relate to both the issues identified at paragraph 4.2.4 of this RIES. However, the following paragraphs relate to matters discussed around the Applicant's assessment of operational disturbance to stone curlew (and their conclusions of no AEoI, alone or in-combination with other plans and projects).

4.2.37 As set out in footnote 9 (and Table 3.1) of this RIES, the Applicant only considers the potential for AEoI from recreational pressures in-combination with other plans and projects (ie not specifically for recreational pressures from the Proposed Development alone). This assessment is presented in section 5.3 of [**APP-266**] (with reasoning set out in paragraph 5.3.2): "*The removal of the A303 as a barrier to foot traffic will allow visitors from the focal point of Stonehenge monument to use the PRoW to the south of the A303…increased tourism could operate in combination with an increase in the local population due to housing growth (such as that set out in the Wiltshire Core Strategy) and its associated increase in local recreational use of PRoW to increase the risk of disturbance of some stone curlew plots in the area*".

4.2.38 The Applicant concludes that there would be no AEoI from this pathway on the basis of the mitigation measures as set out in paragraphs 5.3.6 – 5.3.8 of [**APP-266**], namely the provision of an additional stone curlew plot at Winterbourne Down.

4.2.39 The issue of potential increased recreational disturbance associated with the Proposed Development was considered in some detail as part of the examination.

4.2.40 In their WR [**REP2-125**], the RSPB stated they had not agreed that an additional plot at their Winterbourne Downs Reserve 'would ensure no adverse effect on the integrity….of the SPA' (as stated by the Applicant in paragraph 5.3.6 of [**APP-266**]) and that they "*do not accept this as appropriate mitigation to adequately address the potential impacts*". Instead their position was that "*provision for suitable replacement nesting habitat within the Stonehenge World Heritage Site should be*

made under legally binding agreement to be implemented should adverse impact be shown in the future".

4.2.41 The RSPB also clarified that provision of a stone curlew plot at the RSPB Winterbourne Downs Reserve were conducted on the understanding that such provision would be by way of 'net gain', hence contributing to this as a stated overall objective of the Proposed Development.

4.2.42 However, the RSPB's position was that "*an acceptable scheme for monitoring and mitigation in the event of adverse impact on breeding stone-curlews…at the RSPB Normanton Downs Reserve*" must be in place through legally binding agreement.

4.2.43 The ExA posed specific questions to the NE and RSPB on these matters in Ec.1.15 and Ec.1.19, and to the Applicant in Ec.1.16 in [**PD-008**].

4.2.44 NE did not raise concerns with the Applicant's approach in their response at [**REP2-120**] and RSPB did not respond beyond what they had set out in [**REP2-125**] (as above).

4.2.45 The Applicants response was presented at [**REP2-027**] and stated that legal agreements were being progressed with NE and RSPB to "*include requirements for the maintenance of the new stone curlew plots at Parsonage Down National Nature Reserve (NNR) and Winterbourne Down RSPB reserve for a minimum of 10 years post construction*".

4.2.46 [**REP2-027**] makes no reference to the Normanton Downs Reserve, the location of which is shown on figure 8.3 of the ES [**APP-149**]. In response to Ec.1.17 of [**PD-008**], the Applicant provided a confidential figure showing the indicative location of a new stone curlew plot at Winterbourne Down [**REP2-027a**].

4.2.47 The SoCG with NE and RSPB were also presented at Deadline 2.

4.2.48 RSPB and the Applicant were discussing a number of points (4.1 – 4.3 of [**REP2-017**]), including the need for a visitor monitoring strategy in the case of "*continued success of the retained plots*" and the mechanism for distribution of any monitoring data by the RSPB to inform the determination of mitigation success. Discussions were also ongoing about the mechanisms for further action in the "*unlikely event that the need for an additional plot is triggered by unsuccessful mitigation*".

4.2.49 NE's SoCG with the Applicant [**REP2-016**] similarly recorded ongoing discussions between parties around the provision of visitor monitoring strategies and in particular, "*what additional measures are there that could be put in place should monitoring reveal an impact, and are they sufficiently certain to mitigate the impact?*".

4.2.50 These points were pursued by the ExA in ExQ2 [**PD-014**]. In particular question Ec.2.3 sought clarification on how the competent authority could be satisfied with the Applicant's conclusions 'beyond reasonable scientific doubt' whilst apparent uncertainty remains around whether further mitigation might be necessary (where the proposed mitigation proves "unsuccessful").

4.2.51 In response [**REP6-024**], the Applicant explained that they have made commitments to "*procure and provide two new stone curlew breeding*

plots on an unconditional basis" and that these will be provided "*in advance of the possibility of impact, to ensure the robustness (beyond reasonable scientific doubt) of a conclusion of no adverse effect on integrity of the SPA*".

4.2.52 The provision of a total of four new stone curlew breeding plots in the vicinity of the Proposed Development will, in the view of the Applicant "*not only address the risk of increased disturbance for the stone curlew population, and thus mitigate (and avoid) any indirect effect on the supporting breeding population within the Salisbury Plain Special Protection Area (SPA), but would also provide net enhancement of nesting opportunities for the stone curlew population*."

4.2.53 As described above, the Applicant submitted a HRSA note relating to stone curlew plots at Deadline 6 [**REP6-039**], which explains that drafts of the proposed agreements to secure these plots under s.253 of the Highways Act 1980 have been sent to NE and RSPB, and the HRSA note contains further information on the method and process of identifying suitable stone curlew plot locations and the specification for these plots.

4.2.54 Concluding at Deadline 6, the Applicant is "*of the view that this commitment ensures the robustness of a conclusion of no adverse effect on integrity in the Statement to Inform an Appropriate Assessment [APP-266]. It goes beyond reasonable scientific doubt and provides the highest level of confidence regarding a conclusion of no adverse effect on the integrity of the SPA*".

4.2.55 The Applicant submitted revised SoCG with NE and RSPB at Deadline 7 ([**REP7-011**] and [**REP7-013**] respectively).

4.2.56 Item 3.15 of [**REP7-011**] cites NE's agreement that "*Highways England has committed to providing two additional stone curlew plots to those previously committed to. It is considered that this commitment, together with the provision of the stone curlew plot at Winterbourne Down, underlines the robustness of a conclusion of no adverse effect on integrity of the SPA in the Statement to Inform an Appropriate Assessment (Environmental Statement Appendix 8.25) [APP-266]…The selection of additional plots is underway and there are ongoing discussions with landowners, RSPB and Natural England*".

4.2.57 The RSPB records the same agreement of no AEoI in items 3.5 – 3.8 of [**REP7-013**], adding specific agreement that "*Reliance on monitoring to inform future mitigation is not required considering the unqualified commitment from Highways England to provide additional stone curlew plots*". This same statement is recorded in the NE SoCG (item 3.16 of [**REP7-011**]) which also records agreement that "*in terms of any monitoring of exiting* [sic] *and future stone curlew plots, it has been agreed with the RSPB on 24 January 2019 and Wiltshire Council on 22 January 2019, that the monitoring data would be obtained from the RSPB to inform of plot utilisation*".

4.2.58 Appendix A of the SoCG with NE [**REP7-011**] provides a "*Habitat Regulations Screening Assessment - Clarification Technical Note*". The purpose of the document was to provide "*clarification on the rationale*

used in the HRSA and SIAA. It references and brings together material from various parts of the Environmental Statement which was used in the preparation of the HRSA [APP-265] and SIAA [APP-266], It does not include new data or analysis besides that which was reported in the HRSA and SIAA and the Environmental Statement on which those were based, with the exception of some details on the method by which locations for new stone curlew plots have been identified".

4.2.59 Paragraphs 1.48 – 1.65 of the clarification technical note (Appendix A of [**REP7-011**]) provide this clarification in respect of the stone curlew supporting population of the Salisbury Plain SPA, reaffirming the Applicant's position that there would be no AEoI on this feature of the SPA, particularly in light of the additional plots that have been discussed with NE and RSPB during the course of the examination: "*provision of the new stone curlew plots will ensure there is no reduction of nesting opportunities for the supporting population of the SPA and therefore there would be no adverse effects on the integrity of the SPA and the results of the monitoring would not impact on this"*.

4.2.60 The ExA notes the positions of the Stonehenge Alliance at Deadline 7 [**REP7-048**] regarding the residual uncertainty over the proposed additional plots and that the they "*need to be secured in the DCO, as pointed out by RSPB before the end of the Examination, in order to ensure that the Statement to Inform the Appropriate Assessment is compliant with the Habitats Regulations…Without securing, under legal agreements, new plots in optimum locations, we submit that there is no certainty in Highways England's statement that its current commitment "ensures the robustness of a conclusion of no adverse effect on integrity in the Statement to inform the Appropriate Assessment [APP-266]. It goes beyond reasonable scientific doubt and provides the highest level of confidence regarding a conclusion of no adverse effect on the integrity of the SPA*"".

4.2.61 This view is also shared by affected land owners [**REP6-087**] who do not consider the Applicant has demonstrated "beyond reasonable scientific doubt" the unknown impact of recreational pressures once the Proposed Development is in operation and that "*the Applicant HAS TO provide the additional two Stone curlew plots to mitigate any potential negative effects due to potential recreational pressures upon the two Normanton Down Stone Curlew breeding plots*". [**REP6-087**] also notes "*Winterbourne Downs plot was a net gain in respect of the biodiversity legacy of the Scheme (as stated within Chapter 8 Biodiversity [APP-046]), and would therefore not be counted as mitigation for Normanton Down plots. This is also noted within RSPB Written Representation [REP3-013]*".

4.2.62 At Deadline 7, legal agreements relating to replacement and additional stone curlew plots had yet to be submitted as part of the examination. The ExA understands that the agreement for the two additional plots would specify their being "*within 5km of the SPA (and, if practicable, within 5km of the Scheme*)" provided within a year of the opening of the Proposed Development and "*secured for a period of 10 years*" ([**REP6-024**] in response to ExQ2 Ec.2.3, which makes no reference to any

management practices for these plots over this 10 year period). The ExA also notes the relevance of paragraph 4.2.34 of this RIES to these points.

Table 4.1: The Applicant's shadow appropriate assessment and degree of agreement with Interested Parties

Features	Potential Adverse Effect on Integrity?*	Agreed with SCNB and other relevant parties?	Comments
River Avon SAC			
Water courses of plain to montane levels Atlantic salmon Brook lamprey Bullhead Sea lamprey Desmoulin's whorl snail	No (Matrix 3 and Section 6 of [**APP-266**] and the HRSA clarification note (and Appendix 2) [**REP7-011**])	Yes [**REP7-011**], items 3.17 and 3.18. [**REP7-005**], items 3.6 – 3.10 and 3.16 – 3.18	Items 3.17 and 3.18 of [**REP7-011**] cite NE's general agreement with regard to the assessment of "water-related issues" at the River Avon SAC (which is also stated in the HRSA Clarification Note (Appendix 2, table 1 of [**REP7-011**]). The Applicant's conclusions of no AEoI for Atlantic salmon, Brook lamprey, Bullhead and Sea lamprey has not been disputed. The EA have agreed that impacts to fish in the River Avon SAC and River Till SAC have been appropriately assessed and impacts mitigated. In respect of Desmoulin's whorl snail, item 3.17 of [**REP7-011**] "*NE concurs that the scheme is unlikely to have a significant effect and an appropriate assessment is therefore not required"* (subject to agreed general monitoring of groundwater as set out in the OEMP [**AS-085**] item MW-WAT10. The Applicant's assessment of shading of the River Till (and no AEoI conclusions) (Appendix D of [**APP-266**]) has not been disputed in the examination). The EA have agreed that mitigation is adequately secured in item D-BIO1 of the OEMP [**REP6-012**]. The ExA notes the overarching objections of the Stonehenge Alliance on groundwater modelling not

Features	Potential Adverse Effect on Integrity?*	Agreed with SCNB and other relevant parties?	Comments
			being "fit for purpose" [**REP6-064**].
<u>Salisbury Plain SAC</u>			
Semi-natural dry grasslands and scrubland facies on calcareous substrates	No (Matrix 1 and Section 4 of [**APP-266**] and the HRSA clarification note [**REP7-011**])	Yes [**REP7-011**], item 3.11, 3.14, 1.15	Applicant concluded LSE in relation to construction dust emissions (section 4.1 of [**APP-265**]). NE confirmed their satisfaction that the dust suppression measures set out in the OEMP would satisfactorily address any potential effects of dust deposition [**REP2-120**], and they did not dispute the Applicant's conclusions of no AEoI as reported in section 4.1 of [**APP-266**]. Item 3.14 of [**REP7-011**] also records NE agreement that "'*significant effects are not anticipated' from NOx emissions, or nitrogen deposition from the Scheme*. Applicant also sets out that SPA replacement breeding plot within the SAC boundary "*will not itself result in an adverse effect on the integrity (the coherence of the structure and function) of the SAC"* (it amounts to only 0.005% of the total area of the SAC), (paragraphs 5.1.5 – 5.1.7 of [**APP-266**]. This view was shared by NE at [**REP2-017**] and [**REP2-120**] that the Applicant's approach is "*consistent with the Habitats Regulations*".
Marsh fritillary butterfly	No (Matrix 1 and Section 4 of [**APP-266**])	Yes (not disputed or otherwise commented upon by IPs during the examination)	There has been no dispute of the Applicant's assessment in respect of Marsh fritillary butterfly during the examination. Not stated as being specifically agreed in the SoCG

Features	Potential Adverse Effect on Integrity?*	Agreed with SCNB and other relevant parties?	Comments
			with NE [**REP7-011**]
Salisbury Plain SPA			
Stone curlew	No (Matrix 2 and Section 5 of [**APP-266**]) HRSA clarification note (paragraphs 1.48 – 1.65, Appendix A of [**REP7-011**])	Yes [**REP7-011**], item 3.11 - 3.13 and 3.13 – 3.16 [**REP7-013**] items 3.5 – 3.8	At Deadline 7, the Applicant remains in discussion with RSPB and NE (and landowners) around securing separate legal agreements relating to the selection and provision of additional plots. The provision of replacement plots associated with construction and operational effects results in the agreement of no AEoI alone and in combination with NE and RSPB. The Applicant's assessment of AEoI [REP-266] is supplemented by paragraphs 1.48 – 1.65 of the HRSA clarification note [**REP7-011**). The ExA notes the residual concerns of the Stonehenge Alliance [**REP7-048**] regarding the residual uncertainty over the proposed additional plots and levels of confidence regarding a conclusion of no AEoI "beyond reasonable scientific doubt" (this view is shared by affected land owners [**REP6-087**]).

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ANNEX 1 STAGE 1 MATRICES: SCREENING FOR LIKELY SIGNIFICANT EFFECTS

Stage 1 Matrices: Screening for Likely Significant Effects

This annex of the RIES identifies the European sites and features for which the Applicant's conclusions were disputed by Interested Parties. Therefore, revised screening matrices have been produced by the Planning Inspectorate

Key to Matrices:

✓	Likely significant effect cannot be excluded
×	No LSE
?	Applicant and Interested Parties do not agree that LSE can be excluded
C	construction
O	operation and maintenance

Paragraph 2.2.1 of [**APP-265**] states that *"The HRA covers the construction and operation phases of the Scheme. The Scheme is not considered to have a decommissioning stage as it is expected to be in place in perpetuity. Therefore no decommissioning impacts are discussed in this report".* As such, decommissioning is not presented in the matrices.

Information supporting the conclusions is detailed in footnotes for each table with reference to relevant supporting documentation.

Where an impact is not considered relevant for a feature of a European Site the cell in the matrix is formatted as follows:

n/a

Matrices Presented in this Annex:

Stage 1 Matrix 1: River Avon SAC

Site Code: UK9011102

Distance to NSIP: 0km (Proposed Development crosses river)

European site features	**Likely Significant Effects**						
	Water Quality	**Shading of the River Till**	**Block of Fish Passage**	**Changes to water level and flow**	**Disturbance e.g. vibration and noise**	**Spread of invasive species**	**In combination effects (vehicle emissions)**
	C,O	**C,O**	**C,O**	**C,O,**	**C,O**	**C,O**	**C,O**
Water courses of plain to montane levels with *Ranunculion fluitantis and Callitricho-Batrachion* vegetation	X **a,b**	✓ **c**	N/A	X **f**	N/A	x **h**	x **i**
Desmoulin's whorl snail	X **a,b**	x **d**	N/A	x **d,f**	N/A	x **h**	x **i**
Sea lamprey	X **a,b**	✓ **c**	X **e**	X **f**	x **g**	x **h**	x **i**
Brook lamprey	X **a,b**	✓ **c**	X **e**	X **f**	x **g**	x **h**	x **i**
Atlantic salmon	X **a,b**	✓ **c**	X **e**	X **f**	x **g**	x **h**	x **i**

European site features	**Likely Significant Effects**						
	Water Quality	**Shading of the River Till**	**Block of Fish Passage**	**Changes to water level and flow**	**Disturbance e.g. vibration and noise**	**Spread of invasive species**	**In combination effects (vehicle emissions)**
	C,O	**C,O**	**C,O**	**C,O,**	**C,O**	**C,O**	**C,O**
Bullhead	X **a,b**	✓ **c**	X **e**	X **f**	x **g**	x **h**	x **i**

Notes

a. The Applicant states that construction and operation of the Proposed Development "*theoretically carries the risk of effects on water quality including: surface water run-off; siltation downstream due to excavation of materials and the subsequent deposition of soils, sediments and other construction materials; spillage of fuels or other contaminating substances and the mobilisation of contamination following disturbance of contaminated ground or groundwater, release or leaching of substances (e.g. cement or grout) used in the tunnelling process*" (matrix 3, footnote g, [**APP-265**]).

However, the Applicant is of the view that there will be no effect on water quality as a result of construction or operation of this Proposed Development due to "*measures already required to ensure scheme compliance with the Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and Environmental Permitting (England and Wales) Regulations 2010*" (Table 3.1, paragraph 32, [**APP-265**]).

b. The ExA asked written questions (Ec.1.24 [**PD-008**]) to clarify the basis on which conclusions of no LSE for water quality impacts for all qualifying features was reached (as it appeared to the ExA that the Applicant was reliant on a suite of "measures" intended to avoid or reduce the harmful effects of the project on European sites, which may be contradictory to the ruling of the European Court of Justice (ECJ) in *People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17)* .Table 3.1 of [**APP-265**] cited the following:

'**Construction period measures**' - incorporated into the Outline Environment Management Plan (OEMP) ([**AS-085**] and delivered as contractual requirements of the Construction Environmental Management Plan (CEMP) (DCO requirement); and

'**Operational measures**' – physically incorporated into the engineering design, required in order to meet the Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and Environmental Permitting (England and Wales) Regulations 2010.

In response to ExQ1 Ec.1.24 [**REP2-027**], the Applicant stated that "*none of the aforementioned measures are being specifically introduced to avoid adverse effects on the SAC but to comply with other legislative requirements which would apply even if no SAC designation existed*" and that such measures "*had already been incorporated into the Scheme before the HRA process was started in order to comply with other legislative requirements*".

ExQ1 Ec.1.6 also sought clarification on these points from the Applicant, in particular relating to management of surface water run-off and potential impacts on the River Avon SAC catchment [**PD-008**]. The Applicant explained that proposals for monitoring and maintaining the quality of water run-off would be secured through the OEMP [**AS-085**] and a drainage system constructed '*based on the mitigation measures included in the environmental statement and including means of pollution control*' through DCO requirement 10.

The Highways England Water Risk Assessment Tool (HEWRAT) [**APP-279**] also shows an overall beneficial effect in relation to discharge of surface water runoff into the River Avon. This position is also agreed by the EA (item 3.10 of [**REP2-012**]).

In NE's response to ExQ1 Ec.1.24 [**REP2-120**], they agreed that "*Construction and operation of the Scheme theoretically carries the risk of effects on water quality*" but that "*there will be no effect on water quality as a result of construction or operation of this Scheme due to measures already required to ensure scheme compliance*" with other legislative provisions as cited by the Applicant. NE agree with the Applicant that "*As such the measures are not intended to avoid or reduce the harmful effects of the project on European sites per se, and the applicant appears not to be considering them as "mitigation" in the context of the Habitats Regulations*".

c. The Applicant considers that the permanent viaduct could result in LSE the River Till vegetation and fish species through shading, depending on the detailed design, as could the temporary construction crossing. The design of both is specifically with a view to protecting the vegetation in the River Till and is therefore considered mitigation (Table 3.1 paragraphs 48-52 [**APP-265**]). These aspects are therefore considered for AEoI in stage 2 matrices of this RIES.

d. The Applicant states that no direct or indirect impacts were anticipated on Desmoulin's whorl snail "*because no construction works are anticipated within suitable habitat adjacent to the River Avon where Desmoulin's whorl snail has been recorded* (Table 3.1, paragraph 53 [**APP-265**)].

In items 4.6 and 4.7 of the SoCG with NE at Deadline 2[**REP2-016**] presented uncertainties around groundwater flow modelling of water levels that are "critical" for the Desmoulin's whorl snail. NE were of the view that "An *appropriate assessment should therefore consider the confidence that can be applied to the outputs from the model…and whether further conceptualisation of the chalk geology would help to increase the confidence*".NE also suggested there is potential for "*a significant effect on groundwater levels in the area and therefore on Desmoulin's whorl snail*".

The Applicant clarified their position that Appendix 11.6 of the ES [**APP-284**] concludes that the effects of the Proposed Development will be neutral "due *to the design measures identified in Table 2 [APP-284] regarding protection of surface and*

groundwater from construction of the tunnel and bridges (secured via the OEMP)". In particular "*there would be no likely significant effect and no need for an appropriate assessment for effects on Desmoulin's whorl snail*".

Appendix 2 of the SoCG with NE at Deadline 7 [**REP7-011**] also includes specific consideration of "*Water Issues Related to River Avon SAC*" as raised by NE in their Deadline 2 iteration of the SoCG [**REP2-016**]. In particular NE are in agreement that "*The effects on hydrology associated with permanent construction and operation activities have been assessed and are not significant so an Appropriate Assessment of these effects is not required*" (Appendix 2 of the SoCG with NE at Deadline 7 [**REP7-011**]).

In their response to ExQ2 Fg.2.33 [**REP6-047**], the EA did not raise any concerns with regard to the Applicant's assessment of no LSE on the River Avon SAC in this regard.

e. No features will be constructed within the SAC or within 8m of its banks so there will be no risk of physical blockage of fish passage (Table 3.1 paragraph 44 [**APP-265**]). This is necessary to comply with EA requirements on main rivers[1] (and as a commitment, is secured in MW-BIO3 of the OEMP [**AS-085**]. The Applicant's assessment and conclusions of no LSE on fish passage has not been commented on or otherwise disputed by IPs during the examination.

f. The Applicant states that the presence of underground structures for the River Till viaduct could theoretically cause interference to groundwater flows to the Rivers Avon and Till. Their view is that this is unlikely to occur *because the River Till viaduct is designed to be a five span structure with the location and orientation of the piers and foundations optimised to place them as far away from the River Till as possible and to minimise obstruction of water flows over the floodplain and comply with common law requirements not to increase flood risk* (Table 3.1 paragraph 57 [**APP-265**]).

The relevant representation of the EA raised some concerns regarding the assessment of risks to groundwater levels and flows posed by the tunnel itself [RR-2060]. The ExA posed questions of the Applicant, NE and the EA on these points, and in particular if / how these concerns related to the Applicant's conclusions of no LSE in relation changes to water level and flow in the River Avon SAC (Ec.1.14 of [**PD-008**]). Other IPs raised similar concerns around these points, in particular the Stonehenge Alliance [**REP2-135**], who were of the view that "*There are current threats to the integrity of the SAC, including over-abstraction and pollution" and that "Concern about potential impacts on the SAC of the A303 Stonehenge scheme appear to have been limited by Highways England to the design of the proposed new bridge over the River Till".* The Stonehenge Alliance also made submissions around "the inadequacy and incompleteness of existing Site Investigation Data (both in Drill and Well-logs), Groundwater Data and consequent G/W Modelling", and that they "*refute that Highways England groundwater modelling is "fit for purpose" for accurately modelling groundwater effects relevant to the proposed A303 tunnel*" [**REP6-064**].

[1] No specific citation is provided for the relevant EA requirements, but the ExA understands that such references are to the Environmental Damage (Prevention and Remediation) (England) Regulations 2015 and Environmental Permitting (England and Wales) Regulations 2016. Item 3.3 of the Applicant's SoCG with NE [**REP7-005**] states agreement that "*Any works affecting Main Rivers will be progressed via the Environment Agency's protective provisions within the DCO*".

The Applicant responded to ExQ1 (Ec.1.14) stating that it is "*unlikely that dewatering would be necessary for the construction of the tunnel or portals and therefore there would be no significant effects on the SAC as a result of dewatering. This is because of the combination of the likely construction method to be used and the location of the construction relative to the groundwater levels in the Chalk (i.e. construction above the water table)"* [**REP2-027**]. In their further responses to ExQ2 Fg.2.33 [**REP6-028**], the Applicant re-iterated that "*based on the current design and construction methods, no abstraction of groundwater is anticipated*" although "*It is possible that temporary and localised groundwater control could be required for the construction of the tunnel portal slab*". OEMP item MW-WAT8 requires "*construction techniques which minimise, so far as reasonably practicable, the need for and extent of dewatering and groundwater abstraction*" [**AS-085**].

In their response to ExQ2 Fg.2.33 [**REP6-047**], the EA did not raise any concerns with regard to the Applicant's assessment of no LSE on the River Avon SAC in this regard. The EA also appeared to be content that should dewatering be required, "*the licensing regime will ensure that dewatering is only allowed where it has been demonstrated by the applicant or their contractor that the impacts of the proposed operation are acceptable*" and that the detail within Groundwater Management Plan and CEMPs prior to any licence application would provide sufficient safeguarding (ie it would not permitted if it cannot be demonstrated to the satisfaction of the EA that the impacts are acceptable).

In their SoCG at Deadline 7, the EA were content that "*ground investigations that have been conducted are appropriate to enable an adequate assessment of impacts for the submitted scheme on groundwater and surface water receptors*" and that "*The methodologies used for the A303 groundwater numerical model (including groundwater flood risk) and the groundwater impact assessment have been agreed with the EA as being appropriate*" (items 3.17 and 3.18 of [**REP7-005**]). **REP7-005** also states EA's agreement that "*The integrity of the River Till and River Avon SAC will not be significantly affected subject to the appropriate controls within the DCO application and any required environmental permits or licences".*

NE's WR and their response to the ExA's first and second written questions [**REP2-120**], [**REP6-062**] do not raise substantive concerns around the conclusions of no LSE on the River Avon SAC based on the groundwater assessments undertaken by the Applicant.

Appendix 2 of the SoCG with NE at Deadline 7 [**REP7-011**] ("Water Issues Related to River Avon SAC", responding to points raised by NE in their Deadline 2 iteration of the SoCG [**REP2-016**]) records agreement that "*The effects on hydrology associated with permanent construction and operation activities have been assessed and are not significant so an Appropriate Assessment of these effects is not required*". Sections 4 and 5 of the main body of the SoCG with NE record that there are no matters under discussion and no matters that are not agreed between NE and the Applicant [**REP7-011**].

g. The Applicant's view is that short-term disturbance during construction of the supports (of the viaduct over the River Till) is not likely to affect spawning SAC fish species because the stretch of the River Till crossed by the Proposed Development does not have suitable spawning habitat. In the section to be crossed by the viaduct, the River Till dries seasonally and only flows for

approximately three to six months per year over winter to spring (noise and vibration would therefore not affect fish at all when carried out during the dry period).

As per footnote **f**, construction work would be at least 8m from the River Till, rendering insignificant noise and vibration even if undertaken during a time when there was flow in the river. (Table 3.1 paragraph 45, page 17).

The Applicant clarified that there is no piling proposed within the channels of the River Till or River Avon [**REP2-034**] through the design of the Proposed Development and there are commitments to non-impact piling, exclusion zones, sensitive lighting and suitable ecological supervision at the River Till viaduct as part of the OEMP [**AS-085**].

NE did not dispute the Applicant's conclusions for noise and vibration effects on the River Avon SAC, though the ExA notes that there were some discussions around the commitments to non-impact piling at the River Till at ISH5 [**REP4-049**]. None of these discussions raised any dispute over the Applicant's conclusions of no LSE to features of the River Avon SAC.

h. The Applicant states that the Proposed Development will not spread invasive species as there are none present in the section of the River Till SAC where works will take place. The contractor will also be required to implement control measures through the OEMP (PW-BIO1, [**AS-085**]) as necessary to prevent introduction or spread of invasive species in order to comply with the Wildlife & Countryside Act 1981 (Table 3.1, paragraph 31 [**APP-265**])

EA have agreed at item 3.9 of their SoCG with the Applicant [**REP7-011**] "*that the risk of spreading non-native species has been adequately assessed as part of the Habitats Regulations Assessment…*".

i. The Applicant concludes that the only in-combination effects identified for River Avon SAC relate to housing growth associated with the implementation of the Army Basing Programme at Salisbury Plain and housing and employment growth in surrounding authorities (as set out in the Wiltshire Core Strategy and other strategic plans). Increases in the volume of vehicles using the A303 and other roads within the Affected Road Network have been modelled and a conclusion of no likely significant effect can be drawn as either the critical level for NOx will not be exceeded (and will result in either a negligible change in NOx/nitrogen deposition or a net improvement. (Table 3.1 paragraphs 58-63 and Appendix D of [**APP-265**]). The Applicant is also of the view that "*there are grounds to conclude that the interest features of the SAC are not vulnerable to atmospheric NOx emissions, or resulting nitrogen deposition*".

In ExQ1 Ec.1.14 [**PD-008**], NE was asked to comment on the Applicant's assertion that increases in NOx during construction of the Proposed Development would result in no LSE to the vegetation of the River Avon SAC.

NE's response at [**REP2-120**] agreed with the conclusions of the Applicant (no LSE). No other IPs have raised any concerns around air quality effects of the Proposed Development on the River Avon SAC. The Applicant's conclusions of no LSE in relation to operational changes (increases) in NOx concentrations at the River Avon SAC have not been disputed by any IPs, and the basis on which this analysis is based are presented in Appendix D of [**APP-265**].

Stage 1 Matrix 2: Salisbury Plain SAC

Site Code: UK0012683

Distance to NSIP: 0km (within the order limits)

European site features	**Likely Significant Effects**		
	Dust Deposition		**In combination effects (vehicle exhaust emissions)**
	C	**O**	**C,O**
Juniperus communis formations on heaths and calcareous grasslands	**j** (N/A)	**j** (N/A)	**j** (N/A)
Semi-natural dry grasslands and scrubland facies on calcareous substrates	✓ **k**	x **m**	x **n**
Marsh fritillary	✓ **l**	x **m**	x **n**

Notes

j. The *Juniperus communis* (formations on heaths and calcareous grasslands) qualifying feature of the SAC has been screened out of further consideration for all potential effects on the basis that it is "*Not present in affected area*" (matrix 2 of [**APP-265**]). This conclusion has not been disputed but any IPs during the examination, although the "affected area" has not been specifically defined by the Applicant in respect of this feature.

k. Dust emissions during construction of the Winterbourne Stoke bypass within 60-200m of Parsonage Down could affect those parts of the SAC that lie relatively close to the works (i.e. within 200m). In the absence of controlling measures, heavy coating of chalk dust on vegetation close to the works area would potentially result in a negative impact (LSE), so the Applicant has taken forward to consideration of AEoI (see stage 2 matrices).

l. As per footnote **k**, Heavy dust deposition could affect marsh fritillary butterflies which has recently been recorded at Parsonage Down for the first time in many years (Table 3.2 paragraph 46[**APP-265**]). The Applicant has taken forward to consideration of AEoI (see stage 2 matrices).

m. No dust generation is expected from the operation of the Proposed Development (Table 3.2 paragraph 45 [**APP-265**]), and the Applicant therefore concludes no LSE. This has not been disputed by any IPs during the examination.)

n. The Applicant concludes that the only in-combination effects identified for the Salisbury Plain SAC relate to housing growth associated with the implementation of the Army Basing Programme at Salisbury Plain and housing and employment growth in surrounding authorities (as set out in the Wiltshire Core Strategy and other strategic plans). This relates only to operational and not construction effects. Increases in the volume of vehicles using the A303 and other roads within the Affected Road Network have been modelled and a conclusion of no likely significant effect can be drawn as either the critical level for NOx will not be exceeded (and will result in either a negligible change in NOx/nitrogen deposition or a net improvement. (Table 3.2 paragraphs 30-34 of [**APP-265**]).

Item 3.14 of the Applicant's SoCG with NE [**REP2-016**] records specific agreement for the Salisbury Plain SAC that "'*significant effects are not anticipated' from NOx emissions, or nitrogen deposition from the Scheme*".

In Appendix 1 of the Deadline 7 updated version of the SoCG with NE [**REP7-011**], the Applicant provided clarification in respect of NOx concentrations and nitrogen deposition on the Salisbury Plain SAC during the operation of the Proposed Development, affirming the Applicant's view of no LSE from this pathway (paragraphs 1.5 – 1.14, Appendix 1 of [**REP7-011**]).

The Applicant's conclusions of no LSE from NOx emissions or nitrogen deposition during operation of the Proposed Development have not been disputed by IPs during the examination.

Stage 1 Matrix 3: Salisbury Plain SPA

Site Code: UK9011102

Distance to NSIP: 2.8km

European site features	**Likely Significant Effects**			
	Non-recreational disturbance		**Loss (clearance) of breeding plots**	**In combination effects (recreational pressures)**
	C	**O**	**C**	**O**
Stone curlew	✓ **o**	x **p**	✓ **u**	✓ **v,w**
Hen harrier	x **q,t**	x **q,t**	x **q,t**	x **q,t**
Common quail	x **r,t**	x **r,t**	x **r,t**	x **r,t**
Hobby	x **s,t**	x **s,t**	x **s,t**	x **s,t**

Notes

o. Stone curlew breed outside the SPA in proximity to the Proposed Development at Normanton Downs RSPB reserve and at other locations known to historically support breeding stone curlew. Stone curlew using these plots at time of construction would have the potential to be disturbed by increased vehicular movements and human disturbance. Such disturbance impacts would have the potential to cause stress, which may result in a reduction in their resilience and breeding success. In extreme cases disturbance impacts may result in the abandonment of breeding plots (Table 3.3 paragraph 30, page 31 and paragraph 45 [**APP-265**]). The Applicant has taken forward to consideration of AEoI (see stage 2 matrices).

p. On rare occasions when traffic is diverted away from the tunnel on to the diversion route, which runs along the southern edge of the SPA along the Packway, the increased levels of traffic may result in increased levels of light spill from vehicle movements. However this is unlikely to impact the designated features of the SPA as the site is bordered by a large swathe of scrub that shields the SPA from traffic (and it will be a rare occurrence) (Table 3.3 paragraph 32 of [**APP-265**]).

The Applicant's conclusions of no LSE in this regard have not been disputed, and the focus of operational effects discussed during examination related to disturbance from recreational pressures (see footnotes **v** and **w**).

q. Hen harrier does not breed on the SPA. Its overwintering roosting locations on the SPA are well known and are more than 10km from the Proposed Development (Table 3.3 paragraph 28 [**APP-265**]). The Applicant therefore concludes no LSE.

r. The loss of limited areas of suitable nesting habitat within the Proposed Development boundary is unlikely to have an impact on any quail visitors considering the extent of suitable nesting habitat within areas surrounding the Proposed Development boundary. Quail and hobby are not tied to breeding plots and are much less sensitive than stone curlew and therefore not vulnerable to recreational pressure (Table 3.3 paragraph 48 [**APP-265**]). The Applicant therefore concludes no LSE.

s. A known historically active hobby breeding site is located approximately 200m south of the Proposed Development boundary (order limits). No further possible breeding sites were identified during the 2016 and 2017 surveys (Table 3.3 paragraph 27 page 31). Hobby are not tied to breeding plots and are much less sensitive than stone curlew and therefore not vulnerable to recreational pressures. The Applicant therefore concludes no LSE.

t. The Applicant's conclusions of no LSE alone and in-combination for hen harrier, quail and hobby has not been disputed by any IPs during the course of the examination. In particular, NE agreed in response to the ExA's first written questions that (in respect of the Salisbury Plain SPA) they "*concur with the applicant's conclusion of no likely significant effects on the other qualifying features* [except stone curlew]" [**REP2-120**].

u. One successful stone curlew breeding plot outside the SPA (south-east of Parsonage Down) is expected to be rendered unusable as a direct result of the Proposed Development due to land-take for the Winterbourne Stoke by-pass (Table 3.3 paragraph 25 [**APP-265**]). On the basis of this lost breeding plot, the Applicant has concluded LSE and has taken forward to consideration of AEoI (see stage 2 matrices).

v. Once operational, the Proposed Development could act in combination with an increase in the local population due to increased housing growth (such as that set out in the Wiltshire Core Strategy) and with increased tourism to increase the risk of disturbance of some stone curlew plots in the area, due to the removal of the barrier (the old A303) to recreational users crossing from Stonehenge onto the Public Rights of Way either side of the RSPB reserve. This may result in greater long-term disturbance on breeding stone curlew and an "*indirect adverse permanent effect on nesting success locally"* (Table 3.3 paragraphs 44 -49 of [**APP-265**]). The Applicant has taken forward to consideration of AEoI (see stage 2 matrices).

w. [**APP-265**] only considers potential for LSE from recreational pressures in-combination with other plans and projects (ie not specifically for recreational pressures from the Proposed Development alone). Item 48 of Table 3.3 states that, as a result of the Proposed Development, the "*original A303 road will cease to function as a barrier to pedestrians which will open up the land to the south of the WHS to the public. The removal of the old A303 as a barrier to foot traffic will allow visitors from the WHS to explore the Public Rights of Way (PRoW) to the south of the A303 which pass directly adjacent to the Normanton Down RSPB reserve. The*

Scheme would not provide unrestricted access to farmland south of the A303 and public access is expected to continue to be on the existing byways." The ExA therefore understands the Applicant's position that there is no LSE from recreational disturbance from the Proposed Development alone (as reflected in Matrix 2 of [**APP-265**].

ANNEX 2 STAGE 2 MATRICES: ADVERSE EFFECT ON INTEGRITY

Stage 2 Matrices: Adverse Effect on Integrity

This annex of the RIES identifies the European sites and features for which the Applicant's conclusions with regards to adverse effects on integrity were disputed by Interested Parties. Therefore revised integrity matrices have been produced by the Planning Inspectorate.

Key to Matrices:

✓	Adverse effect on integrity (AEoI) cannot be excluded
×	No AEoI
?	Applicant and Interested Parties do not agree that and AEOI can be excluded
C	construction
O	operation

Paragraph 3.1.4 of [**APP-266**] states that "*The HRA covers the construction and operation phases of the Scheme. The Scheme is not considered to have a decommissioning stage as it is expected to be in place in perpetuity. Therefore no decommissioning impacts are discussed in this report*".

However, matrices 1-3 (Appendix C of [**APP-266**] all include columns for decommissioning effects (and in the case of matrices 1 and 3, references to footnotes under these columns).

The ExA assumes these references to decommissioning in the matrices are therefore erroneous based on paragraph 3.1.4 of [**APP-266**].

Information supporting the conclusions is detailed in footnotes for each table with reference to relevant supporting documentation.

Where an impact is not considered relevant for a feature of a European Site the cell in the matrix is formatted as follows:

n/a

Matrices Presented in this Annex:

Stage 2 Matrix 1: River Avon SAC

Site Code: UK9011102

Distance to NSIP: 0km (Proposed Development crosses river)

European site features	**Effects on integrity**		
	Water Quality, and Changes to water level and flow	**Shading of the River Till**	**In combination effects**
	C,O	**C,O**	**C,O**
Water courses of plain to montane levels with *Ranunculion fluitantis and Callitricho- Batrachion* vegetation	x **a**	x **b**	**d** (N/A)
Desmoulin's whorl snail	x **a**	x **b,c**	**d** (N/A)
Sea lamprey	x **a**	x **b**	**d** (N/A)
Brook lamprey	x **a**	x **b**	**d** (N/A)
Atlantic salmon	x **a**	x **b**	**d** (N/A)
Bullhead	x **a**	x **b**	**d** (N/A)

Notes

a. The ExA notes that the Applicant's HRA Integrity Matrix 3 (Appendix C of [**APP-266**]) does not include water quality and changes to water level and flow on the basis that the Applicant concluded no LSE for these aspects to all qualifying features.

As recorded in footnotes **b** and **f** of matrix 1 (above), there were discussions during the Examination around the adequacy of the Applicant's conclusion of no LSE, primarily around:

- Reliance on a suite of "measures" intended to avoid or reduce the harmful effects of the project on European sites, which may be contradictory to the ruling of the European Court of Justice (ECJ) in People Over Wind, Peter Sweetman v Coillte Teoranta (C-323/17).
- Concerns regarding the assessment of risks to groundwater levels and flows posed by the tunnel itself [RR-2060] and that "*potential impacts on the SAC of the A303 Stonehenge scheme appear to have been limited by Highways England to the design of the proposed new bridge over the River Till*" [**REP2-135**].

These points and submission are not repeated here, but the ExA has included reference to it to record that they raise questions about whether the competent authority may need to undertake an Appropriate Assessment if LSE cannot be excluded.

b. The Applicant concludes that shading of the River Till from the new viaduct could lead to vegetation loss and thus erosion causing sedimentation downstream and affecting the fish and snail interest features of the SAC that are found downstream. "*The shading cast by the viaduct will be less than the level of shading that could be likely cast in a natural situation by dense bankside tree cover, as already occurs along the River Till immediately south of the A303*".

In the view of the Applicant, the modelling undertaken (Appendix D of [**APP-266**]) demonstrates that the bridge design will ensure that even the most shaded area under the bridge will receive 40-60% of the daylight hours/radiation that the unshaded areas will receive and this is sufficient to ensure that vegetation will persist (Paragraph 6.1.1 - 6.1.9 of [**APP-266**]). The temporary construction crossing will be a bailey-bridge type structure and will be in place for a relatively short period of 2 years. The risk of any shading causing loss of vegetation (and therefore erosion of bare ground) is therefore considerably less than for the permanent viaduct (but the construction crossing has nonetheless been designed to be as narrow as possible, consisting of a single lane structure approximately 4-5m wide (paragraph 6.1.10, page 31).

The Applicant's conclusions of no AEoI from shading of the River Till (alone or in combination with other plans and projects) have not been the subject of dispute during the course of the examination. Although SoCG's between the Applicant and the EA [**REP7-005**] and NE [**REP7-011**] do not record specific agreement with the Applicant's conclusions of no AEoI for this aspect in particular, they do not raise any concerns with the conclusions. [**REP7-005**] does record the EA's agreement that mitigation is adequately secured in item D-BIO1 of the OEMP [**AS-085**].

c. See also footnote **d** of Stage 1 Matrix 1 above.

d. As recorded in footnote **i** of Stage 1 Matrix 1 above, the Applicant concludes that the only in-combination effects identified for River Avon SAC relate to housing and employment growth and therefore excludes any in combination effects in terms of shading of the River Till.

Stage 2 Matrix 2: Salisbury Plain SAC

Site Code: UK0012683

Distance to NSIP: 0km (within the order limits)

European site features	**Effects on integrity**
	Dust Deposition
	C
Semi-natural dry grasslands and scrubland facies on calcareous substrates	x **e,f**
Marsh fritillary	x **e**

Notes

e. The Applicant considers that Calcareous grassland and marsh fritillary could both be affected by dust deposition during construction of the Winterbourne Stoke bypass within 200m of Parsonage Down (particularly the initial topsoil strip) if it is unmanaged. However, the dust control measures that will be deployed on the Proposed Development are long-standing tried and tested nature of these measures, which are explicitly recommended in guidance produced by the Institute of Air Quality Management as being measures that will normally reduce dust effects to an insignificant level (Paragraph 4.2.1-4.2.2 [**APP-266**]).

The ExA notes that such measures are included for as items PW-AIR1 and MW-AIR1 of the OEMP [**AS-085**].

NE confirmed their satisfaction that the dust suppression measures set out in the OEMP would satisfactorily address any potential effects of dust deposition [**REP2-120**], and they did not dispute the Applicant's conclusions of no AEoI as reported in section 4.1 of [**APP-266**].

Item 3.14 of [**REP7-011**] also records NE agreement that "'*significant effects are not anticipated' from NOx emissions, or nitrogen deposition from the Scheme*".

f. Further to ExQ1 Ec.1.15 [**PD-008**] (around 'habitat modification' within the Salisbury Plain SAC for the benefit of the Salisbury Plain SPA), the Applicant sets out that SPA replacement breeding plot within the SAC boundary "*will not itself result in an adverse*

effect on the integrity (the coherence of the structure and function) of the SAC" (it amounts to only 0.005% of the total area of the SAC), (paragraphs 5.1.5 – 5.1.7 of [**APP-266**]. This view was shared by NE at [**REP2-017**] and [**REP2-120**] that the Applicant's approach is "*consistent with the Habitats Regulations*". This is considered further in Stage 2 matrix 3 below (for the Salisbury Plain SPA).

Stage 2 Matrix 3: Salisbury Plain SPA

Site Code: UK9011102

Distance to NSIP: 2.8km

European site features	**Effects on integrity**	
	Loss (clearance) of breeding plots	**In combination effects (recreational pressures)**
	C	**O**
Stone curlew	x **g**	x**, h,i**

Notes

g. The Applicant explains at Section 5.2 and matrix 2 of Appendix C of [**APP-266**] that the loss of a known effective nesting plot for stone curlew due to the footprint of the Winterbourne Stoke bypass would have an adverse effect on the integrity of the SPA (even though it is outside the SPA boundary) as it would reduce nesting opportunities for the SPA population. The Applicant has identified (with NE and RSPB) that the mitigation objective should be to ensure no net loss of breeding plots in the Salisbury Plain area by delivering a replacement plot before the existing plot is lost. Since the plot to be lost is outside the SPA boundary itself "*the provision of a replacement plot does not class as 'compensation' sensu the Habitats Directive"*. NE and RSPB has agreed that the location of the replacement breeding plot will be in an area of calcareous grassland at Parsonage Down approximately 500m from the current plot.

The Applicant provided a confidential figure [**REP2-027**a] to show the location of the replacement stone curlew plot at Parsonage Down.

The clearance of the existing stone curlew plot will take place outside the stone curlew breeding season of March to August (as secured by item MW-BIO8 of the OEMP [**AS-085**][2]. All construction staff working within 500mS of the plot would also be given a toolbox talk regarding the sensitivity of stone curlew. The Applicant concludes no AEoI on the SPA (Paragraph 5.2.4 - 5.2.5 of [**APP-266**]).

[2] PW-BI05 of [**AS-085**] also relates to the provision of a stone curlew replacement plot, but does not limit such activities to March and August as per MW-BIO8

The Applicant also sets out that the breeding plot will be located within the Salisbury Plain SAC boundary but "*will not itself result in an adverse effect on the integrity (the coherence of the structure and function) of the SAC*" given that it plot amounts to only 0.005% of the total area of the SAC, and that it's creation would not constitute 'loss' of SAC habitat but rather a change to the overall grassland structure and is "*normal practice for a balance between the needs of the interest features*" given the physical overlap between the SPA and SAC (paragraphs 5.1.5 – 5.1.7 of [**APP-266**]. The ExA posed specific questions of the Applicant, RSPB and NE on these points at ExQ1 (Ec.1.15 – Ec.1.19 of [**PD-008**]).

NE were satisfied with the mitigation measures that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot" and that the Applicant's "*justification as to why no adverse effects are envisaged on the stone curlew breeding plot to the south-west of Winterbourne Stoke appears reasonable*", and that although habitat within boundary of the Salisbury Plain SAC will be modified for the benefit of the SPA, "*it is of moderately low quality and not SAC qualifying habitat*" and that in their view it is "*consistent with the Habitats Regulations*". The matter of RSPB and NE agreement on the acceptability of modification to the Salisbury Plain SAC was also recorded at item 3.2 of ISH7 [EV-011d], [**REP4-035**].NE also stated that "*While the applicant does rely on the success of this measure to conclude no AEOI, it is a very simple measure to implement*" [**REP2-017**], [**REP7-011**] and [**REP2-120**].

The RSPB ([**REP2-017**] and [**REP2-125**]) agreed that "*indirect disturbance impacts on breeding stone curlew can be avoided with the implementation of suitable working practices during the construction phase*". RSPB is also "*satisfied with the mitigation measures detailed within the Environmental Statement (and their likely effectiveness) that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot at Parsonage Down*" (including the siting of the mitigation plot.

The Stonehenge Alliance also made a substantive submission on stone curlew impacts at [**REP2-135**] as part of their written representations, as did other IPs including affected land owners (Appendix 1 [**REP2-104**]). The concerns of the Stonehenge Alliance were primarily that "*it cannot be considered certain that Stone Curlew would not be disturbed in or deterred from nesting…as a result of the noise, lights and activity of five years of road and tunnel construction work, c.0.5km away at nearest. Nor can it be certain that five years' construction activity over a wide stretch between Normanton Down and other areas south of the A303 and the SPA would not lead to considerable disturbance of the Stone Curlew population in this general area*". Similar concerns are also raised in [**REP2-104**]; that it cannot be "*assumed that there will be no impact of construction works upon breeding success of Stone Curlew. With the absence of scientific data regarding possible effects of noise and lights, and considering that road and tunnel construction work will take five years... it is highly likely that the birds will be deterred from areas needed for feeding, especially as tunnel construction will be c.0.5km away at the nearest point.*"

At Deadline 7, the Applicant also submitted a "Habitat Regulations Screening Assessment - Clarification Technical Note" (as Appendix A to an updated SoCG with NE [**REP7-011**]). Paragraphs 1.61 – 1.65 of the clarification technical note outline the location and delivery mechanisms for the replacement breeding plot and that it "*will be delivered through a landowner agreement*

(in this instance with Natural England)". The SoCG itself also records the specific agreement with NE that they are "*satisfied with the mitigation measures that have been incorporated into the embedded design for the likely loss of a historically active stone curlew breeding plot. Natural England is satisfied with the siting of the stone curlew mitigation breeding plot (with the agreement of RSPB) within Parsonage Downs. The specifications of the stone curlew plot and fencing have been agreed*." (SoCG item 3.12 [**REP7-011**]). This is similarly agreed with RSPB in their updated SoCG with Applicant (item 3.3 and 3.5 of [**REP7-013**]).

The positions of the Stonehenge Alliance [**REP7-048**] and affected land owners [**REP6-087**] in respect of these issues remain largely as per their previous submissions and they remain concerned about the security of mitigation in absence of the legal agreement (at Deadline 7) and, in the case of [**REP6-087**], they "*do not agree that the Applicant has taken suitable and proportionate measures*".

At the time of publication of the ExA's RIES, legal agreements relating to the Parsonage Down replacement stone curlew plots had yet to be submitted as part of the examination.

h. The Applicant only considers the potential for AEoI from recreational pressures in-combination with other plans and projects (ie not specifically for recreational pressures from the Proposed Development alone). This assessment is presented in section 5.3 of [**APP-266**] (with reasoning set out in paragraph 5.3.2): "*The removal of the A303 as a barrier to foot traffic will allow visitors from the focal point of Stonehenge monument to use the PRoW to the south of the A303…increased tourism could operate in combination with an increase in the local population due to housing growth (such as that set out in the Wiltshire Core Strategy) and its associated increase in local recreational use of PRoW to increase the risk of disturbance of some stone curlew plots in the area*".

The Applicant concluded (at the point the Application was submitted) that there would be no AEoI from this pathway on the basis of the mitigation measures as set out in paragraphs 5.3.6 – 5.3.8 of [**APP-266**], namely the provision of an additional stone curlew plot at Winterbourne Down.

In their WR [**REP2-125**], the RPSB stated they had not agreed that an additional plot at their Winterbourne Downs Reserve '*would ensure no adverse effect on the integrity….of the SPA'* (as stated by the Applicant in paragraph 5.3.6 of [**APP-266**]) and that they "*do not accept this as appropriate mitigation to adequately address the potential impacts*". Instead their position was that "*provision for suitable replacement nesting habitat within the Stonehenge World Heritage Site should be made under legally binding agreement to be implemented should adverse impact be shown in the future*".

The ExA posed specific questions to the NE and RSPB on these matters in Ec.1.15 and Ec.1.19, and to the Applicant in Ec.1.16 in [**PD-008**]. NE did not raise concerns with the Applicant's approach in their response at [**REP2-120**] and RSPB did not respond beyond what they had set out in [**REP2-125**] (as above).

RSPB and the Applicant were discussing a number of points (4.1 – 4.3 of [**REP2-017**]), including the need for a visitor monitoring strategy in the case of "*continued success of the retained plots*" and the mechanism for distribution of any monitoring data by the

RSPB to inform the determination of mitigation success. Discussions were also ongoing about the mechanisms for further action in the "*unlikely event that the need for an additional plot is triggered by unsuccessful mitigation)*".

NE's SoCG with the Applicant [**REP2-016**] similarly recorded ongoing discussions between parties around the provision of visitor monitoring strategies and in particular, "*what additional measures are there that could be put in place should monitoring reveal an impact, and are they sufficiently certain to mitigate the impact?*".

These points were perused by the ExA in ExQ2, and in particular Ec.2.3 of [**PD-014**] about being satisfied 'beyond reasonable scientific doubt' whilst apparent uncertainty remains around whether further mitigation might be necessary (where the proposed mitigation proves "unsuccessful").

In response, the Applicant explained that [**REP6-024**] they are committing to "*procure and provide two new stone curlew breeding plots on an unconditional basis" and that these will be provided "in advance of the possibility of impact, to ensure the robustness (beyond reasonable scientific doubt) of a conclusion of no adverse effect on integrity of the SPA*". Concluding at Deadline 6, the Applicant is "*of the view that this commitment ensures the robustness of a conclusion of no adverse effect on integrity in the Statement to Inform an Appropriate Assessment [APP-266]. It goes beyond reasonable scientific doubt and provides the highest level of confidence regarding a conclusion of no adverse effect on the integrity of the SPA*".

The Applicant submitted revised SoCG with NE and RSPB at Deadline 7 [**REP7-011**] and [**REP7-013**] respectively.

Item 3.15 of [**REP7-011**] cites NE's agreement that "*Highways England has committed to providing two additional stone curlew plots to those previously committed to. It is considered that this commitment, together with the provision of the stone curlew plot at Winterbourne Down, underlines the robustness of a conclusion of no adverse effect on integrity of the SPA in the Statement to Inform an Appropriate Assessment (Environmental Statement Appendix 8.25) [APP-266]…The selection of additional plots is underway and there are ongoing discussions with landowners, RSPB and Natural England*".

The RSPB records the same agreement of no AEoI in items 3.5 – 3.8 of [**REP7-013**], adding specific agreement that "*Reliance on monitoring to inform future mitigation is not required considering the unqualified commitment from Highways England to provide additional stone curlew plots*".

Appendix A of the SoCG with NE [**REP7-011**] provides a "Habitat Regulations Screening Assessment - Clarification Technical Note". The purpose of the document was to provide "*clarification on the rationale used in the HRSA and SIAA. It references and brings together material from various parts of the Environmental Statement which was used in the preparation of the HRSA [APP-265] and SIAA [APP-266], It does not include new data or analysis besides that which was reported in the HRSA and SIAA and the Environmental Statement on which those were based, with the exception of some details on the method by which locations for new stone curlew plots have been identified*".

The ExA notes the positions of the Stonehenge Alliance at Deadline 7 [**REP7-048**] regarding the residual uncertainty over the proposed additional plots and that the they "*need to be secured in the DCO, as pointed out by RSPB before the end of the Examination, in order to ensure that the Statement to Inform the Appropriate Assessment is compliant with the Habitats Regulations…Without securing, under legal agreements, new plots in optimum locations, we submit that there is no certainty in Highways England's statement that its current commitment "ensures the robustness of a conclusion of no adverse effect on integrity in the Statement to inform the Appropriate Assessment [APP-266]*".

This view is also shared by affected land owners [**REP6-087**] who do not consider the Applicant has demonstrated "*beyond reasonable scientific doubt*" the unknown impact of recreational pressures once the Proposed Development is in operation and that "*the Applicant HAS TO provide the additional two Stone curlew plots to mitigate any potential negative effects due to potential recreational pressures upon the two Normanton Down Stone Curlew breeding plots*".

i. See also footnote **w** of Stage 1 Matrix 3 above.