

**National Highways: A303 Amesbury to Berwick
Down Project, Development Consent Order
Application**

Scheme Reference: TR010025

**Covering Note
and Legal Submission
concerning**

**Responses to Secretary of State's call for further
representations on his Statement of Matters**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

4 April 2022

1. This covering note and legal submission has been prepared on behalf of the Stonehenge Alliance by Dr Kate Fielden with assistance from Victoria Hutton of counsel.
2. Further submissions on behalf of the Alliance and accompanying this paper cover the following subject matter:
 - a) Alternatives (SOM Bullet Point 1)
 - b) Transport, Carbon and Economic Issues (SoM Bullet Points 2–4)
 - c) Environmental Information Review, including Cultural Heritage, Landscape and Biodiversity (SoM Bullet Point 4)
 - d) Geology, Ground Investigation and Groundwater Monitoring (SoM Bullet Point 4)
 - e) Any Other Matters (SoM Bullet Point 5)
3. In short, the Stonehenge Alliance considers that the DCO application for the Stonehenge New Road should be refused. This is due to breaches of the NPSNN (s104(3) Planning Act 2008) but also, because the adverse impact of the proposal would outweigh its benefits (s104(7) Planning Act 2008). We address this (at paragraphs 21ff.) below.
4. The Stonehenge Alliance is also of the view that the Secretary of State’s proposal to re-determine the scheme under Rule 20(2) of the Infrastructure Planning (Examination Procedure) Rules 2010/103 is unlawful. We set out our position in relation to this below.

Procedure

5. The Planning Act 2008 (PA 2008) makes no provision for the re-determination of an application once a decision of the Secretary of State has been quashed by a Court.
6. The Infrastructure Planning (Examination Procedure) Rules 2010/103 were made under the PA 2008. The pre-amble to those Rules states that they are made under rules 88(6), 90(3) and 97, paragraphs 3 and 4 of schedule 3 to PA 2008. None of those rules or paragraphs empower the Secretary of State to make provision as to the redetermination of applications following the quashing of a decision by a Court.
7. The Secretary of State’s statement of matters is purportedly issued under regulation 20(2) which states:

‘(2) Where a decision of the Secretary of State in respect of an application is quashed in proceedings before any court, the Secretary of State—

- (a) shall send to all interested parties a written statement of the matters with respect to which further representations in writing are invited for the purposes of the Secretary of State's further consideration of the application;
- (b) shall give all interested parties the opportunity of making representations in writing to the Secretary of State in respect of those matters.'

8. It can be seen that Regulation 20(2) does not require the Secretary of State to re-determine the application nor does it, in fact, prescribe any mode of re-determination. Further, if it were to be read as purporting to dictate any procedure following the quashing of a decision such provision is *ultra vires* as such is not provided for in the PA 2008. In any event, the Regulation does not preclude the re-opening or re-start of an Examination under the PA 2008.
9. In the present case, the nature of the new evidence is such that it cannot be fairly examined other than through a fresh examination or by way of an inquiry. Given the nature of the scheme and the severe impacts it will have (not least on the WHS as already found by the Secretary of State) it is imperative that all of the evidence is robustly tested by appropriately qualified experts. The ordinary examination procedure under the PA 2008 provides for this.
10. The PA 2008 sets out a strict timetable for the submission, examination and determination of applications for DCOs.
11. By s103(1) the Secretary of State has the function of deciding an application for an order granting development consent. Section 107 sets out a timetable for the Secretary of State's decision. The timetable relates to the receipt of the ExAR.
12. Under the statutory scheme, the SoS decision is predicated upon receipt and consideration of a report by the examining authority following the examination of the application.
13. The statutory examination process involves an inquisitorial procedure through which the evidence of the Applicant and others is robustly tested. The examination involves:
 - a. An initial assessment of the application;
 - b. A preliminary meeting;
 - c. A number of rounds of written representations, including responses to ExA questions;
 - d. The potential for the holding of hearings, including compulsory acquisition hearings;
 - e. The submission of local impact reports by local authorities;

- f. The provision of statements of common ground;
 - g. The potential for the appointment of an assessor;
 - h. The potential appointment of a barrister, solicitor or advocate;
 - i. The conduct of site inspections.
- 14.** The above process is necessary not only for an Examining Authority (ExA) to reach a robust recommendation on a DCO proposal but also to ensure that the right environmental safeguards are attached to the DCO via requirements.
- 15.** In this case:
- a. The examination was conducted by five experienced inspectors (Wendy McKay, Alan Novitzky, David Richards, Ken Taylor and Edwin Maund);
 - b. The examination was conducted between 2 April and 2 October 2019;
 - c. The detailed and rigorous examination consisted of:
 - i. Open floor hearings
 - ii. Site inspections
 - iii. Consideration of Relevant Representations, various rounds of written representations
 - iv. The asking and answering of detailed written questions,
 - v. Various issue specific hearings
 - vi. Submission and consideration of updated versions of the DCO the DAMS and OEMP;
- The detailed timetable can be found [here](#).
- d. The Examining Authority's Report (ExAR) was delivered on 2 January 2019; and
 - e. The first SoS decision was made on 12 November 2020 following additional rounds of consultation and consideration of submissions.
- 16.** The Secretary of State's Statement of Matters recognises that a significant amount of updated information is required in relation to the redetermination of the scheme. This includes submissions in relation to the reasons for the High Court's quashing of the decision but also (a) updates to the Environmental Statement and (b) submissions on the carbon impact of the proposal, including cumulatively with other proposed schemes. Further, this process is occurring over two years since the ExA reported and a year and a half since the Secretary of State reached his first decision.
- 17.** National Highways has submitted a welter of information, with more to come. A great deal of this is technical evidence which especially requires interrogation. A large part of the information /reports of NH are not accepted as definitive by the Stonehenge Alliance and numerous interested parties. The SA and other interested parties will also

be submitting a wealth of information and evidence. Some of this also takes the form of technical evidence.

18. Further, the documents of NH, SA and interested parties rely upon and incorporate evidence which has previously been submitted to the Examination and therefore must be taken into account in any determination. Thus, the number of documents submitted (at present around 51 by NH) is misleading as those documents themselves incorporate and refer to a number of other documents already submitted to the Examination.

19. Regulation 21 of the EIA Regulations states:

'21.— Consideration of whether development consent should be granted

(1) When deciding whether to make an order granting development consent for EIA development the Secretary of State must—

- (a) examine the environmental information;
- (b) reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account the examination referred to in sub-paragraph (a) and, where appropriate, any supplementary examination considered necessary;
- (c) integrate that conclusion into the decision as to whether an order is to be granted; and
- (d) if an order is to be made, consider whether it is appropriate to impose monitoring measures.

(2) The reasoned conclusion referred to in paragraph (1)(b) must be up to date at the time that the decision as to whether the order is to be granted is taken, and that conclusion shall be taken to be up to date if in the opinion of the Secretary of State it addresses the significant effects of the proposed development on the environment that are likely to arise as a result of the development described in the application.

(3) When considering whether to impose a monitoring measure under paragraph (1)(d), the Secretary of State must—

- (a) if monitoring is considered to be appropriate, consider whether to make provision for potential remedial action;
- (b) take steps to ensure that the type of parameters to be monitored and the duration of the monitoring are proportionate to the nature, location and size of the proposed development and the significance of its effects on the environment; and
- (c) consider, in order to avoid duplication of monitoring, whether any existing monitoring arrangements carried out in accordance with an obligation under the law of any part of the United Kingdom, other than under any law that

implemented the Directive, are more appropriate than imposing a monitoring measure.'

- 20.** The volume and type of material is therefore not suitable to a re-determination by the Secretary of State without any input from an expert and inquisitorial examining authority which is able to ask detailed penetrating questions of the parties, can conduct site visits and advise as to the true impacts of the proposal and alternatives and also as to any necessary amendments to the DCO and its requirements. Put shortly, the Secretary of State requires the expertise of an examining panel as envisaged under the PA 2008 and the EIA regulations. This is not only relevant to the merits of the proposal but also the requirements which it is to be subject to.
- 21.** It can be noted that the ExA for the examination procedure was a panel of 5 inspectors. Section 61 PA 2008 sets out the procedure for deciding whether to appoint a single person or a panel of inspectors. The criteria (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/418015/examinations_guidance- final_for_publication.pdf) for appointing a panel as opposed to a single person relate to: the complexity of the case and the level of public interest in the outcome. Those factors remain in relation to the re-determination decision.
- 22.** The need for information to be properly interrogated in this case is underscored by the damning conclusions which the Secretary of State has reached as to the heritage impact of the scheme. A summary of the findings is set out at para. 2.9 of our submission on Alternatives; however, they bear repeating here. In short, the Secretary of State has found:

 - a. The Scheme represents 'the greatest physical change to the Stonehenge landscape in 6000 years and a change which would be permanent and irreversible, unlike a road constructed on the surface of the land' (para. 258 of the High Court Judgment and para. 5.7.225 ExAR and adopted by SoS at his Decision Letter (DL)[10]);
 - b. The overall impact to the WHS (i.e. once benefits have also been taken into account) would be 'significantly adverse' (para. 279 High Court Judgment);
 - c. The scheme would not produce an overall net benefit for the WHS and, in that sense, it is not acceptable *per se* (para. 282 High Court Judgment);
 - d. There would be net harm to OUV attributes, integrity and authenticity of the WHS (para. 285 High Court Judgment);

- e. Attributes (3), (5) and (6) of the OUV would suffer 'major harm' (para. 97 High Court Judgment and ExAR 5.7.227-229 and adopted by SoS at DL[10]);
- f. 'Irreversible harm would occur, affecting the criteria for which the Stonehenge, Avebury and Associated World Heritage Site was inscribed on the World Heritage List' (ExAR 5.7.326 cited at para. 103 High Court Judgment)
- g. The Longbarrow Junction falls firmly within the settings of the WHS as a whole and of asset groups 12 and 13 (ExAR 5.7.241). Seen from above, the Longbarrow Junction would 'dwarf all other individual features, including the Stones' (ExAR 5.7.243 and adopted by SoS at DL[10]). Further its broad geometric outlines would be evident at surface level and would 'appear at odds with the surrounding smaller scale morphology of rectilinear fields and small groupings of traditional buildings' (ExAR 5.7.224 and adopted by SoS at DL[10])
- h. 'The Junction, together with the cutting leading to the western portal, represents a single, very large, continuous civil engineering undertaking, spanning the western boundary of the WHS. Given the arbitrary nature of the boundary and the underling expansive and unified character of the cultural landscape, the junction would have effects on the OUV similar to those described for the cutting and western portal.' (ExAR 5.7.245 and adopted by SoS at DL[10])
- i. 'The harm [caused by the Longbarrow Junction] reflects that caused by the cutting on the OUV, including a continuation of the harm to the Wilsford/Normanton dry valley. Also, the harm to the overall assembly of monuments, sites, and landscape through major excavations and civil engineering works, of a scale not seen before at Stonehenge. Whilst the existing roads could be removed at any time, should a satisfactory scheme be put forward, leaving little permanent effect on the cultural heritage of the Stonehenge landscape, the effects of the proposed junction would be irreversible.' (ExAR 5.7.247 and adopted by SoS at DL[10])
- j. The OUV of the WHS would be harmed by 'potentially serious loss of assets...because of the civil engineering excavation works' (ExAR 5.7.308 and adopted by SoS at DL[10])
- k. The Secretary of State has 'serious concerns regarding the effects of elements of the Proposed Development on the OUV of the WHS, and on the cultural heritage and the historic environment of the wider area' (ExAR 5.7.207 and adopted by SoS at DL[10])

- l. The western part of the WHS would be ‘seriously disturbed by the intervention of the cutting and the western portal’ (*sic*) (ExAR 5.7.217 and adopted by SoS at DL[10]);
- m. The presence and scale of the cutting would be much greater than shown in Highways England’s ‘Western Cutting Zone of Theoretical Visibility study [REP7-025]’ (ExAR 5.7.223 and adopted by SoS at DL[10])
- n. Whilst much harm arises from the effect of existing roads including the A303 ‘the roads could be removed at any time, should a satisfactory scheme be put forward, just as the A344 was removed, leaving little permanent effect on the cultural heritage of the Stonehenge landscape.’ (ExAR 5.7.224 and adopted by SoS at DL[10])
- o. The eastern portal and cutting would ‘harm the landscape values of the OUV. In addition, the Countess barrows would be a little nearer the line of the road than at present, having a slight negative effect on the OUV. However, the main danger to Blick Mead would be harm or loss to Mesolithic remains through changes in patterns of ground water, which could give rise to enormous damage...’ (ExAR 5.7.256 and adopted by SoS at DL[10])
- p. The Secretary of State found the following overall effects to each of the OUV attributes (ExAR 5.7.307-313 and adopted by SoS at DL[10]):

Attribute 1: Stonehenge itself as a globally famous and iconic monument.

The tunnel would remove the intrusion of trunk road traffic, allow partial reunification of the WHS, and reconnection of the Avenue. However, the recognised importance of Stonehenge would suffer were the major permanent and irreversible engineering works proposed to take place within the WHS and its setting.

Attribute 2: The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites. The tunnel would allow preservation of the monuments and sites under which it would pass and prevent any further traffic damage arising from the surface roads. However, potentially serious loss of assets could occur because of the civil engineering excavation works.

Attribute 3: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape. The removal of the existing road would enhance the settings of sites and monuments, reunify much of the landscape, and reunite the Avenue. However, this would be at the expense of the intervention of major engineering works in the Wilford/Normanton dry valley, both within and to the west of the WHS, which would irreversibly harm the landscape of the WHS

including the settings of monuments either side of the valley, the site of the Early Bronze Age route to Stonehenge, flanked by significant arrays of monuments, as well as the wider setting of the landscape.

Attribute 4: The design of Neolithic and Bronze age funerary and ceremonial sites and monuments in relation to the skies and astronomy. The Proposed Development would enhance this Attribute through the removal of surface traffic and light pollution which can interfere with appreciation of solstice events and the night sky.

Attribute 5: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other. The removal of the road would lead to the reunification of much of the landscape, to an extent restoring the relationships of sites and monuments to each other. However, this would be at the expense of much more fundamental spatial severance and visual disturbance to the relationship of monument groups either side of the Wilford/Normanton dry valley, and the significant space they create between them, and to the setting of the WHS as a whole caused by the intervention of the Longbarrow Junction.

Attribute 6: The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel. The removal of the road and the reunification of much of the landscape, together with the reconnection of the Avenue, would benefit aspects of the landscape assembly of sites, monuments and their interrelationships, whilst the associated engineering works would substantially harm other aspects. In the ExA's view, the benefits would not outweigh the harm arising from the excavation of a deep, wide cutting and other engineering works, within the WHS and its setting, of a scale and nature not previously experienced historically in this 'landscape without parallel'.

Attribute 7: The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others. Whilst the present road intrusion would be removed, in the ExA's view, the aesthetic and spiritual damage would be profound and irreversible.

- q. With regard to integrity the Secretary of State found that the proposed development would compromise the opportunity to enhance the integrity or intactness of the WHS 'because of the location of the Longbarrow Junction, an extremely large engineering structure alien to the WHS OUV, at or near an area which might be integrated into the WHS. This would be in addition to the harm to

integrity arising from the continuation of the Junction's road system as a cutting into the WHS, introducing irreparable spatial division and harming understanding, into the WHS.' (5.7.315 ExAR and adopted by SoS at DL[10])

- r. With regard to authenticity the Secretary of State found:

'The authenticity of the WHS would be enhanced by the removal of the surface roads which confuse its ability to clearly and credibly express its cultural values through the attributes noted. However, the Proposed Development would bring a deeper and permanent confusion, through fundamentally altering the assembly which conveys understanding of the historic use of the landscape and its relationships of location and setting, and would thereby inhibit access to the spirit and feeling of the WHS.' (ExAR 5.7.319 and adopted by SoS at DL[10])

'The Proposed Development would seriously harm the authenticity of the WHS.' (ExAR 5.7.320 and adopted by SoS at DL[10])

- s. Overall the Secretary of State found:

'The Proposed Development would benefit the OUV in certain valuable respects, especially relevant to our present generation. However, permanent irreversible harm, critical to the OUV would also occur, affecting not only our own, but future generations. The benefits to the OUV would not be capable of offsetting this harm. The overall effect on the WHS OUV would be significantly adverse.' (ExAR 5.7.321 and adopted by SoS at DL[10])

- 23.** Before embarking on a proposal which, even on the Secretary of State's own view would cause permanent and irreversible harm to the WHS and which risks the WHS having its world heritage status removed it is essential that the Secretary of State is able properly to interrogate all of the environmental information and properly to ascertain whether there is a viable alternative to the proposal. This is particularly the case in circumstances where NH's alternatives assessment (a) does not acknowledge the harm which the SoS has concluded will occur to the WHS and various other assets and (b) makes a number of assertions which are unsupported by any evidence, which cannot be accepted at face-value and require interrogation (see our submission on Alternatives at Section 3).
- 24.** Such examination is also required to enable a fair hearing/process for interested parties. These include the Stonehenge Alliance and also all those whose land is due to be compulsorily purchased and who benefit from protection under Article 1 of the First Protocol of the ECHR. Fairness requires that the evidence of National Highways (NH) (and interested parties) is robustly and rigorously tested.

25. Therefore, in light of the above, the nature of the information and the requirements of the EIA regulations mean that either:

- a. a fresh examination should be held into the proposal;
- b. an extra-statutory inquiry should be established to examine the proposal; or
- c. the proposal should be refused giving NH the opportunity of re-submitting its application with fully updated environmental information and full information on alternatives.

26. Finally, and also relevant to procedure statutory consultees should be consulted to give their view on the proposals in light of:

- a. the conclusions of the ExA;
- b. the conclusions of the Secretary of State in the quashed decision;
- c. the new evidence submitted by NH and interested parties.

Merits

Notwithstanding the above, the Stonehenge Alliance remains of the view that the application for the Proposed Scheme should be refused. A short summary of the case setting out our other submissions follows below.

27. As stated above the Secretary of State has already found that the proposal will do permanent and irreversible harm to the World Heritage Site (see the list of conclusions at para. 21). It is clear from the recent pronouncements of the World Heritage Committee that to proceed with the scheme risks the site being put on the list of world heritage in danger and ultimately losing its status as a World Heritage Site.

28. Further, the Secretary of State's previous decision in fact under-estimated the level of harm. It is clear from recent knowledge which has become available about the world heritage site and its archeology, together with evidence which has already been submitted as part of the examination, there would be substantial harm to heritage assets (para 5.133 NPSNN). In particular, there can realistically be no argument that the destruction of more than 7ha of the World Heritage Site itself together with the destruction of archeology which is demonstrably of equivalent significance to Scheduled Monuments will amount to substantial harm (see submission by the Consortium of Stonehenge Experts, following the Secretary of State's request of 24.2.22). The same is true of the devastating effect of the road scheme on the setting of numerous scheduled monuments and the WHS itself.

- 29.** However, even if one were to take just the previous findings of the Secretary of State (and from which there is no evidence to downgrade the level of harm caused) the conclusions listed above should clearly be given substantial weight.
- 30.** Therefore, there can be no doubt that the ‘significantly adverse’ effect must weigh heavily against the scheme. Under the NPSNN if this were to be treated as ‘less than substantial harm’ (although it is clear that there is in fact substantial harm, as set out above) then this should be weighed against the ‘public benefits’ of the proposal (NPSNN 5.133).
- 31.** The public benefits of the proposal have been grossly overstated. As set out in our submission on Transport, Carbon and Economic Issues, the cost of the scheme massively outstripped its economic benefit without the inclusion of the fundamentally flawed heritage valuation survey. Now with significant increases in construction costs and new carbon prices, costs are likely to far outweigh any possible benefits even if the heritage valuation survey is included. (See our submission on Transport, Carbon and Economic Issues, Section 5.) Even the Secretary of State in his first decision characterized the economic benefit of the proposal as having ‘moderate weight’ (DL para.18). It is therefore clear that the public benefits come nowhere close to outweighing the heritage harm. Further, they do not outweigh the heritage harm together with the other categories of harm as addressed below.
- 32.** Further, the heritage harm led the High Court to conclude that there were exceptional circumstances in this case and therefore alternatives should be considered. That was clearly right given the level of harm which has been found by the Secretary of State. However, the Secretary of State has not been provided with adequate information by NH in this regard. The alternatives assessment presented by NH is not fit for purpose. We address this in our submission on Alternatives. In short summary, it fails to address the findings which the Secretary of State made with regard to the harmful impact of the proposal. Further, it wholly fails to consider carbon impact including the impact of embodied carbon. The position remains that there are viable, less harmful and less costly options for relieving the A303 in the location of Stonehenge and the availability of these potential options should lead to a refusal of this scheme which would cause permanent and irreversible damage.
- 33.** In light of the Climate Emergency declared by parliament and the Government’s commitment to net zero, the carbon impact of the proposal (both individually and cumulatively) weighs heavily against the scheme. Yet again, NH has failed to provide full information in relation to this to allow a proper assessment of the scheme (see

paragraphs 3.21, 6.4 and 6.6 of our submission on Transport, Carbon and Economic Issues).

- 34.** The NPSNN states that carbon impacts will be considered as part of the appraisal of scheme options (in the business case) (NPSNN 5.17). The whole business case of NH is not fit for purpose based as it is on out of date information. It does not consider the full carbon impact of the proposal and alternatives, including embodied carbon. Further, it was conducted on the basis that the proposal would be beneficial in heritage terms. As stated in our submissions at Section 5 of our submission on Transport, Carbon and Economic Issues, that was a fundamental miscalculation.
- 35.** In our response to the Secretary of State's Statement of Matters letter, Bullet Point 4, we question the approach of NH to new guidance on Cultural Heritage and Landscape and Visual Impact Assessment, the latter notably in relation to setting. We note that the Applicant's HIA has not been revised to take into account the finding of significant adverse effects of the Scheme by the Secretary of State. Attention is drawn to serious failings in updates on or missing Biodiversity baseline surveys and reports. Examination of the many geotechnical ground investigation and groundwater data reports has been undertaken by our specialist Dr Reeves who concludes that there must continue to be serious concerns about the adverse impacts of tunnelling through the Chalk bedrock of the Stonehenge landscape, such that he is of the opinion that these matters should be submitted to re-Examination under an Inspector with the relevant expertise who may give independent expert advice to the Secretary of State.
- 36.** Under the Secretary of State's request for submissions on Any Other Matters (SoM letter, Bullet Point 5), we address the 2021 Decision of the WH Committee and the High Court Judgment, both of which have a crucial bearing on any new decision of the Secretary of State.
- 37.** Overall, therefore, the proposal is contrary to the NPSNN and should be refused. Further, the adverse impacts of the proposal (which include significant heritage harm and also carbon and climate change impact together with the potential for much less harmful alternatives) outweigh the benefits of the proposal and the DCO ought to therefore be refused.

**National Highways: A303 Amesbury to
Berwick Down Project, Development Consent
Order Application**

Scheme Reference: TR010025

Transport, Carbon and Economic Issues

**Response to Secretary of State's call for further
representations on his Statement of Matters**

Bullet Points 2–4 and

Environmental Review Appendix:

Transport Assessment Review

for

The Stonehenge Alliance

(Reference No. 2001870)

Prepared by:

**Dr Simon Temple,
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April 2022

1. Key Points

- 1.1 This paper sets out The Stonehenge Alliance's response, on transport, carbon and economics issues, to several documents prepared by National Highways (NH) following a request from the Secretary of State. These documents cover policy, carbon, review of environmental information and NH's transport assessment, and should be read in conjunction with the Stonehenge Alliance's submissions to the Examination in Public. The issue of alternatives is covered in a separate paper.
- 1.2 We are aware that the Secretary of State has requested the Applicant to '*update section 4 of their response to the Statement of Matters on carbon . . . to provide for its assessment of the cumulative effects of Greenhouse gas emissions from the scheme with other existing and/or approved projects on a local, regional and national level.*' We have not seen this updated information and reserve the right to comment on it when it has been submitted.
- 1.3 The Stonehenge Alliance view is that the Secretary for Transport should reject National Highways' defence of its argument to proceed with its project, because its case is fundamentally flawed in numerous respects. NH has failed to robustly demonstrate the need for the scheme and the harms it will cause are many and various. The Secretary of State has already accepted that it will cause permanent and irreversible harm to the World Heritage Site and other assets. Evidence since the date of the Secretary of State's decision reveals that the damning comments made by the Examining Authority and agreed by the Secretary of State are in fact underestimates of the harm. Further harm will arise in the context of carbon emissions (including through road traffic and embodied carbon), landscape and other harms as previously outlined in our Examination submissions and also set out in submissions made as part of this post-quashing exercise. This harm could be avoided through alternative means and in the context of a scheme which risks the WHS losing its world heritage status the availability of alternatives (which has not been properly addressed by NH) should be given considerable weight.
- 1.4 The list of flaws in NH's material, discussed in more detail in our paper, are in summary:
 1. Inconsistent with Parliament's declaration of a climate emergency
 2. Inconsistent with the 6th Carbon Budget
 3. Inconsistent with the advice of the Climate Change Committee
 4. Inconsistent with the Government's Decarbonising Transport Strategy

5. Inconsistent with a 68% cut in carbon emissions by 2030 (from the 1990 level) – the UK's Nationally Determined Contribution as part of the Paris Agreement
6. Treating as irrelevant the government's current review of NPSNN
7. Ignoring DEFRA recommendations on scenarios of climate change to include in appraisal
8. Ignoring BEIS and DFT advice on carbon values
9. Contradiction of the Examining Authority and Secretary of State's finding that the proposed tunnel would do permanent and irreversible damage to the World Heritage Site, including its archaeology
10. Initial and continuing use of demand projections which are inconsistent with DfT's advice on scenarios of future traffic trends
11. Ignoring any effects on traffic of all current major developments in the economy, including Brexit, Covid19, and any significant amount of climate change in the future
12. Ignoring all DfT's future traffic scenarios except the one which NH claims would support the case for its project, though failing to produce evidence of that support
13. Assuming that none of the Government's or Secretary of State for Transport's, current determined strategies and policies to reduce car traffic could be successful
14. Failing to take seriously that even its own calculations show that the suggested travel time savings (against an unrealistic base) do not come anywhere close to providing value for money of the great cost of the project
15. Failing to take account of the increased cost since its earlier, rejected, case
16. Relying on an invented alternative 'heritage value' of the project, by application of a method, unsupported by independent peer review, which was based on questions whose premise was contradicted by the Inspectors' findings of damage to the World Heritage Site
17. Failing to carry out an amended assessment of heritage value which would have recognised those findings, or address any of the criticisms made of its methodology by critics other than its own consultants
18. Refusing to carry out a revised calculation of the Business Case for the project

19. Failure to consider alternatives.

1.5 We make the case in our response of why all of these points are relevant to the Secretary of State’s decision, and should lead to him refusing the Development Consent Order. Ultimately, the proposal conflicts with key parts of the NPSNN. Further, the adverse impacts of the proposal outweigh its benefits and therefore the DCO application ought to be refused.

2. Introduction

2.1 This document sets out The Stonehenge Alliance’s response on transport planning, carbon and economic issues, to several submissions by National Highways (NH, formerly Highways England) in support of its Development Consent Order Application for the A303 Amesbury to Berwick Down project, following a request from the Secretary of State. It responds to the following documents:

- Response to Bullet Point 2: Policy (TR010025-002236)
- Response to Bullet Point 3: Carbon (TR010025-002230)
- Response to Bullet Point 4: Environmental Information Review (TR010025-002232)
- Environmental Review Appendix: Transport Assessment Review (TR010025-002231).

2.2 Our comments on Alternatives are contained in a separate document.¹

2.3 Following this Introduction, Section 3 considers policy issues. This is followed in Section 4 by discussion of the traffic forecasting. Section 5 considers the Business Case for the project and Section 6 discusses its relationship to the overall A303 programme. Section 7 contains a summary and our conclusions.

3. Policy Issues

3.1 In its submission on policy issues², NH notes that the National Policy Statement on National Networks (NPSNN)³ is currently being reviewed “in light of the Government’s legal commitment to net zero, the 10-point plan for a green industrial revolution (HM Government, 2020), the new sixth carbon budget (Committee on Climate Change,

¹ Stonehenge Alliance “Response to SoM Bullet Point 1: Alternatives”, April 2022

² National Highways “A303 Amesbury to Berwick Down. Statement of Matters issued 30 November 2021: Applicant’s response to the matters on which the Secretary of State invites further representations (Paragraph 2). Response to Bullet Point Two - Policy” ([TR010025 – 002236](#)), paragraph 2.1.2

³ Department for Transport “National Policy Statement for National Networks”, HMSO, December 2014

2020) and the Decarbonising Transport plan (DfT, 2021). The review is proposed to continue for completion no later than spring 2023.” It asserts that this means that the December 2014 version of the NPSNN remains in force and that there is no need to revisit policy issues until it is revised.

- 3.2 This is incorrect for two reasons. First, although the NPSNN has not itself yet been formally amended or replaced, it has been announced as under review, specifically because there are many other aspects of Government policy, directly material to this proposal, which have very clearly and unambiguously changed. These include specifically the Decarbonisation Strategy (discussed below) which has been amended and clarified on several occasions since 2014 and is such a core element of Government policy that, where there might be a difference of policy or element, the later statements which are more up to date should be given considerable weight.
- 3.3 Other changes include policy on the principles and practice of how transport projects and programmes should be appraised, including the Treasury review of the ‘Green Book’⁴ on transport appraisal; the consequential advice by DEFRA⁵ on scenarios of appraisal of climate change; new recommended values of carbon emissions per tonne by BEIS⁶ and its inclusion in the DfT’s TAG appraisal guidance⁷; as well as updated DfT guidance on the treatment of uncertainty and traffic forecast scenarios, which changed from 2015 to 2018, and again in 2021 both before and after the original application by NH⁸.
- 3.4 We attach, in Annex A, a recent letter from the Department for Transport to local highways authorities and sub-national transport bodies which usefully summarises in its own words policy changes which have been made, since 2019 and given advice that that these policy changes can be material to future DfT funding of local road schemes. We assert that this supports in principle our view that the same policy changes will be relevant to reconsideration of NH schemes, including this one.
- 3.5 The Secretary of State’s decision is governed by s104 of the Planning Act 2008. Under section 104(2) the Secretary of State is required to have regard to a number of matters, these include ‘any other matters which the Secretary of State thinks are both

⁴ HM Treasury “Green Book Review: Findings and Response”, 2020; and HM Treasury “Green Book 2020”

⁵ DEFRA (2020) Accounting for the effects of climate change.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934339/Accounting_for_the_Effects_Of_Climate_Change_-_Supplementary_Green_Book_...pdf

⁶ BEIS (September 2021) Valuation of greenhouse gas emissions: for policy appraisal and evaluation

<https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation>

⁷ Sheet A3.4, TAG Data Book v1.17, Department for Transport, November 2021

⁸ Department for Transport Uncertainty Toolkit: TAG Supplementary Guidance (May 2021)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/983766/tag-uncertainty-toolkit.pdf

important and relevant to the Secretary of State's decision'. Updated central government policy on key issues such as carbon and climate change are patently 'important and relevant'. Section 104(3) provides that the 'Secretary of State must decide the application in accordance with any relevant national policy statement, except to the extent that one or more of subsections (4) to (8) applies'. Subsection 104(5) applies 'if the Secretary of State is satisfied that deciding the application in accordance with any relevant national policy statement would lead to the Secretary of State being in breach of any duty imposed on the Secretary of State by or under any enactment'. Section 104(7) applies 'if the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits'. Here, both subsections 104(5) and 104(7) apply. Further, when considering whether s104(7) applies the Secretary of State will have to consider up to date policies on carbon and climate change. It would be irrational not to do so.

- 3.6 NH has itself recognised some of these changes, accepting that it would have to review some elements of the earlier appraisal in the light of new circumstances, guidance or policy. The problem is that this has been done inconsistently, choosing to recalculate some elements which appeared (in its judgment) to strengthen the case for the Scheme, but to ignore or dismiss other recalculations which would weaken it. This breaches the over-riding responsibility to ensure that its appraisals and advice should be even-handed and not get confused with its role as Scheme Promoter.
- 3.7 Secondly, the argument of the primacy of the 2014 statement ignores the full text of s104 Planning Act 2008 which requires other material considerations to be taken into account this necessarily includes up to date policy. National Highways is a Government company and it should be expected to act in accordance with overall Government policy, irrespective of whether this has fed through to all relevant policy statements. If it should appear that some Government policies are in conflict with others (which can happen due to the timescale of discussion and amendment), this should be discussed seriously with reasoned argument, not by selectively highlighting some and ignoring others. We assert that though there may be some exceptions, in general the principle should be that recent policy decisions take precedence over earlier ones, especially on central planks of Government policy on matters of national urgency.
- 3.8 Ultimately, the context in which this decision is to be taken (in 2022) is wholly different from 2014 when the NPSNN was adopted. On May 1st 2019, during the

Examination, the UK Parliament passed a resolution declaring a climate emergency, stating⁹:

“this House declares an environment and climate emergency following the finding of the Inter-governmental Panel on Climate Change that to avoid a more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050; recognises the devastating impact that volatile and extreme weather will have on UK food production, water availability, public health and through flooding and wildfire damage...; calls on the Government to increase the ambition of the UK’s climate change targets under the Climate Change Act 2008 to achieve net zero emissions before 2050, to increase support for and set ambitious, short-term targets for the roll-out of renewable and low carbon energy and transport...”

3.9 In its 2020 report¹⁰, the Climate Change Committee highlighted the fact that surface transport is now the economic sector which produces the largest share – 22% – of the UK’s Greenhouse Gas Emissions. Reducing this is critical to achieving its proposed 78% reduction in carbon emissions relative to 1990 (63% relative to 2019) by 2035. The Committee recommended that emissions need to fall by 68% between 1990 and 2030, a marked increase from the 57% recommended in the 5th carbon budget for the same period. The Committee highlights a number of measures that need to be taken to achieve this, with the first being¹¹:

*“**Reduction in car travel.** Our demand scenarios are based on modelling by the UK Centre for Research into Energy Demand Solutions (CREDS), along with other literature and evidence across UK cities and in other countries. Compared to baseline growth, we assume that approximately 9% of car miles can be reduced (e.g. through increased home-working) or shifted to lower-carbon modes (such as walking, cycling and public transport) by 2035, increasing to 17% by 2050. The opportunities presented to lock-in positive behaviours seen during the COVID-19 pandemic and societal and technological changes to reduce demand (e.g. shared mobility and focus on broadband rather than road-building) are key enablers.”*

3.10 As the Green Alliance has pointed out¹², this will only be sufficient to meet the target reduction in emissions if sales of zero emission vehicles grow rapidly. If this does not occur, a greater reduction in average car use would be needed. This would also have

⁹ Hansard “Environment and Climate Change, Volume 659: debated on Wednesday 1 May 2019” <https://hansard.parliament.uk/commons/2019-05-01/debates/3C133E25-D670-4F2B-B245-33968D0228D2/EnvironmentAndClimateChange>

¹⁰ Climate Change Committee “The Sixth Carbon Budget: The UK’s Path to Net Zero”, December 2020

¹¹ Climate Change Committee “The Sixth Carbon Budget: The UK’s Path to Net Zero”, December 2020, page 97

¹² Bennett H and Brandmayr C “Not going the extra mile: driving less to tackle climate change”. Report for Green Alliance, 2021

wider benefits on health, air quality and in underpinning better public transport. It should be noted that the Welsh Government has committed to a 10% reduction in car miles travelled per person by 2030¹³. Analysis by Element Energy for the Scottish Government supports a target of a 20% reduction in total car mileage by 2030, relative to 2019¹⁴ and this was adopted by the Scottish Government in 2020¹⁵. National Highways predict that the A303 project will result in an increase in car use, rather than a reduction. Accordingly, it is clearly contrary to the Climate Change Committee's pathway and the policy direction of devolved administrations. The 6th carbon budget proposed by the Committee was incorporated into law in June 2021¹⁶.

- 3.11 The Government's Net Zero Strategy further sets out how this may be achieved including:

"Alongside road vehicle decarbonisation, we must increase the share of trips taken by public transport, cycling and walking. We want to make these modes the natural first choice for all who can take them. As more journeys are cycled or walked, and taken by public transport, the carbon, air quality, noise and congestion benefits will be complemented by significant improvements in public health and wellbeing.

*We will support and encourage modal shift of freight from road to more sustainable alternatives, such as rail, cargo bikes and inland waterways."*¹⁷

- 3.12 On page 158, the strategy commits to *"make buses more frequent, more reliable, more comprehensive, easier to understand and use, better co-ordinated and cheaper – to dramatically increase passenger numbers and reduce congestion and carbon emissions"*. It also commits to *"build extra capacity on our rail network to meet growing passenger and freight demand and support significant shifts from road and air to rail."* In summary, the policy approach is to achieve modal shift from car and truck to public transport and active travel modes. Constructing a new road that will result in trips transferring **to** car is clearly diametrically opposed to this policy.

- 3.13 This policy stance is further emphasised in The Ten Point Plan for a Green Industrial Strategy. This states:

"As well as decarbonising private vehicles, we must increase the share of journeys taken by public transport, cycling and walking. We will therefore accelerate the

¹³ Welsh Government "Net Zero Wales Carbon Budget 2", 2021

¹⁴ Element Energy "Decarbonising the Scottish Transport Sector", Report for the Scottish Government, 2021

¹⁵ Update to the Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero, Scottish Government, December 2020

¹⁶ "The Carbon Budget Order 2021", Statutory Instrument 2021 No.750, 23rd June 2021

¹⁷ HM Government "Net Zero Strategy: Build Back Greener", HMSO, 2021, page 156

transition to more active and sustainable transport by investing in rail and bus services....”¹⁸

3.14 Investing in a project which does the opposite is clearly contrary to this policy.

3.15 The transport decarbonisation plan issued by the Department of Transport in 2021¹⁹ states (on page 6):

“improvements to public transport, walking and cycling, promoting ridesharing and higher car occupancy, and the changes in commuting, shopping and business travel accelerated by the pandemic, also offer the opportunity for a reduction or at least a stabilisation, in traffic more widely.”

3.16 It then sets out a series of specific commitments designed to reduce road travel. Many of these would contribute by making alternatives more attractive. The most relevant are summarised below, together with comments on how they would contribute:

- *“We are building extra capacity on our rail network to meet growing passenger and freight demand and support significant shifts from road and air to rail”;*
- *“We will deliver an ambitious, sustainable, and cost-effective programme of [rail] electrification guided by Network Rail’s Traction Decarbonisation Network Strategy”.* Electrification makes rail journeys faster, smoother and more attractive, as well as more competitive for freight. Network Rail’s strategy²⁰ includes electrification from Newbury to Exeter, Plymouth and Penzance as well as the route from Basingstoke to Exeter via Salisbury. These routes are the rail alternatives to the A303 corridor;
- *“We will take action to increase average road vehicle occupancy by 2030”.* Higher vehicle occupancy means that the same number of person journeys can be undertaken in fewer vehicles, thereby reducing traffic volumes.
- *“We will support and encourage modal shift of freight from road to more sustainable alternatives, such as rail, cargo bikes, and inland waterways.”*

3.17 Thus “Decarbonising Transport” lists a series of specific areas of policy development linked to the aim of reducing traffic through more use of alternative modes, more efficient operation of cars, and land use which enables a better quality of life by reducing car dependence. Much of this is focussed on urban travel (with policy to achieve 50% of all trips by walking and cycling, plus expanded use of public transport

¹⁸ HM Government “The Ten Point Plan for a Green Industrial Revolution”, 2020, page 16

¹⁹ Department for Transport “Decarbonising Transport: A Better, Greener Britain”, 2021. The commitments referred to below are set out on pages 9 to 13

²⁰ Network Rail “Traction Decarbonisation Network Strategy”, 2020

by improvement in its quality and efficiency), but with reference also to policies which would reduce traffic for longer distance journeys as well, including increasing the average occupancy of cars, improved long distance coach services, and major expansion of long-distance rail services. As most longer distance car journeys start or finish in urban areas, reducing inter urban traffic is also important to achieving targets to reduce urban traffic.

3.18 Some of these policies are already accompanied by specific changes to regulations and funding, such as the new ‘hierarchy’ of road users underpinning the revised Highway Code, and the committed plans to set up the new agency Active Travel England, with very substantial staffing and budget. Some of them have still to be worked out in detail, but they are nevertheless treated by Government as a serious part of its committed policies, not a vague assertion of aspirations. The policy context in 2014 cannot be treated as unaffected by these changes.

3.19 There are three ways in which NH has fallen short of treating these policies seriously in its submission.

1. It has not tested its proposal for compatibility with the wider policies.
2. It has not taken into account that such policies – whether it considers them relevant to its own role or not – will undoubtedly affect the traffic forecasts on which it bases its calculation of ‘need’. We consider this further below.
3. It has not taken account of the extent to which climate change will itself change the conditions and propensities of travel due directly to weather conditions, and indirectly due to the effects on the economic geography of the country, patterns of national and international trade, economic prosperity and population movements.

3.20 NH claims to have updated its assessment of the greenhouse gas impacts of the project and states:

“the increase in carbon emissions resulting from the proposed Scheme are not significant and would not have a material impact on the ability of Government to meet its carbon reduction targets”²¹.

3.21 NH’s assertion that the increase in emissions is not significant is not backed up by any evidence and the comparison with UK carbon budgets is not a test of significance, but one of determination. The argument that this project in isolation would not ‘have a

²¹ National Highways “A303 Amesbury to Berwick Down. Statement of Matters issued 30 November 2021: Applicant’s response to the matters on which the Secretary of State invites further representations (Paragraph 2). Response to Bullet Point Three - Carbon” ([TR010025 – 002230](#)), Table 1, page 18

material effect on the ability of Government to meet its carbon reduction targets' depends on an implicit assumption that the Government could simply augment carbon reduction activities more in some other, unspecified, sector or activity, but this does not take into account the already substantial challenge of reducing carbon across the transport sector. In addition, it is not realistic to take this single project in isolation. It is part of a much larger programme for the A303 Corridor and nationally through Road Investment Strategy 2. The combined effects of the programme would be much greater and even less credibly dismissed as insignificant. NH avoids addressing this by treating each proposed investment as a freestanding project and ignoring their combined effects. The failure to assess the cumulative effects of these schemes is a material omission and contrary to the EIA Regulations.

- 3.22 Climate change is not the only effect of emissions from motor vehicles. They also have significant local air quality impacts. In 2021 the World Health Organisation updated its "Global Air Quality Guidelines"²². This document states that:

*"The burden of disease attributable to air pollution is now estimated to be on a par with other major global health risks such as unhealthy diet and tobacco smoking, and air pollution is now recognised as the biggest single environmental threat to human health."*²³

- 3.23 The new Guidelines significantly reduce the maximum levels of several key pollutants, compared with the previous guidance published in 2005. In particular the level of PM_{2.5} particulates was reduced by 50% and that for Nitrous Oxide by 75%. These are levels at which there is strong evidence of harm to human health. Even if these levels are not exceeded in the immediate vicinity of the project, the new road would result in an increase in traffic and emissions. This not only increases the overall quantum of pollution, but also makes it more likely that the maximum levels will be exceeded when the extra vehicles pass through urban areas elsewhere on their journeys.

- 3.24 The paragraphs above make it very clear that Government policy has shifted significantly in relation to the balance between road and other modes since the current NPSNN was published. It would be perverse to ignore this shift in determining the A303 Application by a government-owned company; simply because the review of NPSNN is expected to take another year before being complete. In any case, it is certain that that review will be complete before the proposed Stonehenge Tunnel might be even opened, let alone for the rest of its proposed lifetime. The Government has (a) committed to reviewing the NPSNN because circumstances have changed since it was written; and (b) already taken policy decisions which manifestly go beyond the

²² World Health Organisation "Global Air Quality Guidelines", 2021

²³ World Health Organisation "Global Air Quality Guidelines", 2021, Executive Summary, page xiv

scope of the 2014 document. Taken together this shows that those new decisions have an authority in their own right.

- 3.25 It is also important to recognise the serious concerns expressed by the World Heritage Committee about the impact of the project on the Stonehenge, Avebury and Associated Sites World Heritage Site. The Decision of the 2021 session states that the Committee:

“Recalls that the Committee has previously noted that the 2018 joint World Heritage Centre/ICOMOS Advisory mission and the State Party’s own Heritage Impact Assessment (HIA) highlight that the current overall proposal would impact the integrity of the intended spatial relationships between monuments, a key part of the prehistoric ‘landscape without parallel’ as inscribed;

Reiterates its concern that, as previously advised by the Committee and identified in the 2018 mission report, the part of the A303 improvement scheme within the property retains substantial exposed dual carriageway sections, particularly those at the western end of the property, which would impact adversely the Outstanding Universal Value (OUV) of the property, especially affecting its integrity;

Notes with concern that, although consideration was given to extending the bored tunnel and to greater covering of the cutting, as requested by the Committee, it was determined by the State Party that the additional benefits of a longer tunnel would not justify the additional costs;

Reiterates its previous request that the State Party should not proceed with the A303 route upgrade for the section between Amesbury and Berwick Down in its current form, and considers that the scheme should be modified to deliver the best available outcome for the OUV of the property;

Notes furthermore the State Party’s commitment to ongoing engagement with the Committee, the World Heritage Centre, and ICOMOS, but also considers that it is unclear what might be achieved by further engagement unless and until the design is fundamentally amended;

Regrets that the Development Consent Order (DCO) has been granted for the scheme; and therefore, further considers in conformity with Paragraph 179 of the Operational Guidelines that the approved A303 improvement scheme is a potential threat to the property, which - if implemented - could have deleterious effects on its inherent characteristics, notably to its integrity;

Notes moreover that in the event that DCO consent was confirmed by the High Court, the property warrants the inscription on the List of World Heritage in Danger.”²⁴

3.26 Clearly the DCO was quashed by the High Court, but the same concerns would apply if the project were approved in its current form during the Re-determination. Indeed, the Secretary of State himself has found that the proposal will cause permanent and irreversible harm to the World Heritage Site. Key findings by the Secretary of State are listed in our submission on alternatives.

3.27 The United Kingdom is a signatory of the World Heritage Convention and claims to take the conservation of our historic heritage very seriously. Accordingly, it would be wrong to ignore the repeatedly stated concerns of the World Heritage Committee (WHC) and proceed with the project in its current form. We note that approving the DCO would very likely result in the WHS being placed on the List of World Heritage in Danger. If the project went ahead, it is very probable that Stonehenge would lose its World Heritage status. Following the deletion of the Liverpool – Maritime Mercantile City WHS in 2021, this would make the United Kingdom the first State Party to have two World Heritage Sites deleted.

3.28 National Highways' dismissal of the opinion of the WHC is equally bizarre and smacks of denial and desperation. Regardless of the status NH believes that the WHC should be accorded in the UK planning process, given it is within the WHC's power to seek the delisting of Stonehenge as a WHS, its opinion should be given significant weight. It is the only body which can determine whether a site is listed as a world heritage site or whether it is removed from the list. NH has failed to address its comments. For NH to also suggest that the detailed design of the scheme could smooth away any outstanding concerns the WHC or others might have²⁵ is disingenuous and contrary to the decision of the WHC which seeks a fundamental alteration. The scale of the changes required is beyond the scope of a few minor tweaks that might be incorporated within the detailed design stage. Instead, there would have to be significant changes to the project, which would require a new DCO application. In any event, NH has completely failed to acknowledge that the Secretary of State has found that the scheme would cause permanent and irreversible harm to the WHS, its setting and numerous heritage assets.

3.29 NPSNN has a substantial section (paragraphs 5.120 to 5.142) dealing with the impact of projects on the historic environment. While we cannot be certain that this will not

²⁴ UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage: World Heritage Committee, Extended 44th Session, Fuzhou China, 16 – 31 July 2021, [Decision](#), pp.152-3

²⁵ Para 1.2.12 Any Other Matters. <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-002233-A303.SoM%20Response.BP5%20Any%20Other%20Matters.Redetermination-1.5.Final%2020220111.pdf>

be changed in the new version of the document, there is no evidence of a substantial change of government policy in this area. Paragraph's 5.133 and 5.134 are particularly relevant to the Secretary of State's decision in relation to projects which have negative impacts on the historic environment. Paragraph 5.133 states:

“Where the proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm....”.

3.30 Paragraph 5.134 states:

“Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal....”.

3.31 There is a clear presumption in favour of refusal where substantial harm would result. Here, there would be substantial harm to the WHS and to numerous heritage assets. This includes the physical destruction of more than 7ha of the WHS itself and also the destruction of archaeology which is demonstrably of equivalent significance to a scheduled monument (see the evidence from Professor Parker Pearson²⁶). Further, the settings of numerous heritage assets would be substantially harmed. Even where the harm is less than substantial it should be weighed against the proposal's benefits and is therefore a significant factor in the decision making. Harm to the WHS in particular, which is permanent and irreversible, must be given significant weight.

3.32 The major and permanent harm which has already been acknowledged by the Secretary of State means that, if the Secretary of State is of the view that there is a need for some scheme on the A303 in this location (which is wrong for the reasons set out below), the Secretary of State should be convinced that there is no suitable alternative to the proposal before granting permission. We address alternatives in a separate paper. In summary, there are clearly more suitable alternatives which would not cause permanent and irreparable damage to the WHS and the evidence presented by NH is fundamentally flawed in relation to this.²⁷

²⁶ Stonehenge Alliance “Response to SoM Bullet Point 1: Alternatives”, April 2022, paragraph 5.3.5

²⁷ Stonehenge Alliance “Response to SoM Bullet Point 1: Alternatives”, April 2022

4. Traffic Forecasts

4.1 National Highways sets out changes to its traffic forecasting since the Inquiry in its Transport Assessment Review²⁸. In summary, it has put back the forecasting years it has used by three years to match its latest projections of when the project will open. NH has also made some other adjustments, including:

- Using an updated Transport Appraisal Guidance databook;
- Updating their Uncertainty Log to Winter 2020; and
- Adopting the Reference Case (Scenario 1) 2018 Road Traffic Forecasts in place of the equivalent scenario in the 2015 version.

4.2 The 2018 Road Traffic Forecasts document comments that the 2018 Scenario 1 “*is broadly in line with the assumptions used in scenario 1 in RTF15 with updates to more recent data and evidence.*”²⁹ But the 2018 forecasts themselves are now 4 years out of date - 4 years which have included Brexit and Covid 19 as well as all the science, policy and appraisal developments about climate change, and current changes in taxation and living costs which are expected to cause a very significant reduction in real incomes. This is acknowledged by DfT, as shown by its letter in the Annex below which lists very substantial changes in policy and context which have already occurred since 2019. All these clearly affect the reliability of the 2018 forecasts. It is known that the DfT is working to produce revised traffic forecasts as quickly as it can technically be done, aiming to complete this work at a speed compatible with the revision of NPSNN which is already under way. Again, this will certainly precede any possible opening of the proposed Stonehenge works.

4.3 Indeed the NPSNN anticipates that:

*“...traffic forecasts will change over time as our understanding improves and circumstances change. Updated forecasts will be published, generally on an annual basis.”*³⁰

4.4 It is therefore clear that the NPSNN is expecting up-to-date traffic forecasts and modelling to be used in making the case for a particular scheme. As shown above and

²⁸ National Highways “A303 Amesbury to Berwick Down. Statement of Matters issued 30 November 2021: Applicant’s response to the matters on which the Secretary of State invites further representations (Paragraph 2). Response to Bullet Point Four – Environmental Information Review Appendix: Transport Assessment Review” (TR010025 – 002231)

²⁹ Department for Transport “Road Traffic Forecasts 2018”, 2018, page 30

³⁰ National Policy Statement for National Networks, 2014, paragraph 2.20

below, both the forecasts and the way that they are produced and assessed has changed significantly in recent years, yet NH has barely tweaked its model.

- 4.5 National Highways produces diagrams to demonstrate that the difference between the Do Something and Do Minimum scenarios is greater 15 years after opening than presented to the inquiry. They state that:

“the increase predominantly arises from the additional traffic forecast to use the Strategic Road Network because of lower perceived Vehicle Operating Costs set out in the updated TAG Databook; without the Scheme the network constraints prevent this growth from materialising on the Scheme section of the A303.”³¹

- 4.6 This is not certain, but anyway the diagrams are not directly comparable as they relate to different forecasting years. National Highways’ forecasting approach assumes continuing background growth in traffic so that the underlying demand in the latest forecasts will contain three extra years of background growth. Current conditions, by contrast, suggest that there may be a comparable period of traffic reduction, not growth, which by the same argument would reduce the need for the Scheme. Without seeing directly comparable data, we cannot assess the relative impacts of changes in assumptions and changes to the forecasting years.

- 4.7 The Stonehenge Alliance has two principal areas of concern in relation to the traffic forecasts. Firstly, National Highways’ approach of developing a single Central Case set of forecasts, with a relatively narrow range of uncertainty around it, was always unreliable, and since 2018 has not been the approach advised by DfT. Secondly, COVID-19 has led to major changes in travel behaviour and these have not been incorporated in the forecasts.

- 4.8 The Stonehenge Alliance provided a detailed critique of the traffic forecasts presented to the Inquiry in Section 5.7 of our Written Representation on Transport Planning and Economic issues³². This was put forward orally at Issue Specific Hearing 6 and is summarised below as follows:

“The traffic forecasts made consist of a core ‘most likely’ trajectory with a narrow fan of alternative forecasts as a sensitivity test. The ‘most likely’ figure is actually significantly higher than has been observed in recent years. The Department for Transport National Traffic Forecasts had adopted the same approach until 2013, but following a long history of overestimates changed the format in 2015: since

³¹ National Highways “A303 Amesbury to Berwick Down. Statement of Matters issued 30 November 2021: Applicant’s response to the matters on which the Secretary of State invites further representations (Paragraph 2). Response to Bullet Point Four – Environmental Information Review Appendix: Transport Assessment Review”, paragraph 4.2.2, page 6 ([TR010025 – 002231](#))

³² Stonehenge Alliance “Deadline 2 – Written Representation on Transport Planning and Economics Issues”, TR010025-00758 ([REP2-129](#))

then there has been no ‘most likely’ forecast but a number of different scenarios, with a very wide range between the lowest (very little traffic growth) and the highest (full scale, low cost, electrification). Last year Patricia Hayes, DfT Director of Roads, said that the same would be applied to specific schemes as well: ‘more emphasis will be given to appraising schemes against different scenario tests, reflecting the DfT’s move to scenario forecasts for road traffic’ (Local Transport Today, 17.12.2018). This has not been done, possibly because it is not (yet) strictly required in WebTAG, though it is clearly the official intention. Not to do so will tend to overestimate the estimated benefit against a low traffic growth future, or overestimate the speeds in a high traffic growth future. In both cases the forecasts actually used in the appraisal will be unreliable.”³³

- 4.9 In verbal answers to questions, Patricia Hayes³⁴ specifically mentioned Stonehenge as a case in which such scenarios would be considered. In the event documents submitted to the Examination did not include such scenarios, without explanation.
- 4.10 It is essential to understand how DfT scenarios work, as NH does not fully follow the same approach. The 2018 Traffic Forecasts identified seven different scenarios for the future and did **not** treat Scenario 1 as a ‘most probable’ future in the way NH has chosen to interpret it. Scenario 1 is based on the official thinking on population and economic growth trends, as they were considered at the time, and an assumption that a longer-term decline in trip rates observed in preceding years had now been completed and would not be extended into the future. Scenarios 2 to 5 were variants to allow for the possibility that national expectations on economic growth and population might be wrong. This is sensible since DfT attributed most of its tendency to overestimate traffic growth to tendencies for population and economic growth, both important input assumptions, to be overestimated.
- 4.11 It should be noted that, even before the outbreak of war in Ukraine, fuel prices were significantly higher than assumed in Scenario 3 (Low GDP Growth, High Fuel Prices), providing further evidence that the scenarios are far from extreme. Scenario 6, by contrast, took the same assumptions on economy and population, but allowed for the possibility that the already observed longer term downward trend in trip rates might continue. (This was supported by some research work that DfT had commissioned suggesting that there was a long-term continuing downward trend in young people’s

³³ Stonehenge Alliance, “Summary of Oral Representations made at Issue Specific Hearing 6: Traffic and Transport”, pages 2 & 3, in “Deadline 4 Submission – Summaries of Oral Submissions made at Issue Specific Hearings between 5 and 14 June 2019” TR010025-001193 ([REP4-095](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001193-Stonehenge%20Alliance.%20Summaries%20of%20oral%20submissions%20made%20at%20Issue%20Specific%20Hearings_Redacted.pdf))
https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001193-Stonehenge%20Alliance.%20Summaries%20of%20oral%20submissions%20made%20at%20Issue%20Specific%20Hearings_Redacted.pdf

³⁴ Said at a Local Transport Today conference, attended by Dr Phil Goodwin

car use, which was slowly filtering through the whole population as people got older³⁵). This scenario showed significantly low rates of traffic growth in the future.

- 4.12 Finally, Scenario 7 was devised to consider what would happen if electrification of cars proceeded faster, reducing the cost of car travel. In this case congestion was forecast to get considerably worse. The discussion about what would follow from that for transport and taxation policy is still continuing. There is no firm outcome yet of those discussions; the Parliamentary Select Committee on Transport has recommended that the loss in tax revenue from transport should be made up by a form of road user charge, which, if it happened, would see a reduction in carbon emissions and car use, and buoyant tax revenue.
- 4.13 The outcome of all this is clearly uncertain, and DfT recommends an ‘uncertainty toolkit’ for appraisal which would test projects and programmes against 5 significantly differing futures.
- 4.14 Against this background, we note also that DEFRA³⁶ has recommended that for appraisal, two different scenarios for climate change should be tested: one, what would happen if we faced a 2°C increase in global average temperature, and the other assuming a 4°C increase. The Office for Budget Responsibility³⁷ has considered the broad economic and social implications of such futures, and notes that they would imply not only a major economic threat to living standards and productive capacity, but also global disruption with even sharper tensions and conflicts – challenges to Budget Responsibility far greater than the typical uncertainties that affect ‘business as usual’ forecasts.
- 4.15 When we look at the NH forecasts, it selects only one major change from its previous calculations, namely the one that relates to an increase in car use and congestion caused by much cheaper electrically powered vehicles (which NH reports increases the value of the time savings that it says would result from expanding the road capacity), but with no adjustments at all to account for the policies listed above to reduce car use (which, by the same argument, would reduce the congestion caused by excessive traffic and therefore the value of time savings).
- 4.16 There are thus no forecasting scenarios allowing declared Government policies and commitments to be successful, and no scenarios investigating the effects on traffic of

³⁵ Chatterjee K et al, Young Person’s Travel – What’s Changed and Why? (January 2018)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/673176/young-peoples-travel-whats-changed.pdf

³⁶ DEFRA (2020) Accounting for the effects of climate change
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934339/Accounting_for_the_Effects_Of_Climate_Change_-_Supplementary_Green_Book_...pdf

³⁷ Office for Budget Responsibility (2021) Fiscal Risks Report

current trends in climate change. The scenario chosen as the base for appraisal is one where: climate change is not a problem; climate-oriented policies have no significant effect; and there is far more traffic as a result of a pronounced growth in traffic due to much cheaper running costs of electric vehicles, unmoderated by either charging policy or any other instruments. We suggest this combination is inherently implausible, but even if it is allowed as a speculative possibility, it is not in accord with current Treasury, Defra, BEIS and DfT guidance on how to handle an uncertain future. NH only considers a future on which it asserts it can recommend approval of the scheme. Accordingly, our previous criticisms remain valid and have been further strengthened by policy changes since the Examination.

4.17 They have been strengthened even further by the changes in travel behaviour that have occurred since the start of the COVID-19 pandemic. COVID-19 has led to a number of major changes to travel patterns over the last two years. Some of these are likely to be short term and to be reversed as the pandemic retreats, while others represent the acceleration of long-term changes that were already evident. The following changes are particularly significant:

- *Increased remote working, especially working from home.* There were already signs that there was an increasing trend towards working remotely, at least for part of the time, before the pandemic. This has accelerated and become the norm for many more workers.
- *Reduction in business travel.* The pandemic led to a major shift from face to face to on-line business meetings. As a result of the increased demand, technology companies have enhanced their products and people have become more familiar with making best use of it. While there is likely to be some reversion to in-person meetings, it seems unlikely that the volume of business travel will reach its pre-COVID level.
- *Switch to on-line shopping.* The pandemic led to a rapid acceleration in the switch to on-line shopping. This accelerated a trend that was already evident and is unlikely to be fully reversed. The implication of this is an overall reduction in shopping-related trips, but with an increase in the number of delivery vans partially offsetting the lower number of car trips.
- *An increase in holidays in the UK at the expense of foreign travel.* During the pandemic, foreign travel became difficult and subject to rapidly changing restrictions. As a result, many people decided to holiday in the UK. As restrictions ease in the UK and in most of the major holiday destinations favoured by British citizens, this is likely to be reversed over the next two to three years.

- *A switch from public to private transport.* Public health messaging during the height of the pandemic led to a marked shift away from using public transport. As the threat of COVID has retreated the messaging has changed and public transport usage is recovering, especially for leisure travel. There is a strong incentive on government to encourage increased public transport use, both because of the environmental benefits and because of the financial cost of supporting public transport operators.

4.18 New research by CREDS³⁸ confirms the impact of these factors and shows that overall car use remained below pre-pandemic levels as the economy recovered. There has been a reduction in the sale of new cars, which is not surprising given production constraints, but also in used cars, which might be expected to increase to compensate. Overall, there has been a small reduction in car ownership.

4.19 Clearly the net effects of the above changes are uncertain and the overall conclusion is that the pandemic has made future trends in travel behaviour even more uncertain than before. This makes the importance of a scenario-based approach to travel demand forecasting even more important, while the scenarios themselves may need to be revised and expanded. The scenarios that are considered cannot be confined to the assumption of ‘business as usual but with cheaper car use therefore more car traffic’. There is a prima facie case that scenarios with less car use are more probable, either because of the economic disruption due to unhalted climate change, or because of the success of initiatives to counter climate change by encouraging more sustainable travel and living patterns. (Clearly these two are not equivalent, one being very unpleasant and the other being potentially a significant improvement in the quality of life, so they represent two different scenarios, not a combined one).

4.20 Most of the discussion above is concerned with how travel demand could change in a “business as usual” scenario without any specific government interventions to encourage changes in travel behaviour. National Highways’ forecasting approach predates the development of the 6th carbon budget and more recent policy statements including the Transport Decarbonisation Strategy. As noted in paragraph 3.9, above, a 9% reduction in car travel is expected by 2035, rising to 17% by 2050, compared with the background trend. This would result in substantially less growth than forecast by National Highways, even if its forecasting approach was reliable, which it is not.

³⁸ Anable, J., Brown, L., Docherty, I. and Marsden, G. (2022) “Less is more: Changing travel in a post-pandemic society”. Centre for Research into Energy Demand Solutions

5. Business Case

5.1 NH has not published an updated Business Case for the project as part of its submission to the Secretary of State. The Stonehenge Alliance considers that this is important to the overall assessment of the project and should be provided. We are aware that NH considers that the Business Case is only relevant to the funding decisions of the Treasury and Department for Transport, and not to the decision on the Development Consent Order. This is wrong for five reasons:

1. Whatever the outcome of the current review of the NPSNN, the existing version already encourages the support of a project by a business case which will 'assess the economic, environmental and social impacts of a development' and states that the information 'will be important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development.' (4.5)
2. The Business Case presents the costs and many (though not all) of the impacts of the project in consistent monetary terms, thus presenting summary statistics for those impacts that can be monetised. These can then be weighed against the impacts (such as damage to historic heritage), which cannot realistically be expressed in money terms, as part of the overall assessment. This is critical to determining whether the positive impacts of the scheme outweigh the negative ones, which include its cost.
3. There is little value in approving a scheme with a poor business case, which has little chance of being funded, as this would only create ongoing uncertainty for all parties.
4. NH's argument that a revised business case is not necessary relies on the common practice at an earlier stage not to include the business case when seeking approval in principle, since a business case would not yet have been calculated and will be done for presentation to the Examining Authority.
5. NH has used 'cost' as part of its argument to dismiss some of the alternatives. It therefore must demonstrate that the business case for its proposed scheme is robust.

5.2 The business case has already been calculated and is faulty. Not to update it at this stage implicitly proposes either:

- that the same business case will be relied on - and the Secretary of State is being asked now to approve it, without change, which would constrain the independence of the new Examiners - or

- that the old one is abandoned and a completely new one will be presented for a new public examination - in which case the scope of what remains and what is abandoned must be made clear before the Secretary of State can make a decision.

5.3 The Stonehenge Alliance has argued that the Business Case presented at the Examination was very weak, subject to a high level of uncertainty and fundamentally flawed. Our views on the Business Case were set out in our Written Representation on Transport Planning and Economics Issues³⁹ and in subsequent responses to Highways England (as they then were) and should be read on conjunction with this submission. The business case is discussed further below, with reference to changes since the Examination.

5.4 In summary, the Business Case presented at the Examination⁴⁰ was as shown below:

| Benefit component | £m (discounted to 2010) |
|------------------------------|---|
| Total Transport Benefits | £353 |
| ‘Cultural Heritage Benefits’ | £955 |
| Total Benefits | £1307 |
| Total Costs* | £1206 |

5.5 Particular concerns expressed at the Examination included:

- 73% of the claimed benefits relate to the assumed value of removing the A303 from the view from Stonehenge. This is based on a single piece of Stated Preference research as discussed below;
- Most of the remaining claimed benefits are derived from the traffic model and therefore partly depend on the uncertain traffic growth forecasts discussed above;

³⁹ Stonehenge Alliance “Deadline 2 – Written Representation on Transport Planning and Economics Issues”, TR010025-00758 ([REP2-129](#))

⁴⁰ Stonehenge Alliance “Deadline 2 – Written Representation on Transport Planning and Economics Issues”, TR010025-00758, ([REP2-129](#)),

- In spite of these over-favourable assumptions, the Business Case is still very weak, with a Benefit: Cost ratio of only 1.08, well below the threshold that would normally be required to take the project forward.
- 5.6 In the Business Case presented to the Public Examination, it was very clear that the claimed savings in journey time resulting from the extra road capacity – normally by far the largest category of benefits in NH appraisals of its road proposals – were not nearly enough to justify the very substantial cost of the tunnels. NH reported that it had commissioned a report showing that the ‘heritage benefit’ of moving traffic away from Stonehenge would be valuable enough to make up the shortfall. So the scheme was announced as having benefits more than the cost. Clearly the ‘heritage benefits’, are absolutely essential to the business case.
- 5.7 The study which produced these ‘benefits’ was a small piece of consultancy work concluding that removing traffic from Stonehenge had ‘heritage benefits’ worth £1.3 billion, of which £1.2 billion was based on a telephone survey in which 1,159 people representing the general population said they would hypothetically, in principle, be willing to pay an average of £14.41 extra tax per year for 3 years, for the public and environmental benefit of taking traffic away from Stonehenge. This was then multiplied by the adult population of 30.4 million, a small amount added for visitors and passers-by, who were surveyed separately, and discounted back to 2010 prices to give the £955m shown.
- 5.8 As noted during the Examination, there were a number of technical weaknesses in the methodology, especially that it is not ‘Scaleable’; if the same methodology were to be applied to all sites of heritage importance in the country, it would produce answers suggesting that the population as a whole could be prepared to pay more in taxes than they actually had, which is of course untenable, but is an inherent potential outcome of this form of valuation.
- 5.9 However, the Inspectors then concluded that, far from delivering ‘heritage benefits’, the proposed tunnel would cause:
- “... Permanent, irreversible harm, critical to the outstanding universal value, would occur, affecting not only our own, but future generations.”⁴¹*
- 5.10 They advised that the scheme should be rejected. The Secretary of State agreed with key conclusions of the ExA (including the one above) as recorded in the judgment of the High Court.

⁴¹ Examining Authority’s Report, para 7.2.32 of <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/TR010025/TR010025-002181-STON%20%E2%80%93%20Final%20Recommendation%20Report.pdf>

5.11 Stonehenge WHS has dedicated and well-informed supporters, one of whom, Suzanne Keene, has been asking FOI questions about exactly how the business case will be updated – what assumptions, what methods, what conditions. The answers triggered serious concerns about this project. In the paragraphs below, we set out three of her questions, and the crucial extracts from the answers from National Highways, followed by our comments.

5.12 ***Heritage Value: Question 1: the project team say the cost benefit analysis is to be updated, does that mean there will be a new contingent valuation survey, or will it be by a more conventional analysis?***

Answer from NH: The cost benefit analysis will focus on the traffic, economic and environmental impacts of the scheme. There have been no material changes to the scheme design therefore we'll retain the existing contingent valuation study.

5.13 This almost completely misses the case for redoing the contingent valuation study, whose main underpinning has been radically undermined by the Inspectors' report and the Secretary of State's conclusion that the project would cause serious irreversible harm to the WHS. Crucially the framing of effects given to respondents did not include any possibility that there would be environmental damage at the scale concluded by the inspectors, biasing the results. The inherent problem is that the answers you get from such hypothetical methods are – as everybody who has worked in this area knows full well – very sensitive to the exact question asked. The question was predicated on the tunnel protecting Stonehenge from traffic. But the Inspectors and Secretary of State, looking at the World Heritage Site as a whole, concluded that the tunnel would actually cause damage. The proper question would then become 'and how much would you pay in extra tax for a tunnel that Inspectors concluded would cause irreversible harm to the site?' This would be an easy, swift, and low cost piece of research – using all the work done to design the original survey, changing one question, and putting it to a similar size sample. Given careful safeguards in terms of transparent scrutiny and shared control, there is no conceivable reason for not doing such a simple piece of work, other than it would come to a different answer reducing or negating the heritage benefit. 'No material changes to the scheme design' is not a relevant response.

5.14 ***Carbon Value: Q.2 - In the cost benefit analysis of the scheme, how will National Highways take account of the new appraisal values for carbon issued by BEIS in September 2021?***

Answer from NH. The current versions of the TAG and the Greenhouse Gases Workbook refer to the BEIS damage costs from 2019. We anticipate that the more recent BEIS damage costs for greenhouse gases may be incorporated in future

updates of TAG and Greenhouse Gases Workbooks, for future schemes to then adopt in future appraisals.

- 5.15 National Highways did not plan to implement the new values for this scheme. The actual situation now is that the BEIS damage costs⁴² have been updated, and they have been included in TAG. Applying them would be extremely easy to do – it is just a matter of a simple multiplication in a spreadsheet that already exists. The more important reason for doing so is that the updated values are a large increase in the values of carbon. The new figures for 2021 are in the order of ten times higher than the figures for 2021 issued in 2018, and 3-4 times higher for 2030, all still significantly increasing year by year up to 2050. There are very likely to be further increases. The new values demonstrate acceptance that carbon has been substantially undervalued in all appraisals until now. There is simply no justification, now, for continuing to use past assumptions about the future when we can so easily replace them by present assumptions about the future.
- 5.16 Does it make a difference? We do not have access to the calculations NH has done (we request that they are published and consulted upon before the Secretary of State takes any decision on this proposal), but we comment that the estimated increase in user and operational carbon dioxide attributed to this scheme was about 2 million tonnes, valued at £87m, implying a (discounted) average value of £44 per tonne. NH also reports nearly half a million tonnes of carbon for construction works, which is not included in the 2 million tonnes above. The revised carbon prices published in September have low, medium and high versions, all increasing over time, ranging from a little over £110 a tonne CO₂e to over £815, with £347 in the middle of the medium values. Discounting carbon is a controversial question, but in this case that doesn't need to be resolved: whether you discount or not, the new values of carbon would give a total greater than the previously estimated net present value of the project, £101m, and its net present value would turn negative - even with the flawed heritage benefit included, and the increased construction cost excluded. So the indications are that it would make a substantial difference. The only reason for reluctance to use the new values would be that difference. The Secretary of State should ensure that this highly material information is provided prior to any decision being made.
- 5.17 ***Climate Change: Q.3 - And the Supplementary Green Book guidance issued by DEFRA in November 2020?***

Answer from NH. Neither DMRB nor TAG require a financial valuation or cost benefit analysis of these climate impacts. This will therefore not be included as a monetised

⁴² BEIS (September 2021) Valuation of greenhouse gas emissions: for policy appraisal and evaluation <https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation>

impact in the updated cost benefit analysis of the scheme. However, all of the relevant environmental impacts will be considered within the qualitative non-monetised assessment as part of the appraisal summary table.

- 5.18 It is worth highlighting that when it comes to carbon emissions, NH wants to have its cake and to eat it. In the first instance it is saying that the cost of carbon is not a consideration, but in any case carbon impacts will be considered under the assessment of environmental impacts. Yet when it comes to examine the carbon a scheme will generate or consume, it dismisses this carbon as insignificant without any evidence to substantiate its position. The upshot being that NH seems to believe the carbon impact of the scheme has no relevance whatsoever despite the fact that we are in a climate emergency as declared by Parliament.
- 5.19 It is true that the 2020 DEFRA⁴³ recommendations do not require (or exclude) a ‘financial valuation or cost benefit analysis of these climate impacts’. What they say is that appraisal of policies and projects should include (‘at least’) two different climate scenarios in baseline forecasts. The two scenarios DEFRA recommend are one baseline that would be consistent with a 2°C global temperature rise, and the other with a 4°C global temperature rise. The current baseline calculations assume no global temperature rise at all, not even the 1.5°C rise which is our present target. This approach has been less and less tenable year by year. The global effects of climate change and the local effects of national policies to combat it are both now recognised as much more important.
- 5.20 In practice, this now means that a new set of factors will have to be considered. Climate change at some level will occur, and this will affect the predicted traffic growth on which all proposed road schemes have been based. Climate affects risk registers, the patterns of national and international trade, supply chains, flash floods, heatwaves, water and sewage security, run-off, shortages, price changes, available incomes for cars, holidays and everything else, and the attractiveness of different locations.
- 5.21 A preliminary version of such discussion was indeed given in the original Stonehenge Environmental Statement, October 2018, based on aging guidelines and regulations and risk assessments derived from the period 2010 to 2015, under the heading of ‘climate resilience’. It concluded that

⁴³DEFRA, “Accounting for the Effects of Climate Change”, Supplementary Green Book Guidance. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934339/Accounting_for_the_Effects_Of_Climate_Change_-_Supplementary_Green_Book_...pdf

*“none of the potential impacts would be significant (and are therefore classed as non-significant)”.*⁴⁴

- 5.22 That conclusion would seem difficult to defend in the state of knowledge then. It is not possible to assert it with any confidence now.
- 5.23 In principle the ‘qualitative, non-monetised assessment’ promised could be more substantial. In a new appraisal the Appraisal Summary Table could, for example, state firmly that this comforting picture is no longer one that represents current risk levels, the probabilities of drastic weather impacts are very much greater, the probability of traffic growth on the forecast scale very much less – even before the traffic-reducing elements of the decarbonisation strategy itself start to take effect – and therefore the traffic forecasts and operating conditions previously assumed can no longer be relied on. The potential impacts **would** be significant.
- 5.24 Apart from the issues raised by these questions it should be recognised that, since the Examination, the planned opening date for the project has been put back by three years. Construction price inflation will mean that the costs will now be higher than presented at the Inquiry (even when expressed in 2010 prices), which can be stated with much greater confidence than the potential off-setting factor of increased benefits arising from the unreliable assumption of an inexorable increase in traffic. As noted above, the traffic growth forecasting approach is not robust.
- 5.25 As shown above, a number of changes since the Examination fundamentally undermine the already weak Business Case for the project. It is therefore essential that an updated Business Case is provided, together with NH’s detailed justification for it.

6. Project and Programme

- 6.1 National Highways has assessed the A303 Stonehenge project as a freestanding scheme, rather than as a component of a programme to upgrade the whole A303/A358 corridor between the M3 and M5 to Expressway standard. Its traffic forecasting assumes that two other sections of the corridor will be upgraded in parallel with or before the Stonehenge section opens: A303 Sparkford to Ilchester and A358 Taunton to Southfields. This leaves significant sections of single carriageway west of Stonehenge.
- 6.2 However in its policy justification for the project NH places considerable weight on the assertion that it is part of a programme to upgrade the whole A303 corridor, stating that ***“the Government’s aim, announced in the Road Investment Strategy for the***

⁴⁴ [APP-052](#), paragraph 14.9.14

2015/16 to 2019 Road Period (“RIS1”) is to upgrade all remaining single carriageway sections of the A303 between the M3 and the A358 to create a high quality dual carriageway route to the South West on which mile-a-minute journeys are the norm.⁴⁵ NH notes that this has been carried forward into RIS2 and further upgrades to the A303 are included in a list of projects that are part of the RIS3 pipeline⁴⁶. This is helpful to National Highways by providing a strategic justification for the project. However, this is not how it has been assessed.

- 6.3 If the scheme is regarded as a free-standing project, its effects, in catering for the traffic growth that National Highways claims will occur, will be limited by the constraints imposed by the remaining single carriageway sections of the route. In practice it would simply result in vehicles getting to the back of the next queue more quickly. The increase in traffic forecast to use the A303 (both induced demand and vehicles shifting from other routes) would lead to worse congestion on the remaining single carriageway sections. This might later be helpful to National Highways in improving the business case for upgrading other sections, where the justification for doing so is very weak, but considered as a scheme on its own this will reduce its benefits.
- 6.4 Alternatively, if it is considered to be part of an overall programme, the combined impacts of the programme will be much greater than assessed. The amount of induced traffic will be higher with consequent impacts on carbon emissions, making National Highways’ assertion that the project does not impact on the achievement of the carbon reductions in the 6th Carbon Budget even less tenable. Such effects must be assessed cumulatively.
- 6.5 For the strategic justification for the programme as a whole, National Highways relies on the outputs of the 2002 SWARMMS study⁴⁷ and the 2015 CH2M Hill Feasibility Study⁴⁸ for the route, both of which recommended dualling throughout. For SWARMMS this was seen as part of a multi-modal package which also included enhancements to the parallel rail routes – most of which have not occurred. In any case SWARMMS was carried out in a very different policy environment, where the urgent need to reduce carbon emissions was much less well understood than it is today, and carbon considerations were not considered material to the appraisal. In addition, there has been a change in the policy of the Welsh Government about its own road programme, whose projects have been paused and are now subject to an

⁴⁵ National Highways “A303 Amesbury to Berwick Down. Statement of Matters issued 30 November 2021: Applicant’s response to the matters on which the Secretary of State invites further representations (Paragraph 2). Response to Bullet Point Two - Policy” ([TR010025 – 002236](#)), Table 1, page 4

⁴⁶ Highways England “Delivery Plan 2020 – 2025”, Annex D, 2020

⁴⁷ Government Office for the South West, “London to South West and South Wales Multi-Modal Study: SWARMMS Final Report”, 2002

⁴⁸ CH2M Hill, “A303/A30/A358 Feasibility Study”, Highways Agency, 2015

independent review. Taken together, the 2002 SWARMMS study is no longer a valid base for a strategic justification. The 2015 feasibility study did not seriously consider alternatives to road building and there has also been a further significant shift in policy since then, as discussed in Section 3 above.

- 6.6 It is clear that a business case and Strategic Environmental Assessment should have been carried out for the programme as a whole to give a more informed position on the full impact of upgrading the A303 and A358. This should have been in addition to the specific business case and Environmental Assessment for the A303 Stonehenge project, including cumulative impacts. Without an assessment of the cumulative impacts, the full impacts arising from the scheme cannot be assessed. We consider that this is essential information and that the DCO cannot reasonably be approved without it.

7. Summary and Conclusions

- 7.1 There have been substantial changes to Government policy since the Development Consent Order (DCO) application was made, including further important changes in policy since the Examination of the project concluded. These changes include the declaration of a Climate Emergency by the UK Parliament (during the Examination), the setting of the 6th carbon budget following advice from the Climate Change Committee, the publication of the Government's Net Zero Strategy and the De-Carbonising Transport White Paper. The Government has also committed to a 68% cut in carbon emissions by 2030 (on 1990 levels) as part of its National Determined Contribution for the Paris Agreement to limit global warming to well below 2 degrees and preferably 1.5 degrees Celsius. This represents achieving much deeper cuts than set out in the 5th carbon budget. These changes have not yet been resulted in a formal new version of the National Policy Statement for National Networks (NPSNN), which is currently under review, as the Government has recognised that it needs revision. However, the changes in policy are already in place, and not contingent on a revised NPSNN.
- 7.2 Transport is now the largest single carbon emitting sector of the economy and radical measures are needed to reduce emissions to achieve net zero. In addition to a switch to electric vehicles, the Government policy documents make it clear that car use will need to fall, by a shift of some car trips to improved alternatives (bus, rail, and active travel) both in towns and long distance, increased vehicle occupancy, shifts in destinations including a proportion of working from home, and improved land-use planning. The A303 Stonehenge project would *increase* car use and emissions, which is directly contrary to policy. NH claims the increase in carbon from this project alone is not sufficient to jeopardise the achievement of the UK's carbon targets. However, any increase in emissions makes the targets harder to achieve and this scheme is only one

of many in Road Investment Strategy 2, so the cumulative effect needs to be recognised. This weighs heavily against the proposal.

- 7.3 The World Heritage Committee has expressed its serious concerns about the proposed scheme's impact on the Stonehenge World Heritage Site and it has indicated that its construction would lead to the removal of the site from the World Heritage list. This would make the United Kingdom the first country ever to have two sites de-listed.
- 7.4 Contrary to the position of NH, both the Examining Authority and the Secretary of State found that the project would have a profoundly negative impact on the historic heritage of the World Heritage Site and therefore alternatives to the current project should be considered. In the recent Judicial Review, Mr. Justice Holgate found that the Secretary of State acted unlawfully in not considering alternatives. The fact is that there are credible alternatives to the proposal as set out in our paper on alternatives. The evidence presented by NH on this issue is fundamentally flawed.
- 7.5 In any event, the heritage harm presented by the proposal has in fact been underestimated by the Secretary of State as recent evidence demonstrates. That harm is not outweighed by the public benefits of the proposal.
- 7.5 NH's approach to travel demand forecasting based on developing a single Central Case set of forecasts, with a relatively narrow range of uncertainty around it, was always unreliable. Since 2018 the Department for Transport (DfT) has adopted an approach based on examining the impact of a wider range of plausible scenarios and DfT recommends an 'uncertainty toolkit' for appraisal which would test projects and programmes against five significantly different futures. COVID-19 has resulted in major changes in travel behaviour. While some of these may be temporary, others represent the acceleration of trends (for example in home working and on-line shopping), which were already apparent. This only serves to increase the level of uncertainty about the forecasts and increases the likelihood that NH's projections are a significant over-estimate. In addition, government policy is now to take action to reduce traffic levels below the levels which had been forecast as a 'business as usual' scenario, though such a concept is now less valid. The need case for the scheme is weak.
- 7.6 NH's business case was always highly dependent on the alleged value of cultural heritage benefits due to the project, since the transport benefits claimed for the project are very much less than the construction costs. Given that both the Examining Authority and the Secretary of State consider that the project would have a *negative* impact on cultural heritage it is not plausible to incorporate these alleged benefits. It is also important to note that the valuation of carbon emissions has increased greatly since the Examination and the delay to construction will lead to higher costs (above the level of general inflation). All these factors will have made an already weak

business case much weaker. It is not acceptable that NH has not – so far – been willing to publish an updated business case.

- 7.7 The A303 Stonehenge project is part of a programme to upgrade the A303/A358 route between the M3 and M5 motorways to an Expressway standard. This proposal dates back to the recommendations of the SWARMMS study, which reported in 2002 (almost 20 years ago) when the policy environment was very different. NH significantly relies on this programme to justify the need for the project but have not produced either a business case or a Strategic Environmental Assessment for the programme as a whole. It should be recognised that the combined impacts of the programme will be much greater than the current assessment, which considers the Stonehenge section in isolation. Notably, the amount of induced traffic will be higher with consequent impacts on carbon emissions, making NH's assertion that the project does not impact on the achievement of the carbon reductions in the 6th Carbon Budget even less tenable.
- 7.8 The proposed project is so flawed, and its negative impacts are so great, that the Secretary of State should refuse the Development Consent Order. This is due to a failure to take account of and assess the scheme against the latest Government policies. Also, the negative impacts of the proposal outweigh its benefits. DfT officials, working with relevant agencies including NH, should be requested to bring forward alternative solutions to address transport problems in the London to South West Peninsula corridor.
- 7.9 If the Secretary of State is unwilling to reject the DCO at this stage, the Application should be referred back to the Infrastructure Planning Inspectorate for further Examination, with a brief to engage fully with those who have made a critique of the technical, economic, environmental, heritage and logical underpinning of NH's case in the light of the major changes that have occurred since 2019, and to properly consider alternatives.

Annex A

Copy letter from DfT to Sub-national transport bodies, 18.1.2022, giving its list of Government policy changes since 2019 which they are requested to consider in relation to reviewing the Major Road Network (MRN) / Large Local Major (LLM) programme.

We consider that this confirms our assessment that these policy changes are real and relevant to road appraisals. They should also be applied to NH schemes for the Strategic Road Network.



Department
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STB – by e-mail

18th January 2022

Dear xxx,

I am writing to set out the position on the Major Road Network (MRN) / Large Local Major (LLM) programme following the Spending Review. As with many areas, the SR has challenged Ministers to make choices and to focus on key departmental priorities. As a result, it is likely that we will not have sufficient funding to continue to fund all the schemes currently in the programme to the current scale or timing. In addition, since the programme was set up in 2019 there have been changes to Government policy around transport investment, analytical requirements especially on carbon impacts, the impact of new forecasts and of course the effects of Covid on delivery and future demand. It is therefore right that we now take the opportunity to review the programme. I am writing to all Sub-National Transport Bodies (STBs) to seek your help in undertaking this review.

As a first step we would like to give all scheme promoters and the relevant STBs the option to reconsider the schemes in the current programme. Certain schemes may no longer be a priority because they have increased in cost, cannot be progressed in a timely fashion or no longer fit with the local authority's latest transport objectives.

Second, we ask that all local authorities (LAs) and STBs consider whether schemes in the programme will meet either the original objectives of the MRN programme which are:

- Reducing congestion
- Supporting economic growth and rebalancing
- Supporting housing delivery
- Supporting all road users
- Supporting the Strategic Road Network

or more recent, wider objectives of Government transport investment. These include:

- Strategic case – does the scheme still meet the objectives of the MRN programme and/or the latest objectives/policies of the LA or STB?
- Value for money (VfM) – as a result of recent changes to Transport Analysis Guidance and other issues, is the scheme likely to be low or poor VfM?
- Timely progress – what progress has been made on the scheme since it was added to the programme in 2019 and will the scheme be ready to start construction by the end of the forthcoming Spending Review period i.e. March 2025
- Local support – is the scheme actively supported by the local MP(s) and others in the wider community?

In addition, the importance of decarbonisation has increased since May 2019 so consideration of whether the scheme is likely to make carbon worse and lead to a lower VfM, especially now the cost of carbon has been increased substantially, should also be a factor in your reconsideration. Active travel and bus improvements are also issues that

have grown in importance and any opportunities to promote these in major schemes should be reflected, where possible.

Given your role in the original development of the programme, I would be grateful if you could co-ordinate within your area a response to this request based on the issues and questions above and return to the Department by Tuesday 1st March.

Any LA choosing to withdraw a scheme will not be penalised in any future funding rounds . We are also conducting our review and Ministers reserve the right to consider the status of all schemes in the programme against overall programme affordability. The starting point for the review is that any scheme that already has approval at Outline Business Case stage will not be considered for removal unless the LA/STB decides otherwise or unless the case for the scheme changes significantly.

We are writing in similar terms to all local authorities with schemes currently in the programme.

We would be happy to discuss.



Philip Andrews
Head of Road Investment, Policy and Pipeline Development

**National Highways: A303 Amesbury to
Berwick Down Project, Development
Consent Order Application**

Scheme Reference: TR010025

**Geology, Ground Investigation
and
Groundwater Monitoring**

**Response to Secretary of State's call for further
representations on his Statement of Matters
Bullet Point 4 (Sections 7 and 8)**

**and on relevant Technical Reports submitted by National
Highways**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

Prepared by:

Dr George M Reeves

April 2022

A303 Stonehenge Redetermination of DCO Application

Submission on Geological, Geotechnical and Hydrogeological Reports issued by National Highways (formerly Highways England) in response to the Secretary of State's Statement of Matters

**By Dr George M Reeves CGeol PhD MSc BSc FGS
for the Stonehenge Alliance**

April 2022

1. Introduction

The documents detailed below were finally made available to the Stonehenge Alliance by National Highways (NH) in January 2022, following repeated requests for the information at the 2019 Examination and under FoI (for example, [REP2a-003](#), [AS-035](#), and [AS-074](#)). Since 2019, the Examining Authority has recommended that the scheme does not go ahead (January 2020), and there was a successful Judicial Review challenge by Save Stonehenge World Heritage Site Ltd. in June 2021.

All of the fourteen packages of documents sent to us in January and described herein were added to the Infrastructure Planning Inspectorate website documentation, with a publication date of 23rd February 2022, some under different titles. Only the 2003 Soil Mechanics SI data (for the original Balfour Beatty Costain Joint Venture, covering the Phase 1A site investigation work – Item 3, below) is omitted. In addition, a report (Technical Note, dated February 2022) on “2.18 Flood Risk Modelling Climate Change Update Redetermination” is included in the published documents which falls outside the scope of this current assessment of new SI data released to SA in January 2022. Work on the documents for the Alliance was started immediately and is based on the 14 reports issued to us in January which were not cross-referenced to the published reports.

PINS (The Planning Inspectorate for England) Library reference numbers and links are added to this report, where possible, to ease access to the relevant documents.

The Secretary of State has indicated his intention to redetermine the scheme and requested submissions on his Statement of Matters with no change to the proposal and plans submitted to the 2019 Examination. This submission forms part of that response.

2. The Documents

Fourteen packages of site investigation (SI) data were released by National Highways in January 2022 (some dating back to 2003, comprising a total of 3.1Gb of digital data), following the initial request in a letter from the Alliance to NH on 17 April 2019 ([REP2a-003](#)), and many subsequent repeats of this request for complete ground investigation data both during the Examination (e.g., [AS-035](#), [AS-074](#)) and afterwards under FoI requests, along with mention of incomplete data (e.g., [REP2-131](#), [REP3-064](#) and [REP9-045](#)).

Much of the most recent investigations reported post-date the closure of the Examination in October 2019.

The documents in summary are:-

- i. The Countess Roundabout Factual Site Investigation Report (and associated .ags (Association of Geotechnical and Geoenvironmental Specialists)) borehole data files: see below). This work was carried out in November and December 2019. The report is dated January 2020. (PINS Library ref. [Redetermination 2.22](#))
- ii. Groundwater Monitoring Data: Borehole logger water levels for whole scheme up to January 2022, plus Westfield Farm Boreholes A & B water levels from 21st October 2020 to 11 April 2021. (PINS Library: presented as multiple separate files under ref. [Redetermination 2.24](#))
- iii. Historic SI data (Report No. 21762) from before the first A303 Stonehenge Public Inquiry held in 2004. This data was not released then to the Stonehenge Alliance, on whose behalf the author gave evidence to that Inquiry. It dates from May 2003 and was carried out by Soil Mechanics Ltd. for the original Balfour Beatty Costain Joint Venture. It covers the Phase 1A site investigation work and is presented only in .ags file format. (PINS Library: apparently not listed)
- iv. A more recent report (No. 29779) is also only available in .ags file format and covers investigations and analyses of contaminants found in SI work carried out for Highways England in 2017 by Structural Soils Ltd. (PINS Library ref. [Redetermination 2.17](#))
- v. A report on work carried out as the 2019 Examination was drawing to a close in August and September 2019, is included, along with accompanying .ags files in the report "A303 Amesbury to Berwick Down- Phase 7A (ii)" report, dated November 2019. (PINS Library ref. [Redetermination 2.14](#))

This report covers a 6km. section of the A303, with 26 rotary core drilled boreholes which were also geophysically logged with caliper and optical televiewer tools. Two of these boreholes were then completed for long-term groundwater monitoring. The purpose of this drilling work was stated as "to investigate cuttings and embankments" (presumably for stability), along with "link roads and retaining walls".

The report includes good photographs of all the cores obtained (showing considerably weak rock and core loss in some holes). There are 1159 pages in the report, together with a considerable amount of further data in .ags format.

- vi. Factual Report: Structural Soils Ltd. A303 Stonehenge Phases 6 &7 Ground Investigation, Project No. 733442. Published April 2019. (PINS Library ref: [Redetermination 2.12](#) (multiple))

The main stated aim of this work (page 1, Introduction to Report) is that "This investigation is required to inform the scheme design to mitigate any impacts which relate to the uncertainties mainly regarding the phosphatic chalk (sic) properties and hydrogeological characteristics".

In his evidence to the Examination on numerous occasions in June, July and August 2019, this author (GMR) gave multiple warnings concerning these uncertainties.

- vii. Factual Report: A303 – Amesbury to Berwick Down Stage 4 – Ground Investigations Phase 7A(i) Factual Report HE551506-HE-VSS-ZZ_GN_ZZ_Z-RP-KK-0167 S4 FOR STAGE APPROVAL 05/11/2019. (PINS Library ref. [Redetermination 2.13](#))

This report, again by Structural Soils, covers drilling and ground investigation work carried out in June and July 2019, involving the drilling of ten percussion (“shell and auger”) boreholes and fourteen rotary core drilled boreholes. Numerous other field testing was carried out, including trial pits, plate load tests, CBR tests, dynamic cone and in-situ permeability tests, as well as an extensive programme of down-the-hole geophysics (wireline logging). A total of 1102 pages are included in this report, as well as 2.9Mb of .ags file data. (47Mb of digital data in total). None of this data was available for assessment as part of Stonehenge Alliance’s submissions as evidence to the 2019 Examination.

- viii. A major pumping test in Borehole W617 was carried out by Stuart Wells Ltd during March 2021. The report, 288 pages in length, is a very comprehensive document covering this major and important groundwater response test in the Stonehenge Bottom area 300 metres South of the Stonehenge Monument, in the first field just South of the A303. (PINS Library ref. [Redetermination 2.23](#))

The aim of the work was to “collect additional hydrogeological information of the Chalk South of Stonehenge to aid design for the proposed tunnel. This pumping test was undertaken in an existing well W617, installed as part of Phase 6 A303 Ground Investigation in 2018 (BH log within Appendix), with abstracted groundwater discharged through a 200mm Ø pipeline to ground a nominal 800 metres south of the pumping well”. It demonstrates the considerable lack of knowledge that Highways England held, at the Examination stage in 2019, considering that this very important and extensive groundwater response test was not carried out until the Spring of 2021. (See additional discussion, following.)

- ix. HAGDMS Borehole ID: This large Excel Spreadsheet file lists all the details, NGR locations etc. of all the boreholes, trial pits etc. investigated during all phases of the various investigations for the proposed A303 Stonehenge tunnel and roads improvement schemes. (PINS Library ref. [Redetermination 2.21](#))

- x. Report No. HE551506-AA-EHR-SWI-RP-YE-000003, prepared for the Arup-Atkins Joint Venture in May 2017, was carried out by Wessex Archaeology. It is entitled “Geophysical Survey Report Stage 1 Final Stage 1”. (PINS Library ref. [Redetermination 2.19](#))

A detailed gradiometer survey and ground penetrating radar (GPR) survey was conducted over eight areas along the route of the A303. The survey (was stated as forming) part of an ongoing programme of archaeological works being undertaken along the A303 between Amesbury and Berwick Down to inform the PCF Stage 2 Options Assessment Phase for the A303 improvement scheme (NGR 406767, 140697 – NGR 4152612, 142253). The project was commissioned by Arup Atkins Joint Venture (AAJV) with the aim of establishing the presence, or otherwise, of potentially significant archaeology within the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) and wider proposed assessment corridors. It also aimed to define the extent and character of any features within each survey site. The site comprises a number of arable fields covering a total area of 227.8 ha.

As with all these reports, none of the included data was available to Stonehenge Alliance (or others giving evidence) during the 2019 Examination.

- xi. Report No. HE551506-AMW-HGT-SW_GN_000_Z-RP-CE-0005, published by AECOM, Mace, and WSP in August 2018. (PINS Library ref. within Redetermination 2.24 (multiple files))

This report is an attempt at an interpretative groundwater data-oriented report, prepared for Highways England by the AECOM-Mace-WSP consortium based on data collected up to the summer of 2018.

Again, as with all of the reports listed herein, this report was not available to any of the organisations giving evidence at the 2019 Examination until the January 2022 release of the 14 data packages to the Alliance only, under the FoI requests. (See below for further commentary on groundwater related aspects of this and associated data, including reporting of observations, factual data and interpretations by the author whilst giving evidence to the Examining Authority in June, July and August 2019.

- xii. Report by Public Health England on “Radiological assessment of tunnel arisings from A303 Amesbury to Berwick Down Stonehenge bypass”. Title: Methodology Vs. 1.2. (PINS Library ref. Redetermination 2.20)

This 4-page report, by Public Health England Radiation Protection section, concludes that there are no consequences or hazards from either uranium, radon or tritium, or any other radionuclides following excavation of spoil from any proposed tunnelling works.

- xiii. File pe181471v2 is an .ags file compiling geotechnical and chemical analytical data from the A303 Stonehenge scheme site investigation reports (72kb), dated 08/05/2018. (PINS Library: apparently not listed)

- xiv. Abstracted figure plus trial pit logs – from 2000 SI Report; SI15 dated May 2000 by Halcrow for the Highways Agency in May 2000: Countess Roundabout; Boreholes and Trial pits. (PINS Library ref. Redetermination 2.22)

3. Observations on January 2022 National Highways FoI data files

It is not intended to repeat many of the detailed points raised in evidence presented to the Examining Authority by the author during the 2019 Examination. However, it is intended to report issues highlighted by the release of the above data, as well as those key issues which remain unresolved by NH, despite the delayed and untimely release of this information.

References to all of the relevant Stonehenge Alliance submissions to the Examination are listed in an Appendix to this document and are referenced herein where relevant. We ask for these representations to be taken into account in the redetermination process.

4. Main Issues for Concern (as also detailed repeatedly in our evidence to the Examination)

4.1. Low Residual Strength in some horizons of (especially the Phosphatic) Chalk.

(REP2-131, REP3-064, AS-045, REP4-088, AS-098 and REP9-045)

From numerous boreholes drilled for this project, especially in the western area of proposed tunnelling to the west of Stonehenge Bottom, very weak, often heavily fractured or “non-intact” Chalk was encountered.

“Structureless Chalk” of the White Chalk stratigraphic group (of the Newhaven Chalk Formation) has been widely reported, generally at shallow (i.e., up to 5 metres) depths along the line of the proposed road and tunnel route. In addition, poor quality rock (RQD ratings of 20 or less) can be identified deeper in many boreholes.

From both the original (2004) Stonehenge tunnel route ground investigations, and the more recently drilled boreholes, highly fractured weak, poor quality chalk zones (CIRIA Rating Group C: with discontinuity spacing of less than 200mm; RQDs of 20 or less) are present commonly at shallow depths i.e., 0 to 10m BGL. However, such conditions have also been encountered mostly along the western section of the proposed tunnel line at greater depths (e.g. up to 26.92 metres in BH R503B, and 19.00 metres in BH R507A).

The results of unconfined compression tests (quoted by the Arup-Atkins Joint Venture report for Highways England, December 2016) gave intact compressive rock strengths mostly between 1 and 3MPa with an average of 2MPa, corresponding to the description of a ‘very weak’ rock. The poorest quality White Chalk in the Stonehenge area has been identified commonly and linked to the “dry valleys” (or combes) such as the Stonehenge Bottom valley.

In addition to surprisingly weak rock, the occurrence of a previously unknown (pre-2000) sub-crop of highly phosphatic Chalk (i.e., very weak Chalk rock altered and enriched with phosphate) has been identified mostly in the western half of the tunnel route. These are the thickest such deposits identified so far in the UK (Mortimore et al. 2017).¹ These materials are thought to have been deposited in scoured marine channels (“cuvettes”) in an organically rich environment on the Late Cretaceous seabed floor. Although laboratory leaching tests carried out for National Highways have not identified any groundwater contamination risks, it remains a concern that changes in groundwater flow patterns caused by the proposed tunnel construction, and/or changes in groundwater quality and chemistry may cause long term concerns. Disposal of tunnel spoil is likely to cause problems and concerns of induced phosphate contamination, especially when the status of the River Avon as a Special Area of Conservation (SAC), with existing unacceptable elevated levels of phosphate, is considered. Natural England in conjunction with Wiltshire County Council have implemented the River Avon Phosphate Management Plan (published in February 2016) to drastically reduce phosphate levels in the river. Similar materials to this Phosphatic Chalk are mined in Northern France for use in fertilisers and the chemical industry.

¹ Mortimore, R.N., L.T. Gallagher, J.T. Gelder, I.R. Moore, R. Brooks and A.R. Farrant, “Stonehenge—a unique Late Cretaceous phosphatic Chalk geology: implications for sea-level, climate and tectonics and impact on engineering and archaeology” in Proceedings of the Geologists Association Vol. 128, Issue 4 (August 2017), pp.511–682.

As a consequence of the above information on the occurrence of poor quality rock along the line of the proposed tunnel, and the relatively shallow depth of the middle portion of the tunnel route in the Stonehenge Bottom area, it has been proposed by National Highways that a “slurry shield” method of closed-faced tunnelling would be the most likely tunnelling method to be adopted.

This depends on a full-face tunnel boring machine (TBM) with a bentonite-mud based slurry forming external additional long-term grout support to the strata surrounding the tunnel face and sides. Grout stabilisation, either from the tunnelling process, and/or the probable necessity for surface grouting via an array of specially constructed grouting boreholes will, together with the ground affected by the tunnelling, form an underground barrier to the existing predominant NW/SE groundwater flow regime.

It is inevitable that such a major sub-surface “groundwater cutoff” or “sub-surface dam” will therefore considerably affect groundwater movement, flow paths, recharge and abstraction well yields, causing extensive disruption to the existing groundwater conditions.

4.2. Groundwater Disruptions

(REP2-131, REP3-064, AS-045, REP6-064, REP6-065, AS-090, AS-098, REP8-051, REP8-053, REP8-054, and REP9-045)

As stated above, the requirement for ground stabilisation of numerous sections of the very weak Chalk bedrock (especially in the Newhaven Chalk Formation and the zones of Phosphatic Chalk, will undoubtedly adversely affect existing groundwater movement patterns, especially in the western tunnel section. Similar effects, simply due to the effects on sub-surface drainage by tunnel and road drainage construction in the eastern tunnel section are also very likely to affect groundwater flow patterns, recharge and seasonal springline resurgences.

The most significant locations where these adverse effects are likely to occur are in the Blick Mead and Amesbury Abbey locations. (AS-090). At Blick Mead, waterlogged peat deposits and shallow saturation of bedrock have resulted in a unique preservation of archaeological deposits from one of the encampments considered to have been used (adjacent to the springs at Amesbury Abbey and the River Avon) during the Mesolithic period. Loss of or damage to these deposits could occur from a prolonged period of drying-out.

A sub-horizontal zone of higher permeability Chalk (at the level of the Whitway or Stockbridge Rock, which results in a number of spring resurgences or springlines on the west banks of the River Avon) has resulted in the spring pool feature known as Amesbury Abbey Spring, adjacent to Blick Mead and Vespasian’s Camp (AS-098). This spring system and set of gas generating bubbling pools, is recharged from the Chalk aquifer to the northwest of the River Avon, into which it flows.

Some trial boreholes, groundwater investigations and groundwater level monitoring have been carried out on the Blick Mead site. A short technical note describing the observed water levels in 2018 and 2019 in boreholes at Blick Mead has been published by Highways England (AS-015). A letter correcting various misconceptions of the Blick Mead/Avebury springs situation and expressing concerns that the proposed scheme will inevitably have a significant deleterious effect on groundwater at these locations has also been submitted to the Inspectorate. (AS-071)

It is highly likely that this higher permeability zone persists along the line of the proposed tunnel at the Whitway/Stockbridge Rock level, almost coincident with the soffit level (at approximately 50 m AOD) of the proposed tunnel in its mid-section across the Stonehenge Cottages to Stonehenge Bottom areas. (AS-090). Considerable dewatering and/or extensive grouting are likely to be required to advance tunnels through these groundwater conditions.

4.3. Subsidence and potential damage to undiscovered archaeology

(REP2-131, REP4-056, REP8-052)

The 2017 geophysical survey work was carried out by Wessex Geophysics for Highways England between August and October 2016, but only made available to us in January 2022 (Report No. HE551506-AA-EHR-SWI-RP-YE-000003, prepared for the Arup-Atkins Joint Venture in May 2017, entitled “Geophysical Survey Report Stage 1 Final Stage 1” (Redetermination 2.19)). The work involved both gradiometer (magnetometer) surveys and ground probing radar (GPR) over eight individual survey areas, selected by Highways England from the detailed gradiometer data. A complete geophysical survey of the whole Stonehenge WHS has yet to be carried out. As demonstrated by the discovery of the “Durrington pits” in 2021, there is much to be discovered regarding as yet unknown archaeological features in the Stonehenge and district landscape.

A number of features throughout the Chalk bedrock landscape of the Stonehenge World Heritage Site (WHS) have been identified in the past as potential “sinkholes” or karstic bedrock subsidence features (probably of a periglacial Quaternary age). This is thought to include archaeological features such as the Wilsford Shaft, as well as the recently discovered “Durrington Pits” features where sinkholes may have been re-used.

As stated by the author to the Examination in 2019 and still the case today:

‘During tunnelling, vibration may cause induced fracture migration and settlement in overlying strata transmitted upwards towards the surface. In the extreme, subsidence could migrate to surface levels, resulting in sinkholes and/or compaction. Grout migration from the TBM systems could lead to extensive permanent areas of Chalk with lowered permeability. The potential loss of fissures, fractures, void spaces, burial features, galleries, tunnels and shafts, at present undiscovered and unidentified, either by grout injection, settlement or the combined effects of both processes, could lead to the permanent loss of potentially important archaeological features. Similar detrimental effects of settlement and grout migration may also cause problems in land drainage and surface/shallow subsurface drainage systems.’ (REP4-056, ‘General and Cross-topic’: 17.1, p.23 of 35)

5. Conclusions and Recommendations

As can be seen from the extensive geological, hydrogeological and geotechnical details submitted by the Stonehenge Alliance at the 2019 Examination (see Appendix, below), there are still many significant uncertainties as to the expected ground and especially groundwater conditions along the proposed A303 Stonehenge tunnel and road improvement Scheme route (see, AS-045 and AS-098).

It should also be further emphasised, despite these uncertainties and such an additional wealth of detailed ground investigation data produced recently and described and listed herein, that no changes have been made by National Highways to the design, plans, layout and configuration of the proposed scheme from those proposed at the 2019 Examination. Furthermore, the information obtained in the lately-published reports gives no confidence that the uncertainties and difficulties we believe would be encountered in tunnelling through part of the World Heritage Site can be overcome. Detailed discussion of the findings in these reports in relation to earlier reports and evidence to the Examination is absent from NH's submission on Statement of Matters bullet point 4 – Environmental Information Review (Section 7: Geology and Soils); indeed, the matter is hardly raised, except in a land contamination context.

In respect of groundwater, NH states that groundwater monitoring is continuing (NH Redetermination 1.4, Section 8: Road Drainage and the Water Environment, para. 8.3.9). Further Blick Mead monitoring data has not been published. Although references to recent monitoring and changes in groundwater level are as predictable (paras. 8.3.12–19), they do not assist in demonstrating the certain uncertainties of the effects of groundwater movement arising from tunnelling in construction and operation.

From the above referred-to reports, it can be seen that a vast amount of ground and groundwater investigation work was being carried out as the Examination drew to a close in October 2019. Subsequent to that date, additional investigations (therefore not submitted then or available until now) have taken place without the benefit of examination and interrogation by the Examining Authority. The full data which is available to NH should be released to consultees (including Natural England and the Environment Agency), interested parties and to the Secretary of State. This includes the monitoring data at Blick Mead so as to ensure that all environmental information is consulted upon and taken into account. Further, a full appropriate assessment should be made of the impact of potential phosphates leaching into the River Avon SAC.-We consider it essential that the Scheme is re-examined so that the enormous volume of new data on such critical elements of the project may be formally scrutinised by an appointed Examining Authority to enable the Secretary of State to receive its independent specialist advice.

In any event, it should be borne in mind, as cautioned numerous times by the Alliance and especially the current author in his evidence, that it remains highly likely, should the scheme go ahead in its current configurations, there will be both considerable cost and time over-runs in completing the works proposed.

gmr 02.04.22

Appendix

Representations by Dr George M Reeves to the 2019 Examination on behalf of the Stonehenge Alliance

REP2-131. Deadline 2 Submission - Written Representation on Flood Risk groundwater protection

REP2a-003. Deadline 2a Submission - Response to Deadline 2a (letter requesting missing information, 17.4.19)

AS-035. Additional Submission accepted at the discretion of the Examining Authority (letter re missing information, 17.5.19)

REP3-064. Deadline 3 Submission - Comments on Written Representations and Additional Submissions to the Examining Authority submitted by Deadline 2 (part)

AS-045. Additional Submission accepted at the discretion of the Examining Authority - Supporting Evidence for Hearings (slide show)

REP4-087. Deadline 4 Submission - Summary of oral presentation and submissions to ISH 4 on water, geology etc. and ISH 5 on noise, vibration etc. by Dr George Reeves. FINAL - Late Submission accepted at the discretion of the Examining Authority

REP4-088. Deadline 4 Submission - Appendix 1 Presentation by Dr. GM Reeves to Session 4 A303 Stonehenge Examination, Tuesday 11th June 2019 - Late Submission accepted at the discretion of the Examining Authority. Slide show.

REP4-056. Deadline 4 Submission - Comments on any further information requested by the ExA and received to Deadline 3 (part)

REP5-024. Deadline 5 Submission - Dr George Reeves Comments on Highways England Deadline 4 Submission REP4-036- 8.31 Comments on any further information requested by the ExA and received to Deadline 3

REP6-065. Deadline 6 Submission - Response to Examining Authority's Second Round of Written Questions and information sought on various topics (part)

REP6-064. Deadline 6 Submission - Response to Examining Authority's Second Round of Written Questions and information sought on geological and groundwater issues by Dr George Reeves

REP6-086. Deadline 6 Submission - Late Submission accepted at the discretion of the Examining Authority - Response by Dr George Reeves to Applicants Comments on any further Information Requested by the Examining Authority and Received at Deadline 4.

AS-074. Additional Submission accepted at the discretion of the Examining Authority - Requests for Information (letter re missing information, 14.8.19)

AS-090. Additional Submission accepted at the discretion of the Examining Authority - Slide deck concerning groundwater to inform Issue Specific Hearing 8/Issue Specific Hearing 10 - Original version published on 21 August 2019 - Superseded version published on 22 August 2019

AS-098. Additional Submission accepted at the discretion of the Examining Authority - Written note and finalised slide deck to inform presentation at ISH10

REP8-051. Deadline 8 Submission - Slides for presentation by Dr Reeves at Issue Specific Hearing 10

REP8-053. Deadline 8 Submission - Written Summaries of oral submissions at Issue Specific Hearing 10

REP8-052. Deadline 8 Submission - Written Summaries of oral submissions at Issue Specific Hearing 8

REP8-054. Deadline 8 Submission - Comments on Deadline 7 Document - REP7-021 (part)

REP9-046. Deadline 9 Submission - Summary of Case (part)

REP9-045. Deadline 9 Submission - Response to Highways England Deadline 8 Documents by Dr George Reeves.

**National Highways: A303 Amesbury to
Berwick Down Project, Development
Consent Order Application**

Scheme Reference: TR010025

Environmental Information Review

**Response to Secretary of State's call for further
representations on his Statement of Matters
Bullet Point 4**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

April 2022

Prepared by:

Dr Kate Fielden

Andy Norfolk, Dip.LA, MSc.

with reference to submissions to the DCO Examination by:

Dr George Reeves, Clive Bentley and Rupert Thornely-Taylor

Response to Secretary of State’s call for further representations on his Statement of Matters Bullet Point 4: Environmental Information Review

Introduction

We address the new information considered by National Highways (NH) as supplement or ‘further information’ to that which it produced up to and including the Examination and post-Examination periods before 12.11.20. With the exception of environmental matters on which other submissions are made by Alliance specialists, we comment on aspects of this supplementary information in the order presented by NH in Document Reference ‘Redetermination – 1.4’, hereafter referred to as [‘NH 1.4’](#).

In addition to our response here, it is understood that National Highways (NH) has made no changes to the Scheme as Examined in 2019 ([NH 1.4](#), paras. 1.3.3–4) and we therefore ask the Secretary of State, in his reconsideration of the DCO application, to take into account all representations made by or on behalf of the Stonehenge Alliance to the 2019 Examination and the Secretary of State’s subsequent consultations.

1. Environmental Assessment Methodology: Legislative and Policy Framework

1.1. NH says that

‘Overall, the review of national and local planning policy has not identified any changes that would result in changes to the environmental information.’ ([NH 1.4](#), para. 1.4.1)

We suggest, however, that new *guidance* in respect of cultural heritage and landscape assessment argues strongly for reappraisal of certain environmental information supplied in the original DCO application, notably in respect of cultural heritage and landscape (see paras. 2.1–6 and Section 3, below).

2. Cultural Heritage (Covered by NH in NH 1.4, Section 3))

Legislative and Policy Framework (NH 1.4, Section 3.1.)

2.1. At NH 1.4, para 3.1.4, NH states that the revised national Planning Practice Guidance relating to the Historic Environment ([MHCLG, 2019](#)) clarifies the nature of harm to heritage assets and how this should be categorised. Although it is the decision-maker who judges whether substantial or less than substantial harm would be caused to a heritage asset, the guidance requires that ‘Where potential harm to designated heritage assets is identified, it needs to be categorised as either less than substantial harm or substantial harm (which includes total loss) in order to identify which policies in the [National Planning Policy Framework \(paragraphs 194-196\)](#) apply.’ (MHCLG 2019, para. 018)

2.2. It therefore appears that an applicant is now advised to inform the decision-maker of the level of potential harm (i.e., less than substantial or substantial) a development might cause to any designated heritage asset. However, NH has not categorized such levels of potential harm to individual designated heritage assets in its HIA; it simply reminds us, at NH 1.4, para 3.1.5, that

‘The revised PPG does not alter the application of the equivalent tests required under the NPSNN. The Applicant’s cultural heritage assessment remains consistent with the guidance and the changes do not alter the significance of the effects identified in the 2018 ES, or the conclusions reached on substantial harm / less than substantial harm in the NPSNN Accordance Table submitted with the DCO application as updated during Examination [APP-294].’

2.3. In its NPSNN Accordance Table A1 ([APP-294](#)) NH simply makes blanket statements of less than substantial harm. For example:

‘Less than substantial harm is anticipated to affect designated and non-designated assets, including those within the WHS and this is considered below as per NPSNN Paragraph 5.134. The Scheme does not identify any instance of ‘substantial harm’ or total loss of significance to a designated asset.’ (APP-294, p.A-95, ref. NPSNN para. 132)

2.4. Notwithstanding NH’s use of ICOMOS (2011) guidance in assessing impacts on heritage assets in its HIA, it would have been helpful, in line with the requirement of the NPSNN and the revised PPG, for NH to have revised its HIA to take into account not only the STT’s findings of significantly adverse impacts of the Scheme where NH have hitherto seen none but also to have supplied indications of the levels of less than substantial or substantial harm the Scheme might cause to each heritage asset.

2.5. It is, perhaps, its use of blanket statements on levels of harm in its assessments that led NH to anticipate, in respect of NPSNN para.5.134, that the Scheme would cause less than substantial harm to

‘the loss of archaeological remains within the Scheme footprint, which collectively contribute to the understanding of activity in this part of the WHS, but are not considered to contribute to OUV.’ (APP-294, Table A.1, p. A-97)

Road engineering would cause the total removal, i.e., loss, of an unknown quantity (some without full record) of currently ‘undesigned’ remains of sites of OUV Attribute 2: the physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites. That these remains should be arbitrarily dismissed as not contributing to OUV and their loss categorized as less than substantial is clearly illogical. Independent specialist archaeologists emphasise the exceptional importance of such sites in the proposed western and eastern cutting areas (see, e.g., comments by Dr Mike Parker Pearson, Professor of British Later Prehistory, Institute of Archaeology, UCL, in our submission on Alternatives at para. 5.3.5).

2.6. NH's assessments of less than substantial harm to heritage assets within the WHS (including the WHS itself) also lack credibility in view of its claim that substantial harm to WHS OUV would probably occur in respect of (alternative) Corridor A route options to the north of and *outside* the WHS:

'Corridor A would reduce severance within the WHS, and could also result in some benefit to the WHS. However, the harm it would cause to the setting of the WHS and key assets within it (e.g. Durrington Walls) mean substantial harm to the OUV of the WHS is probable and, on balance potential harm to the OUV of the WHS would outweigh the benefits associated with the removal of the A303.' ([NH 1.1.](#), para 8.2.2.)

This assessment of substantial harm also lacks credibility, viewed alongside NH's assessment of the less than substantial harm that would be caused by the Proposed Scheme to the WHS and its OUV by the massive western cutting and Longbarrow Interchange of the Proposed Scheme. It is simply not credible that a scheme which affects the setting of a heritage asset, whose impact is therefore reversible could be claimed to cause substantial harm whereas a scheme which includes irreversible physical destruction on a significant scale is somehow claimed to cause 'less than substantial harm'.

Assessment of setting (NH 1.4, paras. 3.2.16-18)

2.7. NH 1.4., paras. 3.2.17–18 mention relevant updated advice in LA 107 *Landscape and visual effects* (Highways England 2020). Pointing to Note 1 in [LA 107](#) (p.11), that

'effects on landscapes of historical, cultural or archaeological significance are assessed in LA 106 Cultural heritage assessment',

NH goes on to assert that its cultural heritage assessment therefore

'remains consistent with the guidance and the changes do not alter the significance of the effects identified in the 2018 ES.

This fails to acknowledge that the revised landscape assessment values required under LA 107 have significant implications for the cultural heritage assessment of the WHS landscape, including the settings of numerous heritage assets.

2.8. In its ES, NH considered landscape assessment without taking into account the exceptional nature of the WHS landscape:

'the ExA notes that the matrices adopted do not cater for 'international importance' or 'very high value' in assessing either landscape or visual baseline conditions (ES Appendix 7.2, LVIA Methodology [APP-222]). These are categories which seem appropriate for a WHS despite the Applicant's submission in paragraphs 4.1.2 to 4.1.5 of its Comments on Written Representations [REP3-013].' ([ExAR](#), para. 5.12.70)

2.9. Our own landscape specialist Andy Norfolk also pointed out this anomaly. As reported by the ExA, he

‘contends that the LVIA misrepresents landscape and visual effects and omits adequate mention of adverse impacts in summaries. In addition, significant locations and visitor receptors are ignored, such as those from the existing A303 which would become a PRoW, in the viewpoints considered [RR-1898]’. (ExAR, para. 5.12.43)

‘The SA observes [REP2-137] that the SoOUV for the WHS explicitly refers to interrelated monuments and their associated landscapes. The designation encompasses ‘landscapes without parallel’ as well as archaeological and cultural considerations and, were it to be designated now, it would be regarded as a ‘cultural landscape’. (ExAR, para. 5.12.44)

2.10. Despite these criticisms it appears that NH has not amended its approach to landscape assessment in relation to the Scheme as it would affect the cultural heritage of the WHS. Please see also Andy Norfolk’s contribution to this submission, below.

Photomontages (NH 1.4., paras. 3.2.19-25)

2.11. NH asserts that it followed relevant advice in the preparation and presentation of photomontages. Nevertheless, The Examining Authority in its report (ExAR) found that

‘During the course of the Examination, requests were made for further visual representations, principally through FWQ LV.1.9 [PD-008]. These were generally supplied, where technically possible. However, none of the requested night time representations were supplied, nor was the digital model of the site, requested by several interested parties, which would have allowed representations arising from free movement within the site. The Applicant has provided justification for withholding the digital model which the ExA understands, given the type of model used. However, three dimensional and virtual reality modelling is increasingly used to assist assessment and would have been particularly useful in this case.’
(Examining Authority’s Report ([ExAR](#)), para. 5.12.73)

2.12. NH has not attempted to remedy this situation to assist in the redetermination process. We note, however, that an ‘immersive virtual reality tool’ has been prepared for an anticipated WH Centre/ICOMOS advisory mission invited for this spring, enabling participants to ‘experience the state of the property on completion of the scheme’ (DDCMS, [State of Conservation Report](#), February 2022, p.19). This tool ought to have been presented by NH as a part of its ‘further information’, so that IPs might usefully comment on it: we hope that this omission will be remedied.

Baseline information and conclusion (NH 1.4, paras. 3.3.1-18; 3.4.1-4)

2.13. Section 3.3. of NH 1.4 deals with new archaeological records and assessments of designated and undesignated heritage assets identified since the Scheme Examination;

these have been added as supplementary to the baseline information for the Scheme. NH finds no changes to its overall assessment of impacts on the WHS or its OUV and heritage assets, arising from these new data and concludes (at NH 1.4, para. 3.4.1) that

‘The 2018 ES (including the HIA) and related environmental information remain consistent with the legislative and policy framework and assessment guidance. Assessment of updated baseline information (see Appendix 3.1 of this document) has identified additional likely significant effects (Large beneficial residual effects). The new assets in the baseline and the new beneficial likely significant effects constitute further environmental information, for consideration by the Secretary of State in his redetermination. In all other respects the baseline information (in the 2018 ES including the HIA and in the environmental information including the 2020 ES Addendum and HIA Addendum submitted in the post-examination period), remains comprehensive and the significance of the effects identified in the 2018 ES and the rest of the environmental information is not altered. Other than as identified here, there is no other further environmental information to be submitted for consideration by the Secretary of State in relation to this topic, in order for a decision to be made on the Scheme.’

Again, NH has noticeably failed to take into account the Secretary of State’s findings of significantly adverse impacts on the WHS’s OUV, authenticity, Integrity and certain heritage assets (see our submission on Alternatives at para. 2.9). All HIA assessments should have been adjusted accordingly and this has not been done, rendering the HIA unreliable for purpose.

2.14. Comments on WHS prehistoric sites and features are made in a separate submission to the Secretary of State’s Re-determination of the Application for Development Consent by the Consortium of Stonehenge Experts which we have seen and to which the Alliance gives its support.

3. Landscape and Visual (Section 4 of NH 1.4)

3.1. Section 4 of NH 1.4., dealing with Landscape and Visual issues, has been appraised for the Stonehenge Alliance by Andy Norfolk, Dip LA, MSc., who also made submissions on this topic to the Examination for the Alliance which remain relevant for the current consultation (see: [REP2-137](#) (Written Representation) and [REP4-056](#) (Response to Highways England’s comments (REP3-013) on Written Representation on Landscape and Visual Aspects of the LVIA (REP2-137))).

3.2. It is noted that the Applicant, based on *Technical Guidance Note 02/21: Assessing landscape value outside national designations* (TGN 02/21: the revision of LA107 (2020), which replaces DMRB Interim Advice note 135/10 (2010)), has reassessed the landscape receptors, noting raised sensitivity in 16 of them, 12 of which relate to the WHS (NH 1.4, para. 4.2.26 and Table 4.3).

It was argued by the Alliance at the Examination of the Scheme that inclusion of a very high sensitivity level in assessing landscape and visual impacts should have been done in the earlier assessments for the original Environmental Statement (see, e.g., our Written Representation [REP2-137](#), paras. 9-18 under 'Landscape and Visual Effects Methodology in the Environmental Statement (ES)'; and [ExAR](#) 5.12.43-48). This is now recognised by the Applicant:

“... there is a difference between LA107 and IAN 135/10 in the categorisation of visual sensitivity, mainly for the visual receptors within the WHS and with views of the WHS.” (NH 1.4, para. 4.2.33)

3.3. It is therefore difficult to reconcile acceptance in NH 1.4, para. 4.2.33 and Table 4.4 that there should now be higher (including very high) sensitivity categories for visual assessments with the clearly unreasonable statement in the same paragraph that

“...this change would not alter the 2018 LVIA methodology of a visual receptor's sensitivity being assessed via their value and susceptibility and that where a receptor's view was of the WHS, the receptor had the potential to be assessed at the highest tier of visual sensitivity.”

3.4. We also note that in NH 1.4, para. 4.4.3 NH says that, despite changes in methodology resulting in the identification of higher significant effects, this is not due to a change in professional judgement. If that is the case, how and why are these higher significant effects now judged appropriate?

3.5. The Examining Authority pointed out

“The ES provides short general narratives in section 7.9.6 onwards and 7.9.80 onwards of Chapter 7, Landscape and Visual [APP-045] but not of the effects on individual receptors in specific detail. Instead, it relies to a large extent on a standardised tabular evaluation. Moreover, the ExA notes that the matrices adopted do not cater for 'international importance' or 'very high value' in assessing either landscape or visual baseline conditions (ES Appendix 7.2, LVIA Methodology [APP-222]). These are categories which seem appropriate for a WHS despite the Applicant's submission in paragraphs 4.1.2 to 4.1.5 of its Comments on Written Representations [REP3-013].” ([ExAR](#) 5.12.70)

That the Applicant now puts forward revised, higher values for receptor sensitivity relating to the WHS, including eight judged to be of “very high value”, must be considered a radical and significant change in assessment and cannot be dismissed by the Applicant as irrelevant and leading to no change in overall assessment.

3.6. Nevertheless, despite revised guidance and value assessments, the LVIA part of the ES has not been significantly altered to take into account the new receptor sensitivity levels. Our original criticisms of the ES in respect of landscape and visual effects, and our conclusions about the significant adverse impacts of the proposed scheme therefore remain unchallenged by this new review. They also concur with the findings of the ExA in respect of

landscape and visual impacts (e.g., [ExAR 5.7.1](#) (link to OUV attribute 6); 5.12.112-19 and 5.12.149 (Longbarrow Junction, the western approach cutting, and portal); 5.12.126-142 (eastern portal, cutting, and Countess Roundabout); and 10.2.6 (Consideration of findings and conclusions: “*considerable harm to landscape character and visual amenity*”)).

3.7. The Examining Authority states that

“In accordance with NPSNN, paragraphs 5.149 and 5.157, the adverse landscape and visual impacts are matters that the SoS should consider and judge in reaching his decision. These considerable harms fall to be weighed in the overall planning balance.” (ExAR 7.2.55)

3.8. In the absence of detailed advice on LVIA from Historic England which may in any case not have the specialist expertise to provide it, the SoS has the benefit of independent advice from the Examining Authority. Were the Examination to be re-opened, as we believe it should be, in order to consider the further information supplied by the Applicant, the views of the Examining Authority (and others) on LVIA might well be strengthened in the light of the raised “very high” values the Applicant now supplies for visual receptors relating to the WHS.

3.9. There seems to be an entirely unwarranted assumption on behalf of the Applicant that people will become accustomed to changes in the WHS landscape so that their long-term impacts will be lessened. This is not correct. The Longbarrow junction adjacent to the World Heritage Site would have a lasting and significant effect on the way the WHS is perceived – it would continue to be a very large modern engineering structure right beside a landscape designated for its prehistoric archaeology and deliberate disposition of monuments and sites. This would result in a jarring contrast and adversely affect the settings of the WHS and its heritage assets, contrary to Policy 1d of the WHS Management Plan (WHSMP) that “*Development which would impact adversely on the WHS, its setting and its attributes of OUV should not be permitted*”. Indeed, the Secretary of State himself found that when viewed from above, the Longbarrow Junction would ‘dwarf all other individual features, including the Stones’ (ExAR 5.7.243 and adopted by the SoS at his Decision Letter, para.10). Large modern engineering structures within the WHS (recognised as a ‘landscape without parallel’ for its prehistoric remains) such as the road cuttings would also have an enduring effect on the way in which the WHS and the interrelationships between the prehistoric components of its landscape are perceived. Those who visit the WHS will expect to see a coherent cultural landscape, not one with incongruous and very large engineering structures imposed upon it (see, e.g., [REP2-137](#), paras. 30-31; and 41-42).

3.10. Article 4 of the World Heritage Convention (1972) says:

“Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 [i.e. World Heritage Sites] and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where

appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.”

3.11. One of the reasons for the Stonehenge World Heritage Site’s designation is due to its historic landscape. Criterion (iii) in its designation states ‘The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.’

The synthesis of the Statement of Outstanding Universal Value for the [WHS Management Plan](#), (WHSMP), p. 26ff.) explicitly refers to interrelated monuments and their associated landscapes. The WHS designation is not only an archaeological and cultural designation, but were it to be designated now it would be specifically a cultural landscape designation (see WHSMP, para. 2.2.3). With respect to the consideration of landscape and visual effects it is clearly an internationally valued landscape.

The Stonehenge World Heritage Site Management Plan (WHSMP) says in Policy 1d that *“Development which would impact adversely on the WHS, its setting and its attributes of OUV should not be permitted”*

3.12. The National Policy Statement for National Networks (NPSNN) in paragraphs 5.131 and 5.132 recognises that World Heritage Sites are heritage assets of the highest significance and that substantial harm to them should be “wholly exceptional”.

Given landscape value was a key criterion in the reason for the designation of the WHS, the WHS should be treated as akin to a nationally designated site as set out in NPSNN 5.150. This is supported by the new technical guidance note listed above. As such, permission should be refused except in exceptional circumstances where it can be demonstrated to be in the public interest (NPSNN 1.151).

3.13. Further, and in any event, clearly the effects of the proposed highway engineering works within, and adjacent to, the WHS require a proper recognition of its status. That this should be so is recognised in the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3). See GLVIA3 5.21 and 5.45 for reference to internationally acclaimed landscapes.

There would be significant adverse landscape and visual effects that could not be mitigated. These include the imposition of extremely large highway engineering structures into what should be a landscape with the highest level of protection, which would impact *adversely on the WHS, its setting and its attributes of OUV*. These harms would significantly outweigh any benefits.

4. Biodiversity (Section 5 of NH 1.4)

*Environmental Information
Baseline*

4.1. It is noted that updated baseline ecological surveys and reports have been produced on certain plant and protected animal species (NH 1.4, para 5.3.1). We are strongly of the opinion that the content of these reports needs to be tested by independent experts, in a re-Examination context. Assurance by NH that agreements will be reached and licences sought between NH and/or the Contractor and Natural England are not sufficient to ensure that suitable mitigation is in place. For example, we consider below our own concerns about just two of the surveys (Butterfly and Great Crested Newt) undertaken since the Examination, the latter outside the WHS.

Butterflies (cf. Butterfly and Pollinator Survey Report (2020) Document reference: Redetermination 2.8 ([NH 2.8](#)))

4.2. The butterfly report is the first we have seen in connection with the Proposed Scheme. It 'outlines the methodology and results for the butterfly and pollinator pre-construction baseline survey for the Scheme' and was carried out in 2020 (NH 2.8, para. 1.1.3.). It is mentioned (*ibid.*, para.1.1.2) that

'The Scheme will lead to a loss of existing arable habitat and some associated field margins but will create extensive new calcareous grassland adjacent to Parsonage Down Site of Special Scientific Interest (SSSI), and extending along much of the new highway. This together with some new planting of woodland is expected to increase the habitat available for butterflies and other pollinators and improve connectivity to help species move west to east to colonise other areas of habitat.'

It should be pointed out, however, that the intended benefits would not be achieved until some years after start of construction, during which time, ground works, dust etc. would cause considerable disturbance and loss of habitat. No assessment has been made of this.

4.3. Section 2.5 of the report deals with survey limitations. These include:

*'The survey provides an indication of the butterfly population within proximity to the Scheme, it is likely that not all butterfly species present were recorded. In addition, **as the surveys were undertaken in July and August the adult flight periods for several butterfly species were missed.** This included key calcareous species including **marsh fritillary** (mid-May to late June), **Duke of Burgundy** (mid-April to mid-June) and the first brood of small blue (early May to late June). Also missed were some common butterfly species such as orange-tip (*Anthocharis cardamines*) (April to June). This is not considered a significant limitation as an assessment of the habitat was undertaken to determine its suitability as breeding habitat for the identified key calcareous butterfly species. The survey was not intended as a comprehensive record of butterfly species throughout a whole season.'* (NH 2.8., para. 2.5.1; our highlighting, including that of fully protected marsh fritillary)

Despite admission that this was not a comprehensive survey and the reasons given why that was not considered significant, it has to be asked whether more definitive (indeed

potentially vital in respect of protected species) information might have been obtained at the optimum period for key calcareous species.

4.4. Furthermore, it is admitted that

*‘As the surveys were undertaken at the end of the summer (July and August) in 2020, many of the flower species had gone to seed, giving a relative lack of available flowers to survey. As such, **it was not always possible to survey the target flower species** . . .’* (NH 2.8, para. 2.5.2; our highlighting)

Again, the shortcomings of the survey are rationalised and justified but it appears to us unsatisfactory that the survey was not conducted at the right time of year when very different results might have been obtained. Indeed, given the time since the DCO application was made, there appears little excuse for such a limited survey to assist the application at this late stage.

4.5. We are of the opinion that the survey does not supply a suitable monitoring baseline; nor one which might be used ‘to determine whether the baseline is considered to have materially changed compared to the baseline in the 2018 ES’ (NH 1.4, para. 5.3.4). We have found no butterfly survey undertaken by NH earlier than 2020 so there is, apparently, no 2018 baseline data for butterflies.

Great Crested Newt: (cf. Great Crested Newt Survey Report (2021) Document reference: Redetermination 2.7 ([NH 2.7](#)))

4.6. We note that one pond in the Till valley (‘waterbody 1’) within 500m of the Scheme has a breeding population of great crested newts (*Triturus cristatus*; protected under the Habitats Regulations 2019) and that ‘*the Scheme will cause temporary loss of some of the terrestrial habitat used by the newts*’ (NH 1.4, para 5.3.32). The same paragraph goes on to say:

‘Great crested newt surveys (Habitat Suitability Index (HSI), eDNA, and population surveys) were undertaken between February – June 2021 to update the previous baseline and inform any further mitigation / licensing requirements. Some changes in routing a water pipeline and change in the population size mean that a European Protected Species licence will be required, for the temporary site clearance in the Till valley, but it does not change the assessment in the 2018 ES. There was possible requirement of a European Protected Species Licence depending on the final detailed design and utilities requirements and updating surveys, stated in the OEMP, PW-BIO2.’

4.7. NH states that

‘Waterbody 1 contained a known population of great crested newt. The previous surveys [2017-18] indicated that the population size class was ‘Small’ (with a peak count of 10 adults). The 2021 update surveys had a peak count of 103 adult male

great crested newts and 59 adult female great crested newts (total peak of 162) and assessed as a population class estimate of 'Large'. (NH 1.4, para.5.3.36)

And, in view of varying climatic and local conditions,

'it is likely that the breeding population of great crested newts will also fluctuate in response to the conditions in both the current year and the breeding success in previous years. Any subsequent updating surveys may show population size class similar to this year, or down to Medium or Small size class. The 2021 survey confirms continuity of use of the waterbody by great crested newts and the growth of the population from a 'Small' to a 'Large' population size class. This increase in population is not considered to be a material change in the baseline' (NH 1.4, para. 5.3.37). This last observation seems surprising, in our view.

4.8. However,

'Due to some slight changes associated with the Preliminary Works (bringing certain activities associated with the installation of the water pipeline closer to Waterbody 1), it will be necessary to apply for a great crested newt European Protected Species Licence. This change in the outline of the Preliminary Works, is a minor change that will be appropriately addressed via the European Protected Species Licencing process and has already been discussed with Natural England during preparation of the licence application. It does not give cause to alter the assessment of impact recorded within the 2018 ES.' (NH 1.4, para. 5.3.38)

4.9. We are reminded at NH 2.7, para.1.2.4 that

'Actions which are prohibited by legislation can be made lawful on the approval and granting of a licence from Natural England (NE), subject to conditions.'

In view of the intended changes in preliminary works, it is necessary to know precisely where these works would take place in relation to waterbody 1, what they are and what potential disturbance they would cause to this apparently significant protected newt population. This is environmental information which should have been supplied to all interested parties for independent consideration, along with any potential licencing conditions that might be required.

4.10. The survey limitations include the fact that a large number of identified waterbodies were not surveyed or were ruled out for one reason or another (NH 2.7, para. 2.5.1). Apparently 14 of 18 identified waterbodies were not surveyed (*ibid.*, Table 4). NH remarks that

'As with many ecological surveys, the effectiveness of these surveys is subject to a range of seasonal, environmental and behavioural factors. The absence of evidence of a particular species in a survey should not be taken as conclusive proof that the species is not present or that it will not be present in the future.' (*ibid.*, para. 2.5.3).

The newt survey exercise, along with intended change to the impact of the Scheme on their habitat, leaves uncertainty surrounding mitigation and the proper protection of the species. Thus, NH has not provided sufficient evidence to establish the environmental impact of the proposal and to enable the Secretary of State to reach a decision.

4.11. In respect of butterflies and great crested newts, at least, we cannot be confident in NH's methodology or assertions that

'The updated surveys have informed protected species licensing requirements and update mitigation measures. The surveys have not resulted in any changes to the Biodiversity baseline that would lead to a change in the value of the ecological receptors identified during the 2018 ES or give cause to alter the ecological impact assessment within the 2018 ES or the Habitat Regulations Assessment.' (NH 1.4, para. 5.3.52)

Nor can we agree NH's conclusion that

'This section has . . . found that the conclusions of 2018 ES and the rest of the environmental information remain valid and that therefore in combination with this report, the environmental information is adequate. No further or updated environmental information is required to be submitted for consideration by the Secretary of State in relation to this topic, in order for a decision to be made on the Scheme.' (NH 1.4, Para. 5.4.1)

These conclusions are not based upon robust evidence as is clear from the text of the surveys themselves. This inevitably leads us to question the adequacy of the information supplied on biodiversity.

5. Noise and Vibration (Section 6 of NH 1.4)

5.1. Concerning noise and tranquillity, we refer the Secretary of State to submissions made by our specialist Clive Bentley to the Examination: [REP2-132](#) (Written Representation); and [REP6-063](#) ('Response to ExA's Second Round of Written Questions and information sought on Tranquillity'). He concludes that the Scheme would not bring hoped-for tranquillity for most visitors to the henge.

5.2. In respect of vibration, we refer the Secretary of State to the submissions of our specialist Rupert Thornely-Taylor ([REP2-138](#): 'Written Representation on Principal Issue 11 Vibration from tunnel boring'); and Dr George Reeves (e.g., [REP4-087](#) ('Summary of oral presentation and submissions to ISH 4 on water, geology etc. and ISH 5 on noise, vibration etc.', Sections 3-4; and [REP4-056](#) (Response to Highways England comments (REP3-013) on Written Representation REP2-131 on Flood Risk, groundwater protection and land contamination, pp.23 and 24 of 35).

5.3. The problem of potential damage to archaeological remains resulting from vibration of the tunnel boring machine was not fully resolved at the Examination stage and appears not to have been further addressed by NH in the interim.

5.4. We understand that geotechnical and groundwater reports now supplied by NH still do not give our specialist Dr Reeves confidence that damage to archaeological remains would not arise owing to the impacts of tunnelling. In 2019, he advised that:

'During tunnelling, vibration may cause induced fracture migration and settlement in overlying strata transmitted upwards towards the surface. In the extreme, subsidence could migrate to surface levels, resulting in sinkholes and/or compaction. Grout migration from the TBM systems could lead to extensive permanent areas of Chalk with lowered permeability. The potential loss of fissures, fractures, void spaces, burial features, galleries, tunnels and shafts, at present undiscovered and unidentified, either by grout injection, settlement or the combined effects of both processes, could lead to the permanent loss of potentially important archaeological features. Similar detrimental effects of settlement and grout migration may also cause problems in land drainage and surface/shallow subsurface drainage systems.' ([REP4-056](#), 'General and Cross-topic': 17.1, p.23 of 35)

Dr Reeves is still of that opinion in April 2022 (please see his separate submission for the Alliance on 'Geology, Ground Investigation and Groundwater Monitoring').

5.5. The ExA reported in 2020 that

'The ExA has concerns about the harm to archaeology through either settlement or vibration, and about the efficacy, control, and consequences of remedial actions were they necessary. It addresses these matters in the Noise and Vibration section of the Report.' (ExAR, para. 5.7.192)

'Vibration effects on archaeological remains also became an important factor considered by the ExA having been raised by several IPs including ICOMOS UK [REP6-055] and the Stonehenge Alliance [REP8-054]'. (ExAR, para. 5.13.101)

'As the Examination progressed it became apparent that the issue of vibration and ground movement as a consequence of the tunnelling was a significant factor that needed to be addressed.' (ExAR, para. 5.13.139)

'The Applicant observes that there are no standard criteria for protecting heritage assets from settlement or vibration. It follows that a bespoke system of mitigation and protection must be adopted, responding to the particular nature of the assets.' (ExAR, para. 5.7.46)

5.6. Nevertheless, the Applicant was confident that

'With regard to any heritage assets located above the line of the tunnel, any potential effects "would be managed through the placement and operation of tunnel movement monitoring stations." as required by the OEMP.' (ExAR, para 5.13.59)

Saying,

'The Ground Movement Monitoring Strategy (GMMS) required by OEMP MW-CH8 [AS-129] allows such a system to be developed in consultation with Wiltshire Council, Historic England and HMAG. It would be approved by the SoS as part of the CEMP, through Requirement 4(8) of the dDCO [AS-121]. The GMMS would establish trigger levels, develop contingencies, and identify measures and responsibility for remedial actions, in consultation.' (ExAR, 5.7.47)

Even though

'The form the monitoring installations would take is not yet agreed, and there are no agreed standards of acceptability, in terms of the effects on archaeological remains, for either settlement or vibration. The DAMS indicates that the GMMS would be subject to consultation with Wiltshire Council, Historic England and, for sites within or affecting the WHS, HMAG.' (ExAR, para. 7.190)

5.7. Concerning responsibilities for monitoring and any remedial action, the ExA reported:

'OEMP MW-CH8 states that the Applicant would be responsible for accepting the GMMS following consultation. Since the GMMS would be appended to the CEMP, approval would be given by the SoS under dDCO Requirement 4 before tunnelling operations begin. However, under OEMP MW-CH1, the HMP (which would be approved by Wiltshire Council) would address ground vibration and ground movement/subsidence, and archaeological mitigation measures deployed for the installation of the movement monitoring stations.' (ExAR, para. 5.7.191)

'Historic England consider it would be appropriate to agree a methodology to identify any significant deviation from the model to enable decisions to be taken to protect archaeological remains.' (ExAR, para. 5.13.142)

And, without full knowledge of the potential impacts of tunnelling through the unique geological conditions of the Stonehenge WHS, Historic England

'go on to advise that if the modelling conducted provides a robust and reliable baseline against which decisions could be made, based on experience from elsewhere the degree of settlement would be unlikely to adversely affect archaeological remains.' (ExAR, para. 5.13.141)

5.8. the ExA apparently decided, despite concerns expressed by our specialist Dr Reeves (see para. 5.4., above) and lack of any known methods of preventing ground movement or subsidence resulting in damage to archaeological remains, let alone in such conditions as exist in the WHS, that:

'In respect of the vibration effects that could occur the ExA are satisfied that with the appropriate mitigation in place as secured through the OEMP and dDCO that no significant adverse effects would occur, and that the development would comply with the requirements of the NPSNN, NPPF and local planning policies.' (ExAR, para. 5.13.156)

5.9. We consider this surprising conclusion to be not only contrary to the ExA's earlier stated view that it

'has concerns about the harm to archaeology through either settlement or vibration, and about the efficacy, control, and consequences of remedial actions were they necessary.' (ExAR, para. 5.7.192)

but also irrational in the light of the multiplicity of unknowns surrounding the matter and how it should be addressed, particularly in such an exceptional case where the archaeological remains are of international significance.

5.10. We are naturally concerned, given the above, that NH has not brought forward, since the Examination and in consultation with Wiltshire Council and others, a convincing method for

- a) monitoring tunnelling impacts on the geology and archaeology of the WHS;
- b) anticipating and preventing adverse impacts before any damage might occur; and
- c) dealing with any damage that does occur.

We remain convinced that this is a key issue of concern which continues to be unallayed and remains to be properly resolved.

6. Geology and Soils (NH 1.4, Section 7); Road Drainage and the Water Environment (NH 1.4, Section 8); and relevant Technical Reports

Please see separate submission on 'Geology, Ground Investigation and Groundwater Monitoring' made on behalf of the Stonehenge Alliance by Dr George M. Reeves.

**National Highways: A303 Amesbury to
Berwick Down Project, Development
Consent Order Application**

Scheme Reference: TR010025

Alternatives

**Response to Secretary of State's call for further
representations on his Statement of Matters
Bullet Point 1**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

April 2022

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Response to Secretary of State's call for further representations on his Statement of Matters Bullet Point 1: Alternatives

1. Introduction

The Stonehenge Alliance campaigns for the protection and enhancement of the World Heritage Site (WHS) and its setting. We therefore consider that road widening options that damage the WHS should be rejected and, should an A303 tunnel be *insisted* upon, that it should be long enough to pass under the whole WHS. The Proposed Scheme would not give that protection and our objection to it continues for reasons given in our representations to the Examination and the Secretary of State's Consultations. We suggest in this paper (at Section 6) ways in which, without further damaging the WHS, traffic flow could be improved; some of them would also address the current Climate Emergency which was not of major concern when the Scheme was announced in 2014.

In commenting on National Highways' (NH) responses to the current consultation, we note that the Proposed Scheme remains unchanged since November 2020 and that no changes are seen in NH's approach to alternatives, apart from the introduction of some ambiguity in its views on a longer bored tunnel. We give, below, objective views on alternatives in terms of their efficacy in protecting the WHS and its Outstanding Universal Value (OUV), bearing in mind that measures other than building a new dual carriageway could prove to be a more satisfactory outcome in the present climate and merit serious consideration.

2. The Context of the High Court Decision

2.1. In [R\(oao Save Stonehenge World Heritage Site Ltd\) v SST \[2021\] EWHC 2161 \(Admin\)](#) the High Court confirmed that the availability of alternatives was a mandatory material consideration for the Secretary of State to take into account. This arises due to the wholly exceptional circumstances of the proposal for the Stonehenge Road Scheme.

2.2. The High Court confirmed well established case law that where a development 'is bound to have significant adverse effects and where the major argument advanced in support of the application is that the need for the development outweighs the planning disadvantages inherent in it' then it will be necessary to consider whether there is a more appropriate site/scheme ([Trusthouse Forte v SSE \(1987\) 53 P&CR 293 per Simon Brown J](#)).

2.3. In [R\(Langley Park School for Girls Governing Body\) v Bromley London Borough Council \[2009\] EWCA Civ 734](#) the Court of Appeal confirmed that the 'starting point must be the extent of the harm in planning terms (conflict with policy etc.) that would be caused by the application. . . At the other end of the spectrum, if a [decision maker] considered that a proposed development would do really serious harm it would be entitled to refuse planning permission if it had not been persuaded by the applicant that there was no possibility, whether by adopting an alternative scheme, or otherwise, of avoiding or reducing that harm.' *Per Sullivan LJ*.

2.4. In reaching his conclusion in *R(oao Save Stonehenge World Heritage Site Ltd) v SST* [2021] EWHC 2161 (Admin), Holgate J noted the following factors which meant that the potential for alternatives falls to be considered in relation to the Stonehenge Road scheme:

1. The designation of the World Heritage Site is a declaration that the site has ‘outstanding universal value’ for the cultural heritage of the world as well as the UK. It is an asset of the highest significance and there is a duty to protect and conserve the asset under the World Heritage Convention ([High Court Judgment](#), para 278);
2. The SST accepted findings of the Panel on the harm to the settings of designated heritage assets and also the harm which would be caused by the western cutting in the proposed scheme. He found that OUV attributes, integrity and authenticity of the WHS would be harmed by the proposal. The Secretary of State found that the overall impact would be significantly adverse (para 279);
3. The harm would be permanent and irreversible (para 280);
4. The western cutting has attracted strong criticism from the World Heritage Committee as well as interested parties in findings from the ExA; those criticisms are reinforced by articles 4 and 5 of the World Heritage Convention (para 281);
5. The SST found that the heritage benefits did not outweigh the harm. (para 282);
6. The proposal would cause significant planning harm (para 283);
7. The view of Highways England that alternatives would provide ‘minimal benefit’ in heritage terms was predicated on its own assessments. ‘The fact that the SST accepted that there would be net harm to the OUV attributes, integrity and authenticity of the WHS . . . made it irrational or logically impossible for him to treat [Highways England’s] options appraisal as making it unnecessary for him to consider the relative merits of the tunnel alternatives. The options testing by IP1 dealt with those heritage impacts on a basis which is inconsistent with that adopted by the SST’ (para 285);
8. The tunnel alternatives are located within the application site (para 286); and
9. ‘Compliance with a requirement to take information into account does not address the specific obligation in the circumstances of this case to compare the relative merits of the alternative tunnel options’ (para 287).

2.5. Therefore, it is clear that the consideration of alternatives falls to be considered against the Secretary of State’s clear finding that the impact of the scheme upon the WHS would be significantly adverse.

2.6. The ‘alternatives assessment’ produced by National Highways in response to the Secretary of State’s statement of matters is not fit for purpose as it neither accepts nor even acknowledges the finding of the Secretary of State that the proposal would have significantly adverse impacts upon the World Heritage Site. This is expanded upon further below.

The Importance of the Alternatives Assessment at this stage

2.7. It is noted that the proposal (or something similar to it) has long been in the planning by Highways England (now National Highways (NH)). However, the assessment of the proposal during its planning and even its inclusion in RIS2 has been fundamentally flawed. This is

because NH has maintained throughout that the proposal would be beneficial for the WHS. This point was highlighted by the High Court judgment wherein Holgate J stated:

‘even if a full options appraisal has been carried out for the purpose of including a project in a RIS, that may not have involved all the considerations which are required to be taken into account under the development consent process, or there may have been a change in circumstance since that exercise was carried out.’ (para 262).

2.8. The High Court further confirmed that the options testing for a RIS may rely upon a judgment by Highways England which the Panel or Secretary of State disagrees with and therefore undermines reliance upon that exercise:

‘In the present case IP1’s assessment that the extended tunnel options would bring minimal benefit in heritage terms cannot be divorced from its judgments that (i) no part of its proposed scheme would cause substantial harm to any designated heritage asset . . . and (ii) there would be a beneficial effect on five attributes of the OUV, only a slightly adverse effect on two attributes and a slightly beneficial effect looking at the OUV authenticity and integrity of the WHS overall. . . ’ (para 263)

2.9. The decision of the Secretary of State (12 November 2020) is the first time where the Government has considered the true heritage impact of the proposal which involves the loss of at least 7ha of the fabric of the world heritage site together with substantial development in the setting of various heritage assets (including the WHS itself). The key findings of the Secretary of State are that:

- a. The Scheme represents ‘the greatest physical change to the Stonehenge landscape in 6000 years and a change which would be permanent and irreversible, unlike a road constructed on the surface of the land’ (para. 258 of the High Court Judgment and Examining Authority’s Report (ExAR) para. 5.7.225 and adopted by SoS at Decision Letter (DL)[10]);
- b. The overall impact to the WHS (i.e. once benefits have also been taken into account) would be ‘significantly adverse’ (para. 279 High Court Judgment);
- c. The scheme would not produce an overall net benefit for the WHS and, in that sense, it is not acceptable *per se* (para. 282 High Court Judgment);
- d. There would be net harm to OUV attributes, integrity and authenticity of the WHS (para. 285 High Court Judgment);
- e. Attributes (3), (5) and (6) of the OUV would suffer ‘major harm’ (para. 97 High Court Judgment and ExAR 5.7.227-229 and adopted by SoS at DL[10]);

- f. 'Irreversible harm would occur, affecting the criteria for which the Stonehenge, Avebury and Associated World Heritage Site was inscribed on the World Heritage List' (ExAR 5.7.326 cited at para. 103 High Court Judgment)
- g. The Longbarrow Junction falls firmly within the settings of the WHS as a whole and of asset groups 12 and 13 (ExAR 5.7.241). Seen from above, the Longbarrow Junction would 'dwarf all other individual features, including the Stones' (ExAR 5.7.243 and adopted by SoS at DL[10]). Further its broad geometric outlines would be evident at surface level and would 'appear at odds with the surrounding smaller scale morphology of rectilinear fields and small groupings of traditional buildings' (ExAR 5.7.244 and adopted by SoS at DL[10])
- h. 'The Junction, together with the cutting leading to the western portal, represents a single, very large, continuous civil engineering undertaking, spanning the western boundary of the WHS. Given the arbitrary nature of the boundary and the underlying expansive and unified character of the cultural landscape, the junction would have effects on the OUV similar to those described for the cutting and western portal.' (ExAR 5.7.245 and adopted by SoS at DL[10])
- i. 'The harm [caused by the Longbarrow Junction] reflects that caused by the cutting on the OUV, including a continuation of the harm to the Wilsford/Normanton dry valley. Also, the harm to the overall assembly of monuments, sites, and landscape through major excavations and civil engineering works, of a scale not seen before at Stonehenge. Whilst the existing roads could be removed at any time, should a satisfactory scheme be put forward, leaving little permanent effect on the cultural heritage of the Stonehenge landscape, the effects of the proposed junction would be irreversible.' (ExAR 5.7.247 and adopted by SoS at DL[10])
- j. The OUV of the WHS would be harmed by 'potentially serious loss of assets...because of the civil engineering excavation works' (ExAR 5.7.308 and adopted by SoS at DL[10])
- k. The Secretary of State has 'serious concerns regarding the effects of elements of the Proposed Development on the OUV of the WHS, and on the cultural heritage and the historic environment of the wider area' (ExAR 5.7.207 and adopted by SoS at DL[10])
- l. The western part of the WHS would be 'seriously disturbed by the intervention of the cutting and the western portal' (ExAR 5.7.217 and adopted by SoS at DL[10]);
- m. The presence and scale of the cutting would be much greater than shown in Highways England's 'Western Cutting Zone of Theoretical Visibility study [REP7-025]' (ExAR 5.7.223 and adopted by SoS at DL[10])
- n. Whilst much harm arises from the effect of existing roads including the A303 'the roads could be removed at any time, should a satisfactory scheme be put forward,

just as the A344 was removed, leaving little permanent effect on the cultural heritage of the Stonehenge landscape.’ (ExAR 5.7.224 and adopted by SoS at DL[10])

- o. The eastern portal and cutting would ‘harm the landscape values of the OUV. In addition, the Countess barrows would be a little nearer the line of the road than at present, having a slight negative effect on the OUV. However, the main danger to Blick Mead would be harm or loss to Mesolithic remains through changes in patterns of ground water, which could give rise to enormous damage...’ (ExAR 5.7.256 and adopted by SoS at DL[10])
- p. The Secretary of State found the following overall effects to each of the OUV attributes (ExAR 5.7.307-313 and adopted by SoS at DL[10]):

‘Attribute 1: Stonehenge itself as a globally famous and iconic monument.

The tunnel would remove the intrusion of trunk road traffic, allow partial reunification of the WHS, and reconnection of the Avenue. However, the recognised importance of Stonehenge would suffer were the major permanent and irreversible engineering works proposed to take place within the WHS and its setting.

Attribute 2: The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites. The tunnel would allow preservation of the monuments and sites under which it would pass and prevent any further traffic damage arising from the surface roads. However, potentially serious loss of assets could occur because of the civil engineering excavation works.

Attribute 3: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape. The removal of the existing road would enhance the settings of sites and monuments, reunify much of the landscape, and reunite the Avenue. However, this would be at the expense of the intervention of major engineering works in the Wilford/Normanton dry valley, both within and to the west of the WHS, which would irreversibly harm the landscape of the WHS including the settings of monuments either side of the valley, the site of the Early Bronze Age route to Stonehenge, flanked by significant arrays of monuments, as well as the wider setting of the landscape.

Attribute 4: The design of Neolithic and Bronze age funerary and ceremonial sites and monuments in relation to the skies and astronomy. The Proposed Development would enhance this Attribute through the removal of surface traffic and light pollution which can interfere with appreciation of solstice events and the night sky.

Attribute 5: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other. The removal of the road would lead to the reunification of much of the landscape, to an extent restoring the relationships of sites and monuments to each other. However, this would be at the expense of much more fundamental spatial severance and visual disturbance to the relationship of monument groups either side of the Wilford/Normanton dry valley, and the

significant space they create between them, and to the setting of the WHS as a whole caused by the intervention of the Longbarrow Junction.

Attribute 6: The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel. The removal of the road and the reunification of much of the landscape, together with the reconnection of the Avenue, would benefit aspects of the landscape assembly of sites, monuments and their interrelationships, whilst the associated engineering works would substantially harm other aspects. In the ExA's view, the benefits would not outweigh the harm arising from the excavation of a deep, wide cutting and other engineering works, within the WHS and its setting, of a scale and nature not previously experienced historically in this 'landscape without parallel'.

Attribute 7: The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others. Whilst the present road intrusion would be removed, in the ExA's view, the aesthetic and spiritual damage would be profound and irreversible.'

q. With regard to integrity the Secretary of State found that the proposed development would compromise the opportunity to enhance the integrity or intactness of the WHS 'because of the location of the Longbarrow Junction, an extremely large engineering structure alien to the WHS OUV, at or near an area which might be integrated into the WHS. This would be in addition to the harm to integrity arising from the continuation of the Junction's road system as a cutting into the WHS, introducing irreparable spatial division and harming understanding, into the WHS.' (ExAR 5.7.315 and adopted by SoS at DL[10])

r. With regard to authenticity the Secretary of State found:

'The authenticity of the WHS would be enhanced by the removal of the surface roads which confuse its ability to clearly and credibly express its cultural values through the attributes noted. However, the Proposed Development would bring a deeper and permanent confusion, through fundamentally altering the assembly which conveys understanding of the historic use of the landscape and its relationships of location and setting, and would thereby inhibit access to the spirit and feeling of the WHS.' (ExAR 5.7.319 and adopted by SoS at DL[10])

'The Proposed Development would seriously harm the authenticity of the WHS.' (ExAR 5.7.320 and adopted by SoS at DL[10])

s. Overall the Secretary of State found:

'The Proposed Development would benefit the OUV in certain valuable respects, especially relevant to our present generation. However, permanent irreversible harm, critical to the OUV would also occur, affecting not only our own, but future

generations. The benefits to the OUV would not be capable of offsetting this harm. The overall effect on the WHS OUV would be significantly adverse.’ (ExAR 5.7.321 and adopted by SoS at DL[10])

2.10. The failure of any previous options appraisals to acknowledge or accept these damning impacts mean that they cannot be relied upon. This is particularly the case when the harm is major and the WHS is one of only 31 World Heritage Sites in the UK and the scheme represents a real risk that the site will lose its world heritage status.

2.11. The 2021 World Heritage Committee, in its 2021 [Decision 44 COM 7B.61](#),

‘Reiterates its concern that, as previously advised by the Committee and identified in the 2018 mission report, the part of the A303 improvement scheme within the property retains substantial exposed dual carriageway sections, particularly those at the western end of the property, which would impact adversely the Outstanding Universal Value (OUV) of the property, especially affecting its integrity’ (para. 7);

‘Reiterates its previous request that the State Party should not proceed with the A303 route upgrade for the section between Amesbury and Berwick Down in its current form, and considers that the scheme should be modified to deliver the best available outcome for the OUV of the property’ (para. 9);

‘Notes furthermore the State Party’s commitment to ongoing engagement with the Committee, the World Heritage Centre, and ICOMOS, but also considers that it is unclear what might be achieved by further engagement **unless and until the design is fundamentally amended**’ (para. 10; our emphasis in bold); and

‘Finally requests the State Party to submit to the World Heritage Centre, by **1 February 2022**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 45th session, **with a view to considering the inscription of the property on the List of World Heritage in Danger if the A303 route upgrade scheme is not modified to deliver the best available outcome for the OUV of the property.**’ (para. 13)

2.12. It can be seen that the views of the WHC as to the impact of the scheme on the WHS chime with the findings of the Secretary of State. Therefore, the WHC’s warning with regards to the status of the WHS must be taken seriously. Moreover, as will be seen below, National Highways has continued to fail to acknowledge or accept these impacts of its scheme. This leads to its options appraisal and alternatives assessment being fundamentally flawed and unreliable.

2.13. It is also important to note, at this stage, that as National Highways’ assessments have been based upon the misapprehension that the scheme would be beneficial for the World Heritage Site ([NH’s response ‘Redetermination-1.1’](#), ‘Summary and conclusion on alternatives’, paras. 9.1.9–10), their assessments of the proposal’s value for money (NH, ‘Case for the Scheme and NPS Accordance’ ([APP-294](#)), Table 5-5) are significantly

undermined. The High Court recognised that the value for money exercise conducted by Highways England was dependent upon what it asserted to be an overall benefit of the scheme (High Court para 236). Now that the Secretary of State has confirmed that there would be significantly adverse overall harm to the WHS, even on Highways England's own case there is no economic justification for the proposal. This is covered further in our parallel response on Transport, Carbon and Economic Issues.

3. National Highways' options appraisal and alternatives assessment

3.1. In short summary, the alternatives assessment provided by National Highways is fundamentally flawed and cannot be relied upon for the following reasons:

- a. It fails to accept or acknowledge the heritage harm of its own scheme as has already been found by the Secretary of State (as set out above);
- b. It fails to include consideration of key issues which are highly material to whether a preferable option exists. These include any consideration of the carbon impact of the various alternatives and also the failure to include key details on each of the proposals;
- c. The document is based in large part upon assertion without providing the Secretary of State or consultees with the evidence behind the impacts which it claims alternatives would have; and
- d. It is based upon a flawed analysis of the likely traffic figures for the A303 (this is addressed further in our parallel response on Transport, Carbon and Economic Issues).

Each of these matters is addressed further below.

3.2. As National Highways' information on alternatives is little more than the confirmation of its previous 'options appraisal' the Stonehenge Alliance continues to rely upon its [Written Representation](#) to the Examination on Alternatives. This set out its concerns about the process of options selection: these concerns remain valid and we refer the Secretary of State to Section 1 of that document in order not to repeat them at length here. We address below statements on Alternatives made in NH's response 'Redetermination-1.1', hereafter referred to as '[NH 1.1](#)'.

3.3. In respect of NH 1.1, para. 2.2.1, we consider the later stages of options appraisal undertaken by NH to be neither comprehensive nor robust in informing consultees, The ExA or the Secretary of State. This remains the situation today. No more than a brief chronology of Scheme development, options considered, and the scheme selection process are given in Chapter 4 of 'Scheme Assessment Report' Vol. 1 ([REP1-023](#)) and Chapter 3 of 'The Case for the Scheme and NPS Accordance' [[APP-294](#)]. Only two options were presented for public consultation, both involving short tunnels through only part of the WHS. Insufficient comparative information was provided on options that would be less expensive and not so

damaging to the WHS, i.e., bypasses to the north and south. Alternatives involving no new road building were not considered. Without more detailed comparative data it was and continues to be impossible for consultees to make full and meaningful comparisons between later-stage routes and those selected for consultation.

3.4. Section 2.6 of NH 1.1 mentions the statutory consultation on the Preferred Route. The Alliance, in its [Written Representation on concerns about the consultation process](#) sets out (in Section 1.3) the inadequacies of the process and points out (in Section 3) that some 79% of respondents were opposed to the proposals at the statutory consultation stage. An overwhelming majority of respondents were objectors at the supplementary consultation stage (83%+) and in Relevant Representations to the Examination (c.90%). The substantial majority of recorded views of consultees on the Scheme is shown to have been disregarded. A petition set up by the Alliance, voicing to the Secretaries of State for Transport and Digital, Culture, Media and Sport that there should be no further damage to the WHS as a result of the road Scheme, has now (4 April 2022) reached a total of 219,380 signatures from citizens of 147 countries around the World. **The project is widely unpopular.**

3.5. Since the WHS is a heritage asset of the highest significance (NPSNN para. 5.131), the impact of any development scheme on the Site and its setting must be a primary consideration. One of the key aims of the Proposed Scheme, 'To help conserve and enhance the World Heritage Site and to make it easier to reach and explore' would, however, not be realised (see [ExA Report](#), para. 7.2.17).

3.6. Further, given the detailed findings of the Secretary of State as to the heritage harm of the proposed scheme, it is imperative that any alternatives assessment takes into account not just the headline conclusion but also the detailed analysis. For example, the Secretary of State made damning comments as to the effect of the Longbarrow Junction upon the WHS and the setting of various assets (see above and see also ExAR 5.7.224, 5.7.245, 5.7.247 all adopted by the SoS at DL[10]). These findings included that the junction would dwarf all other individual features including the Stones from the air. In NH 1.1, NH makes a sweeping assertion that a repositioning of the Longbarrow junction may have the potential for 'worsened landscape and visual impacts from the repositioning of Longbarrow junction' (para. 4.2.22). However, it makes no acknowledgment of the damning findings of the Secretary of State in relation to the location of the proposed junction. There is a complete disconnect between NH's assessment which appears to maintain the misguided positive view of the scheme in heritage terms versus the reality of the Secretary of State's previous findings.

3.7. It can be noted that the Secretary of State recently refused the DCO application for the Aquind Interconnector Order. One of the reasons for this was that there was 'a failure to adequately consider the original alternatives identified by the Applicant' ([DL para 3.6](#)). The continuing failures in NH's alternatives assessment means that there remains a failure to adequately consider alternatives in this case and there is no robust basis for the Secretary of State to conclude that there is no better solution to the traffic issues on the A303.

3.8. In particular, and as expanded upon below, NH bases its 'assessment' on a number of assertions which are not backed up by evidence. NH has not provided any visualisations of

potential alternatives, nor has it assessed those alternatives in relation to the impacts which NH claims they will have. Often, NH refers (in broad-brush terms) to ‘environmental issues’ including, for example, landscape and biodiversity (see e.g. NH1.1, paras. 3.3.5, 4.2.22, 4.3.7) but doesn’t specify what aspect of each issue each alternative is considered to affect. Nor does it state what the magnitude of any effect is expected to be. Nor does it justify any assertions of impact through evidence. This has resulted in an inability of statutory consultees, interested parties and the Secretary of State properly to interrogate NH’s analysis. This is wholly inadequate a context where NH is promoting a scheme which the Secretary of State has concluded would result in permanent and irreversible harm to an asset of the utmost importance. This underscores the Stonehenge Alliance’s representations (in our Covering Note and Legal Submission) that it is imperative that a fresh examination or inquiry is held into the proposal in order to ensure that there is no preferable alternative before NH embarks on a course of such damage to the WHS.

4. Impacts of the Proposed Scheme

4.1. At NH 1.1., para. 3.2.5, the Applicant’s view is that

‘The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.’

4.2. As stated above, NH has simply failed to accept or even acknowledge the damning findings of the Secretary of State as to the significant harm which the proposed scheme would cause to the WHS, its setting and designated heritage assets. Without accepting this finding and then re-assessing the proposed scheme and alternatives in light of it, the work by NH is fundamentally flawed and cannot be relied upon. Further, any comments upon the relative cost of schemes which does not acknowledge the huge and exceptional harm of the proposed scheme are meaningless. NH’s business case for the proposed scheme was wholly dependent upon there being net heritage benefits (see Highways England, ‘Case for the Scheme and NPS Accordance’ ([APP-294](#)), Table 5-5; and Stonehenge Alliance Written Representation to the Examination on ‘Cultural Heritage Value: Valuing Heritage Impacts’ ([REP2-130](#))). Now that the Secretary of State has confirmed that the proposed scheme would lead to significant harm, the business case is undermined and any conclusions upon relative value for money which fails to take account of this are unsafe.

4.3. Further, NH has selectively cited the advice of the Advisory Missions conducted by ICOMOS/WH Centre. At NH 1.1., para. 3.2.7, we are reminded that the ICOMOS/WH Centre [2018 Advisory Mission](#) (p.6) states:

‘The eastern portal has been positioned in the least impactful location available close to the WHS boundary, given the constraints imposed by the attributes of the WHS, other significant sites in the vicinity, and local topographic and environmental conditions.’

The Mission goes on to say, however,

‘The location of the eastern portal to the east of The Avenue and its siting within a micro valley is an improvement on previous options. However, **a tunnel portal much further to the east, completely outside the WHS, would protect the OUV of the property from the impact of associated dual carriageways.**’ (our emphasis)

4.4. The more forceful [2019 WH Committee \(WHC\) Decision](#), at Item 4, states:

‘Notes with concern, that although the current scheme, which is now subject to the Development Consent Order (DCO) examination process, shows improvement compared with previous plans, **it retains substantial exposed dual carriageway sections, particularly those at the western end of the property**, which would impact adversely on the Outstanding Universal Value (OUV) of the property, especially its integrity, and therefore encourages the State Party to not proceed with the A303 route upgrade for the section Amesbury to Berwick Down project in its current form’ [our emphasis]

The Advisory Mission and WHC were concerned about the impacts on OUV of cuttings on both sides of the WHS.

4.5. The same concern was reiterated at Item 7 of the [2021 WHC Decision](#), indicating, since November 2020, that lengths of exposed dual carriageway at both sides of the tunnel would, in the view of the WHC, impact adversely on the OUV of the WHS, giving rise to the threat of placing of the WHS on the List of WH in Danger, should the DCO be confirmed.

4.6. The ExA also had serious concerns about the impacts of the Proposed Scheme to each side of the tunnel (see [ExAR](#), para. 5.7.207). These concerns were, in large part, accepted by the Secretary of State as set out above.

4.7. Ultimately, as NH has failed to acknowledge and accept the Secretary of State’s findings, its own conclusions upon the relative merits of the proposal vs the alternatives are unsafe and it would be unsafe for the Secretary of State to place any reliance upon them.

5. Alternative routes referred to by the Examining Authority

5.1. Cut and cover tunnel extension to the WHS boundary

5.1.1. The Applicant asserts that

‘The cut and cover extension would offer overall minor beneficial impacts when compared to the Proposed Scheme that would be limited to, Landscape and Visual, Biodiversity and Public Amenity, all in the western section of the WHS.’ (NH 1.1, para. 3.2.17).

Again, this conclusion is fundamentally flawed by (a) a failure to accept or acknowledge the findings of the Secretary of State as to the significant harm caused by the proposed scheme and (b) a failure to provide any evidence of the assertions made. It can be noted that National Highways has not presented (for example) any visualisations of this alternative. Nor has it provided any heritage assessment of this proposal versus the main proposal (despite the fact that it refers to an ‘assessment previously undertaken’ (NH1.1, para 3.3.4).

5.1.2. In light of the damning conclusions of the Secretary of State it is patently not the case that the cut and cover extension would offer ‘minor beneficial impacts [etc.]’ Obvious improvements would be gained for OUV attributes 3, 4 (possibly), 5, 6 and 7 in the western part of the WHS: a significant historic environment benefit in view of the major importance of the WHS. These are beneficial effects to assets that have not been individually quantified or compared by NH with impacts of the Proposed Scheme in this area of the WHS.

5.1.3. While the serious loss of archaeological sites (OUV Attribute 2) within and alongside the cutting, along with the threat to the WHS’ integrity, would be the same or very similar for both the Proposed Scheme and the cut and cover tunnel, in other respects the cut and cover tunnel would bring some advantages. These advantages were, in fact, summarised by NH in response to the ExA’s Written Question AI.1.29, ([REP-024](#)), para. 39:

‘The reinstated ground above the new A303 would provide connectivity between some of the key assets. This has been assessed as having a slightly more beneficial impact when compared to the Scheme. The cut and cover extension would allow re-establishment of the existing landform, within the WHS, along the length of the Western Portal approach cutting benefiting Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other). This would increase landscape connectivity between monuments and monument groups, including the AG12 Winterbourne Stoke Crossroads Barrows; AG19 Normanton Down Barrows and the AG13 Diamond Group, as well as isolated heritage assets to the south and north of the main line that contribute to the OUV of the WHS.’

5.1.4. It therefore appears perverse to say, in respect of a cut and cover tunnel, that

‘there is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.’ (NH 1.1, para 3.4.8)

This is particularly the case where NH has provided no evidence for its bald assertion.

5.1.5. It therefore appears obtuse for the Government to say to the World Heritage Centre:

‘The State Party would welcome the opportunity to explore the commitments and opportunities to continue to refine the scheme’s design in a manner that could reduce the extent and width of the open cut at the western end of the WHS with the World Heritage Centre and the Advisory Bodies.’ (DDCMS, [WHS State of Conservation Report](#) (2022), p. 9)

5.1.6. Additionally, NH claims that the cut and cover tunnel would lead to operational issues (NH 1.1, para. 3.2.9):

‘The cut and cover extension would reduce the distance between Longbarrow Junction and the tunnel portal. This would result in disruption to smooth traffic flow close to the tunnel portal and increase the risk of collisions and incidents in this area.’

Again, this is mere assertion which cannot be interrogated either by interested parties, consultees or the Secretary of State. A more detailed explanation and evidence are needed to demonstrate why this should be so, especially in view of certain advantages in extending cut and cover in comparison with the Proposed Scheme.

5.2. Bored Tunnel Extension to 600m beyond WHS boundary

5.2.1. In respect of the bored tunnel extension, the Applicant again suggests that

‘There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.’ (NH 1.1., para. 4.2.5).

Again, this suffers from the fundamental flaw of a failure to (a) accept and acknowledge the Secretary of State’s findings on the harm of the proposed scheme and (b) evidence the bald assertions made. It can be noted that NH has not even done the minimum work of providing visualisations of the alternative or a high level assessment of the effects against the proposed scheme.

5.2.2. In fact, NH set out some of the ‘additional benefits’ in its response to the ExA’s Written Question AI.1.29 ([REP-024](#)), at para. 44:

‘The construction of a bored tunnel would allow the preservation of archaeological remains above the tunnel within the WHS boundary benefiting Attribute 2 (the physical remains of the Neolithic and Bronze Age ceremonial and funerary monuments and associated sites) that conveys the OUV of the WHS. Archaeological remains would also be preserved in situ over a section of the main line stretching 600m west of the WHS boundary. It would also allow the retention of the existing landform, benefiting Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other) in the western portal approaches.’

5.2.3. It is frankly obvious that a proposal which does not involve the loss of c.7ha of fabric of the World Heritage Site and therefore no permanent and irreversible harm in this area would result in meaningful additional benefits. It is perverse to say otherwise. Further, this option would, potentially, not risk the WHS losing its status as a world heritage site.

5.2.4. In view of the significant benefits a longer bored tunnel would bring to five and possibly six of seven attributes of OUV, not to mention the WHS itself and parts of its setting, the position of NH must be seriously challenged: a bored tunnel extension with a western portal outside the WHS would clearly bring meaningful and substantial additional benefits to most OUV attributes as well as the maintenance of aspects of Authenticity and Integrity in the western part of the Site although not in the eastern part.

5.2.5. NH has provided no evidence to support its assertion that a longer tunnel would not ‘deliver meaningful additional benefits to the WHS’. The conclusion is frankly irrational in light of the Secretary of State’s conclusions.

5.2.6. Despite acknowledging a number of benefits of a bored tunnel extension at the Examination (see paragraph 5.2.2, above), the Applicant states that, compared with the Scheme, the longer bored tunnel

‘would offer overall minor beneficial impacts that would be limited to, Landscape and Visual, Biodiversity and Public Amenity all in the western section of the WHS. There would also be potential for worsened landscape and visual impacts from the repositioning of Longbarrow junction’ (NH 1.1, paras. 4.2.22 and 4.3.7).

5.2.7. This is patently wrong. There would be obviously substantial benefits through (a) obviating the loss of any of the fabric of the western part of the WHS, and (b) the partial rehabilitation and improvement of the WHS and its attributes – as well as public enjoyment – in this area. Even if NH’s HIA were to be accepted (noting that many of its most significant findings have been rejected by the SoS), Table 1 in the [HIA \(APP-195\)](#) indicates that asset groups in the western cutting area potentially suffering adverse to moderate beneficial impacts from the Scheme would, with a bored tunnel instead of a cutting, gain very large beneficial impacts, as is suggested under the Proposed Scheme for heritage assets benefiting from a bored tunnel: e.g., Stonehenge itself (AG22) and sites recently identified in Stonehenge Bottom (see Appendix 3.1, ‘Summary of significant effects’: Tables 3.1 and 3.2, in NH, ‘[Response to Bullet Point Four – Environmental Information Review](#)’ (NH 1.4)). Dismissal of these benefits as being only minor indicates no serious attempt has been made to evaluate and quantify them for the present exercise in consideration of Alternatives.

5.2.8. Part of NH’s argument against the longer bored tunnel is down to an unexplained constraint (NH 1.1, para. 4.2.19):

‘Relocation of Longbarrow junction for the bored tunnel extension would leave the A360 in its current position. This would remove the benefit to the WHS of removing traffic immediately beside the Winterbourne Stoke Crossroads Barrow Group. The existing proximity of the A360 to this Barrow group has an adverse impact on Attribute 3 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape) and on Attribute 5.’

There is no evidenced reason as to why the A360 must be left in its current location and therefore no clear reason to mark down the benefits of the longer bored tunnel in comparison with the existing Proposed Scheme.

5.2.9. A longer bored tunnel would also bring significant benefits to wildlife – critically including Annex 1 bird species (Stone Curlew) – since it would reduce the area affected by construction and result in construction disturbance being absent from the western part of the WHS. This, despite mitigation measures, would result in less disturbance, both temporary and permanent, that birds breeding and foraging within the WHS would otherwise be exposed to with the current scheme (see [ExAR](#), para. 5.5.38 et seq.). No assessment of this potential benefit (and other benefits to wildlife and biodiversity) has been made by NH beyond the vague and unevidenced assertion that the proposal would ‘offer overall minor beneficial impacts that would be limited to, Landscape and Visual, Biodiversity and Public Amenity. . . There would also be potential for worsened landscape and visual impacts from the repositioning of Longbarrow Junction’. (NH 1.1, para. 4.2.22)

5.2.10. Revised policy on LVIA (LA 107; 2020) has led to significant increases in landscape receptor and impact values for the WHS (see NH ‘Response to Bullet Point Four – Environmental Information Review’ Redetermination-1.4 ([NH 1.4](#)), para. 3.2.18; Table 4.4, ‘Visual Sensitivity Re-assessment’; and Appendix 4.2 ‘Re-assessment of Visual Effects’). Despite NH’s view that this would make no difference in its landscape assessment overall, these enhanced values now recognize the heightened importance of the historic landscape of the WHS indicating that the landscape and visual impacts on the WHS of a longer bored tunnel would clearly be more than ‘slight beneficial’. (See also, our comments on ‘Landscape and Visual’ at Section 3 of our submission on Environmental Information Review.) Again, NH has made no assessment of the landscape impact of this or any alternative scheme.

5.2.11. In its Environmental Statement, NH considered a longer bored tunnel to be feasible, although ‘discounted on the grounds of a significant increase in Scheme cost as well as an increase in construction period’ (6.1 Highways England, ES Chapter 3: Assessment of Alternatives ([APP-041](#)), para. 3.3.61). The additional costs are apparently owing to the various considerations set out in NH’s answer to the ExA’s Written Question AL.1.29 ([REP-024](#)), paras. 26–36 and include a number of matters, of which heritage is one. Drawbacks in respect of traffic and operational issues (*ibid.*, paras 28–29) are said to be the necessity for a relocated Longbarrow Junction that would ‘require the use of a compact, and consequently lower capacity, junction which would not be compliant with standards for the volumes of traffic which would be using the A303’; and retention of the A360 in its current position. Nevertheless, there is no suggestion that this option would not be viable.

5.2.12. Since the Examination, however, there appears to be some ambiguity in NH’s approach to a longer bored tunnel alternative (see NH 1.1., paras. 4.4.4, 4.4.12 and 9.1.4–5). NH 1.1 paragraph 9.1.5 states:

‘The location of the tunnel portal would require Longbarrow junction to be relocated to the west and to be changed to a compact, lower capacity junction not compliant with the design standards. Traffic forecasts since the previous assessment have

further strengthened the Applicant's reasons for dismissing this option on traffic and operational grounds.'

Despite this assertion concerning traffic forecasts, and the earlier reason for dismissing this option on the ground of cost and a longer construction period, there is no indication that a longer bored tunnel is not viable, simply that there could be operational problems with the solution NH proposes. These problems apparently depend on the volume of traffic involved – a matter over which there is future uncertainty but not without solution via traffic control.

5.2.13. In any event, again, NH's view that the Longbarrow junction would have a lower capacity and would not comply with design standards remains a mere assertion. NH has not produced even indicative plans and visual realisations. Without these it is impossible for the Secretary of State and Interested Parties to judge and comment upon the viability and impacts of repositioning the Longbarrow Interchange further to the west. There can be no doubt, however, of benefits to the WHS and its attributes were the interchange to be located further away from the WHS boundary.

5.2.14. NH's arguments against a longer bored tunnel are therefore unconvincing without drawings for examination by independent experts. The information which NH has provided does not allow for the Secretary of State to interrogate NH's assertions. It should be noted that NH have just advanced one specific long bored tunnel option and that various options for the tunnel length, relocation of the junction and slip roads might be considered.

5.3. F010 Surface route option to the south

5.3.1. Among earlier-considered alternatives, the southern bypass (Corridor F) route options

'would substantially improve the setting of over 100 Scheduled Monuments and would provide significant benefits for the WHS in terms of conservation, access and visitor experience' (Highways England, [Technical Appraisal Report \(TAR\) REP1-031](#) (Vol. 1), para. 7.5.2).

5.3.2. NH acknowledges that route F010 would bring greater benefits than the Proposed Scheme for the WHS:

'For the historic environment, both Route Options D061 and D062 [short tunnel options taken to public consultation] would result in an overall Neutral score compared with a Large Beneficial effect for F010. In terms of the WHS, F010 would also result in a Large Beneficial effect, whilst D061 would result in a Slight/Moderate Beneficial effect and D062 a slightly greater Moderate Beneficial effect. . .' (TAR, para. 18.3.62).

5.3.3. However, it can be noted that the above statement continues to assume that the proposed scheme will not bring the level of harm which the Secretary of State has already found. Route F010 would also be far less expensive than the Proposed Scheme ([TAR](#), Table

11-5), while ongoing operational and maintenance costs for this route were ‘not considered to be substantial as compared with the tunnelled options’ (TAR, para. 7.3.26).

5.3.4. We continue to challenge NH’s suggestion (NH 1.1, para. 2.3.6) that

‘the surface route, F010, would have a much larger footprint and a greater overall environmental impact than the partially tunnelled options. The surface route would also leave higher levels of rat running traffic adversely affecting the quality of life in local communities.’

Apart from the larger footprint, these assertions are not substantiated by any firm evidence. National Highways has failed to provide any assessments which back up its bald assertion of a ‘greater overall environmental impact’. The term ‘environmental impact’ covers a multitude of potential impacts and NH has not even narrowed down this term to identify the category of impacts it expects. The conclusion fails to acknowledge the damning findings by the Secretary of State that the proposed scheme would cause significant permanent and irreversible harm to the WHS which is an irreplaceable asset of the highest significance. As the Stonehenge Alliance demonstrated during the Examination, in answer to Question AL.1.11 ([REP3-063](#), section 3.2), NH’s own assessment showed that the level of rat running through local communities to the north of the A303, on a typical day, would be lower than in the Do Minimum and the overall levels of traffic on these roads is, in any case, relatively low. The provision of a high capacity, uncongested route (whether or not it followed the F010 alignment) would remove any incentive to divert onto slower local roads at busy times. No consideration has been given to measures which could be installed to reduce any remaining rat running.

5.3.5. NH acknowledges that ‘Corridor F options have not been investigated to the same extent as the WHS and there was a higher degree of uncertainty as to what archaeology might be present’ (TAR, para.7.5.48). We are advised by Professor Parker Pearson that

‘The route is known to pass close to three scheduled ancient monuments (SAMs) – two separate round barrows and a site of ‘Tumuli’ (more than one round barrow) at Woodford – but does not otherwise affect them. Otherwise, no known archaeological sites are affected other than areas of field systems (similar to those that are planned for destruction just north of the road between Winterbourne Stoke village and Winterbourne Stoke crossroads). There is no evidence that this Southern Alternative Route can be considered as having any notable archaeological significance at a local or even regional level.’ (Pers. comm., March 2022)

This was the case at consultation stages and remains so today. However, it is clear that this route would not cause any loss of the fabric of the World Heritage Site itself. The proposed scheme involves the loss of over 7ha. Further, it would not be nearly so harmful in relation to the settings of scheduled ancient monuments or the destruction of archaeological remains, some of them forming heritage assets of national importance equivalent to SAMs. In particular, a heritage asset outside the western portal consists of remains of an unusually large settlement and burials from 4,000 years ago that would be substantially harmed (Professor Parker Pearson, pers. com., March 2022).

5.3.6. NH concludes its dismissal of Option F010 in the Scheme Assessment Report with a table which purports to show that it conforms less well with the Client Scheme Requirements compared with the two tunnel options that were taken forward to public consultation (which are broadly similar to the final project in terms of their impact on the WHS). These requirements are:

1. **Transport:** to create a high quality route that resolves current and predicted traffic problems and contributes towards the creation of an Expressway between London and the South West.
2. **Economic growth:** in combination with other schemes on the route, to enable growth in jobs and housing by providing a free flowing and reliable connection between the South East and the South West peninsula.
3. **Cultural heritage:** to contribute to the conservation and enhancement of the WHS by improving access both within and to the site.
4. **Environment and community:** to contribute to the enhancement of the historic landscape within the WHS, to improve biodiversity along the route, and to provide a positive legacy to communities adjoining the road.

The tunnel options were assessed as having strong alignment with the 1st, 2nd and 4th criteria, while having moderate alignment with the 3rd criterion. Conversely Option F010 is shown as having moderate alignment with the 1st, 2nd and 4th criteria, and strong alignment with the 3rd.

The only evidence provided by NH for assigning F010 with a lower alignment with the 1st and 2nd criteria is that the journey time saving would be less (2.75 minutes compared with 4.0 minutes) than with the tunnel options. This is a small impact on the overall journey time for the mostly lengthy journeys on this section of the A303. In addition, Option F010 would fully address the congestion and other problems that NH claims affect the A303 at busy times. It is therefore unreasonable to categorise F010 as being less well aligned to these criteria. In relation to Criterion 3, NH's assessment of the tunnel options was completely inconsistent with the Examining Authority and Secretary of State's findings of harm to cultural heritage. Accordingly, the tunnel options taken forward by NH were not at all aligned with this criterion. In relation to the fourth criterion, insufficient evidence on the environmental impacts of F010 has been provided to assess whether it has been assessed correctly. However, it is implausible to assess the tunnel options as being strongly aligned with this criterion, given its negative impact on 'the historic landscape within the WHS'. This is further evidence that this option was rejected prematurely. Finally, NH has failed to take into account the fact that this option would be significantly cheaper to the public purse.

5.4. The 'Parker' Route

The Parker Route (NH 1.1, Section 6) was brought to the 2004 Public Inquiry into an earlier A303 widening scheme as "Alternative Route 4". It was assessed within the Corridor F route options identification and selection exercise for the current project. Its strategic merits are seen to be avoidance of the WHS and the provision of a northern Salisbury bypass. As with the later-stage option F010 in this corridor, no specific detail has been given on

environmental issues such as archaeology and biodiversity with which to compare the Parker Route meaningfully with the Proposed Scheme.

5.5. New Route to the South of Salisbury

The route would advantageously lie outside the WHS and provide a bypass for Salisbury. Notwithstanding the need for a Salisbury bypass unless traffic management measures can be introduced to deal with city congestion, it seems unlikely that this option would lead to closure of the present A303 through the WHS to vehicular traffic. The nature, extent and largely unknown environmental impacts of this route again preclude meaningful comparisons with the Proposed Scheme.

5.6. New Route to the North of WHS

5.6.1. It is difficult to understand NH's reasoning in this statement:

'Corridor A would reduce severance within the WHS, and could also result in some benefit to the WHS. However, the harm it would cause to the setting of the WHS and key assets within it (e.g. Durrington Walls) mean substantial harm to the OUV of the WHS is probable and, on balance potential harm to the OUV of the WHS would outweigh the benefits associated with the removal of the A303. The corridor may also adversely affect Nationally and Internationally (European) designated nature conservation sites including parts of Salisbury Plain SPA/SAC.' (NH 1.1., para 8.2.2.)

Again, NH has provided no evidence to support its assertions. Further, it has failed to acknowledge and accept the findings of the SoS with regard to the harm of the proposed scheme. It is frankly perverse for NH to suggest that the proposed scheme which involves the permanent and irreversible destruction of over 7ha of WHS would somehow be less harmful than a scheme which sits outside of the WHS itself and involves no permanent loss of its fabric.

5.6.2. Despite some disadvantages to the historic environment of a northern WHS bypass, such a route would obviously benefit the WHS by removing the A303 from the Site and obviating the need for permanent and irreversible harm as a result of the loss of over 7ha of the fabric of the WHS. The established military development in this area, including modern housing that has severely impacted on the newly discovered heritage assets at Larkhill, already adversely impacts the setting of the WHS and nature conservation sites. No costings or detailed analysis of impacts on the historic environment as compared with those of the Proposed Scheme have been provided for meaningful comparisons.

5.6.3. It is frankly perverse for NH to suggest that this option would cause substantial harm to the OUV of the WHS when it does not admit that its own proposed scheme (which includes significant irreversible destruction of the fabric of the WHS itself) would be substantially harmful.

6. Non-Expressway Alternatives

6.1. The last study to undertake a comprehensive assessment of options for improving transport links between London and South West England was the SWARMMS¹ project completed in 2002. This did support the dualling of the A303 throughout, as part of a multi-modal strategy that also included a range of other measures including rail electrification. The later study of options for the A303 by CH2M Hill² was very focused on road-based solutions and did not give serious consideration to non-road options. Clearly, the policy environment has changed radically since then with the commitment to reach net zero carbon emissions by 2050, the targets set in the Climate Change Committee's recommendations for the 6th carbon budget and the Decarbonising Transport White Paper, along with other policy changes. These are discussed in detail in a separate submission on transport, carbon and economics issues³. The Transport Decarbonisation plan⁴ summarises (on page 6) a key aim as follows:

‘improvements to public transport, walking and cycling, promoting ridesharing and higher car occupancy, and the changes in commuting, shopping and business travel accelerated by the pandemic, also offer the opportunity for a reduction or at least a stabilisation, in traffic more widely.’

This demonstrates the need to look beyond purely road-based solutions to transport problems on the A303 and elsewhere.

6.2. Unfortunately NH gave only cursory consideration to non-road alternatives, in the form of a Technical Note included as Appendix 8.5 to the Transport Assessment ([APP-297](#)). This Note correctly identifies rail as the mode likely to offer an alternative for the high proportion of medium and long distance trips using the route and identifies the London – Newbury – Taunton – Exeter and London – Salisbury – Exeter routes as the main rail alternatives. It then sets up a benchmark to establish how many trips would need to transfer from road to rail to remove the need for the road scheme. The measure used is the transfer of trips necessary to reduce the volume: capacity ratio (VCR) on the A303 to the level (0.53) that would apply with the road scheme in place. This is unrealistic and biased against non-road alternatives for several reasons:

- There would be significant spare capacity on the new dual carriageway, as shown by the low VCR (this is a consequence of the capacity enhancement created by building a dual carriageway) and there is no need for an alternative to achieve this level in order to resolve current and projected issues;
- It ignores the potential for local public transport, walking and cycling to remove *some* trips (albeit probably a minority);

¹ Government Office for the South West, “London to South West and South Wales Multi-Modal Study: SWARMMS Final Report”, 2002

² CH2M Hill, “A303/A30/A358 Feasibility Study”, Highways Agency, 2015

³ Stonehenge Alliance, “Transport, Carbon and Economic Issues”, submission on the Secretary of State’s SoM Bullet Pts. 2-4, April 2022

⁴ Department for Transport “Decarbonising Transport: A Better, Greener Britain”, 2021. The commitments referred to below are set out on pages 9 to 13

- It ignores non transport solutions; and
- As set out in the transport planning and economics submission, the traffic forecasts are themselves very uncertain and may well be over-stated.

The Appendix then argues that an additional three trains an hour would be needed to accommodate the extra rail demand. A realistic figure would be lower for the reasons above. It should also be noted that most trains between Salisbury and Exeter are currently only three cars in length and their capacity could be increased without running more trains. The Appendix then provides a simplified assessment of the proportion of journeys in the corridor that could transfer to rail. This is based on restrictive assumptions about the proportion of trips that could potentially transfer and very dated research on the interventions that would be needed for this to occur. Accordingly, NH has not provided robust evidence that non-road alternatives can be dismissed.

6.3. Since the Examination, Network Rail has published its Traction Decarbonisation Network Strategy, which includes electrification from Newbury to Exeter, Plymouth and Penzance as well as the route from Basingstoke to Exeter via Salisbury. Electrification makes rail journeys faster, smoother and more attractive, as well as more competitive for freight. The overarching Transport Decarbonisation White Paper states that ‘we will deliver an ambitious, sustainable, and cost effective programme of electrification guided by Network Rail’s Traction Decarbonisation Network Strategy’, so there is strong policy commitment to this strategy. In addition, new trains have been introduced on the route via Taunton.

6.4. In the past, a barrier to increasing train frequency has been the high level of utilization of rail routes into London during peak commuter periods. In future this will be less of an issue as more people work from home reducing the need for so many commuter trains – a trend that was emerging before COVID and has been accelerated by the pandemic. This offers more potential for additional longer distance trains without requiring expensive investment in the approaches to London. As rail becomes less dependent on commuters and more reliant on revenue from other journeys, the importance of encouraging more rail trips on routes such as to the South West becomes greater.

6.5. Capacity constraints also exist on the rail network further west. Most of the route between Salisbury and Exeter was reduced to single track in 1967 and capacity was reduced elsewhere in the second half of the 20th century. By reducing the journey time differential between fast and slow (stopping passenger and freight) trains, electrification helps ease capacity constraints. However, it is likely that capacity enhancements would also be needed, especially between Salisbury and Exeter.

6.6. In view of the above, alternatives to building a new Expressway should be seriously considered. It is likely that they would mainly focus on rail investment, including increased track capacity, but may also include complementary measures to improve local public transport and encourage active travel. These alternatives would be far more consistent with the Government’s Net Zero strategy, the need to re-build and expand rail ridership and the Bus Back Better policy. They could also deliver additional benefits to communities along the rail routes, as well as reducing traffic on the A303. The implementation of improved rail services would also encourage more use of rail for journeys that do not currently use this

section of the A303 and would support the government's overall ambition to increase rail ridership and reduce car use.

6.7. Any long term infrastructure solution (whether road or rail based) will take a considerable time to implement. Meanwhile, one of the great ironies is that traffic congestion close to Stonehenge is increased by 'rubbernecking' as drivers and their passengers choose to slow down to appreciate the view, instead of keeping their minds fixed on getting to their destinations as quickly as possible. So a short term coping strategy would be to adopt a speed limit of 20mph or 30mph through the WHS between the Countess and Longbarrow roundabouts which would facilitate those treasured free glimpses of Stonehenge from the road. This would probably reduce congestion by better regulating the traffic flow; it could help in alleviating the current situation and could form part of a longer term non-road based solution.

6.8. The climate emergency, subject of COP 26 in 2021, demands urgent reduction in carbon emissions. Transport is the highest carbon-emitting sector, while concrete manufacture also produces high carbon emissions – both key elements of the Proposed Scheme. (See: [The Sixth Carbon Budget: The UK's path to Net Zero](#) (December 2020), Fig. 2.1; and "[Concrete needs to lose its colossal carbon footprint](#)", *Nature* **597**, pp. 593-594 (2021). The 2021 Appeal Decision to refuse the Tulip tower development in London, impacting on the Setting of the Tower of London WHS, was partly owing to the high level of carbon emissions arising from construction of the central lift shaft. See para.44 of the decision letter which states:

'...However, overall the Secretary of State agrees with the Inspector, for the reasons given at IR14.99 to 14.102, that the extensive measures that would be taken to minimise carbon emissions during construction would not outweigh the highly unsustainable concept of using vast quantities of reinforced concrete for the foundations and lift shaft to transport visitors to as high a level as possible to enjoy a view.'

6.9. It is widely recognised that, without tax changes, the electrification of the road vehicle fleet will lead to a substantial drop in Government revenue from motor fuel duty and Vehicle Excise Duty. Although not current policy, road user charging is widely seen as the most effective way of plugging the gap. Almost any realistic user charging regime will be distance based and will therefore provide a disincentive to making long distance journeys by car, including on the A303. There is also considerable potential for the system to apply differential charges to further discourage car travel where congestion is expected, for example for peak period travel into city centres and on the A303 on summer weekends. In order for it to be fair and effective, a road user charging regime would need to work alongside investment in public transport and active travel. Charging would strengthen the case for the types of alternatives suggested above, as well as further weakening the case for expressway options.

7. Costs

7.1. Costs are mentioned under para 7.3.24 of the [TAR](#). The value of the Proposed Scheme is substantially bolstered by an inherently unreliable heritage contingent valuation survey (CVS) which only just allows the project to be financially viable, if at all (see [ExAR](#), paras. 5.17.108–110, 114, 117). A presentation in July 2021 by leading transport specialist Phil Goodwin (<https://stonehengealliance.org.uk/presentation-by-professor-phil-goodwin/>) recommends, for sound reasons, that the CVS should be re-run to obtain a more accurate result: we hope the Secretary of State will ensure this is done for all alternative options. It is noted that no comparative heritage CVS was undertaken for other, later-stage routes considered.

7.2. The Proposed Scheme was costed at £1.5bn to £2.4bn at 2016 prices ([National Audit Office Report \(20.5.19\)](#): Key Facts, p.4). The same NAO Report records, at para. 3.8: *“Highways England expects operation, maintenance and renewal costs of the project to be £524 million (2016 prices) over 60 years”*, a sum equivalent to £8.7m p.a. at 2016 prices. These cost estimates are now likely to be much higher. NH does not appear to have published an update to the likely costs. This should be published in order for the Secretary of State to take this into account when considering alternatives.

8. Summary and conclusions

8.1. The Applicant states, at NH 1.1., para 9.1.2, that

‘The alternatives were subject to a multi-criteria assessment considering the Client Scheme Requirements, national and local policies, and implications with regard to construction and civil engineering, traffic and operation, heritage, environment, programme and cost.’

This exercise has not been convincingly undertaken in respect of the heritage and environment, including archaeology, landscape and visual impacts, since comparative details on these key aspects have not been provided to the ExA, the SoS or Interested Parties. Common sense indicates that there would be advantages over the Proposed Scheme to the WHS of longer tunnels, a bypass or a non-road engineering solution.

8.2. We are advised (NH 1.1., para. 9.1.3) that

‘The cut and cover tunnel extension was rejected on the grounds that the [unspecified] balance of benefits and disbenefits would not justify the significant additional cost, over and above the cost of the Proposed Scheme.’

And, at NH 1.1., para 9.1.4, in respect of a longer bored tunnel,

‘There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.’

Although it is said, at NH 1.1, para 9.1.5, that

‘The location of the tunnel portal would require Longbarrow junction to be relocated to the west and to be changed to a compact, lower capacity junction not compliant with the design standards. Traffic forecasts since the previous assessment have further strengthened the Applicant’s reasons for dismissing this option on traffic and operational grounds.’

It is clear, however, that the above statements are not substantiated concerning benefits to the WHS. Furthermore, an applicant would not normally expect to obtain planning permission involving a poor outcome for a heritage asset of the highest significance because a better one is unaffordable.

8.3.. Bypass and longer tunnel options have been dismissed without comparative data despite the benefits they would bring to the WHS in comparison with the Proposed Scheme. Nor have non-expressway alternatives been adequately considered.

8.4. NH’s confidence that

‘the Proposed Scheme is an effective solution to the traffic problems along this notoriously congested section of the A303 and addresses a longstanding threat to the Integrity of the WHS by the removal of the intrusive sight and sound of traffic from much of the WHS landscape’ (NH 1.1, para.9.1.10)

is unjustified in respect of the threat the Proposed Scheme poses to the WHS, as understood by the World Heritage Committee ([2021 WHC Decision](#)) and by the Secretary of State in his Decision published on 12.11.20 (see [High Court Judgment](#), para. 279).

**National Highways: A303 Amesbury to
Berwick Down Project, Development
Consent Order Application**

Scheme Reference: TR010025

Any Other Matters

**Response to Secretary of State's call for further
representations on his Statement of Matters
Bullet Point 5**

for

**The Stonehenge Alliance
(Reference No. 2001870)**

Prepared by:

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4 April 2022

Response to Secretary of State’s call for further representations on his Statement of Matters Bullet Point 5: Any Other Matters

Introduction

With respect to issues considered under this heading, we refer to paragraph numbers in NH’s response, prefixed by “NH 1.5” unless otherwise indicated. As recognized by NH, two significant matters have arisen since November 2020: the 2021 Decision of the WHC and the outcome of the legal challenge to the Decision made by the SoS. Both matters are referred to in our comments below.

1. World Heritage Committee (WHC) [Decision 44 COM 7.B.61](#)

1.1. The Applicant states, in [NH 1.5](#), para. 1.2.6, that

‘the WHC is not a decision-making body set up to determine whether developments around the world are acceptable or not. Consequently, the views of the WHC should be treated as the views of a consultee, to be given appropriate weight by a decision maker.’

And, in para. 1.2.14, the Applicant states that ‘consenting of the Scheme would not justify inscription of the WHS on the List of World Heritage in Danger.’

The Applicant misunderstands the function of the WHC which is the *only* body which decides whether a WHS has integrity, authenticity and OUV, and whether inscription on the list of WH in Danger is justified. If the WHC should decide that a WHS has lost any of the relevant qualities, it can withdraw the WHS designation; it has threatened to do so in the present case, should the Scheme proceed unaltered. The UK Government has an obligation, under the WH Convention and the planning policy framework, to protect the WHS and its setting and thus not to jeopardize its designation. The WHC has indicated that the Scheme would lead to HMG not meeting that obligation. The WHC is, in this instance, a key consultee *and* decision-maker to whose views great weight must be given, as indicated in the [High Court Judgement](#) at para. 281:

‘ . . . the western cutting has attracted strong criticism from the WHC and interested parties at the Examination, as well as in findings by the Panel which the SST has accepted. These criticisms are reinforced by the protection given to the WHS by the objectives of Articles 4 and 5 of the Convention, the more specific heritage policies contained in the NPSNN and by regulation 3 of the 2010 Regulations.’

1.2. The Applicant states in NH 1.5, para.1.2.7,

‘The Scheme seeks to avoid and minimise adverse impacts on the Attributes that convey the OUV of the WHS, its Integrity and Authenticity, wherever possible, and to sustain the OUV of the WHS.’

And, in paras.1.2.13 and 1.2.14, points to the conclusion of its HIA that:

‘the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria.’

Critically, in the opinion of the WHC the Scheme does not sufficiently achieve these aims.

1.3. We address the issue of the longer tunnel options referred to by the WHC in our response to NH document *Response to Bullet Point 1 – Alternatives (Document reference: Redetermination - 1.1)*. However, we re-emphasise here, that NH has refused to take into account the Secretary of State’s damning conclusions on the heritage impact of the new road: these are listed at the Appendix to this submission. In this document (Redetermination - 1.5) and in its alternatives assessment, NH makes its submissions on the basis that there will be an overall benefit for the WHS. That is not what was found by the Secretary of State who found permanent and irreversible harm. There is no new evidence to discount or decrease the level of harm found, in fact recent evidence (as set out in the Appendix to this submission) makes clear that the harm was under-estimated by the Secretary of State. The fact that NH fails to engage with the Secretary of State’s findings demonstrates that its updated information is not fit for purpose.

1.4. The Applicant, in NH 1.5, para. 1.2.12, sees an ongoing opportunity for engagement ‘in regard to the Scheme and its impact on the OUV of the WHS’ between National Highways, the WHC and the WH Centre and its advisory bodies. We note, however, that item 10 of the [WHC’s Decision](#) states:

‘Notes furthermore the State Party’s commitment to ongoing engagement with the Committee, the World Heritage Centre, and ICOMOS, but also considers that it is unclear what might be achieved by further engagement unless and until the design is fundamentally amended’

Lack of fundamental amendment to the Scheme casts doubt on the likelihood of worthwhile ongoing engagement between National Highways and UNESCO bodies and advisers.

1.5. The Applicant, in NH 1.5, para. 1.2.14, states that the SoS did not find substantial harm. However, it fails to acknowledge the many and various damning findings of the Secretary of State (listed at Appendix, below), not least,

‘. . . the SST accepted the specific findings of the Panel on the harm to the settings of designated heritage assets (e.g. scheduled ancient monuments) that would be caused by the western cutting in the proposed scheme. He also accepted the Panel’s specific findings that OUV attributes, integrity and authenticity of the WHS would be harmed by that proposal. The Panel concluded that that overall impact would be “significantly adverse”, the SST repeated that (DL 28) and did not disagree . . .’ (High Court Judgment, para. 279

1.6. In respect of the Applicant’s position concerning a potential breach of the WH Convention as set out in NH 1.5, para. 1.2.15, we make the following comments.

1.6.1. Para. 217 of the High Court Judgement correctly states that

‘the SST was entitled to decide that the policy approach in paragraphs 5.133 and 5.134 of the NPSNN (read together with the surrounding paragraphs) is compliant with the Convention.’

The same paragraph continues:

‘That is a tenable view. If I had to decide the point of construction for myself, I would still conclude that those policies are compliant with the Convention . . .’.

The fact that NPSNN policies are compliant with the Convention, however, does not mean that there is no breach of the Convention in this case. Nor, does it mean that the WHC will not downgrade the status of the WHS. In fact, all of their recent decisions indicate or make clear that to go ahead with the scheme presents a serious risk that the WHS will be placed on the list of ‘world heritage in danger’. This is what happened to the Liverpool WHS before its world heritage status was finally removed. We refer again to the High Court Judgement at para. 281 (quoted above under our 1.1, above):

‘. . . the western cutting has attracted strong criticism from the WHC and interested parties at the Examination, as well as in findings by the Panel which the SST has accepted. These criticisms are reinforced by the protection given to the WHS by the objectives of Articles 4 and 5 of the Convention, the more specific heritage policies contained in the NPSNN and by regulation 3 of the 2010 Regulations.’

1.6.2. The Applicant refers to para. 220 of the High Court Judgement but apparently fails fully to take note of the final sentence:

‘I also note that in its Guidance on Heritage Impact Assessments for Cultural World Heritage Properties, ICOMOS accepts that a balance may be drawn between the "public benefit" of a proposed change and adverse impacts on a WHS (para. 2-1-5).’

The guidance is that a balance may be drawn, but only between *public benefit* and adverse impacts on a WHS. In relation to this Scheme the public benefit is heavily outweighed by the adverse impacts upon the WHS and other heritage assets.

1.6.3. The High Court Judgement goes on to state, at para. 282:

‘. . . this is not a case where no harm would be caused to heritage assets (see Bramshill at [78]). The SST proceeded on the basis that the heritage benefits of the scheme, in particular the benefits to the OUV of the WHS, did not outweigh the harm that would be caused to heritage assets. The scheme would not produce an overall net benefit for the WHS. In that sense, it is not acceptable per se. The acceptability of the scheme depended upon the SST deciding that the heritage harm (and in the overall balancing exercise all disbenefits) were outweighed by the need for the new road and all its other benefits. This case fell fairly and squarely within the exceptional category of cases identified in, for example, Trusthouse Forte, where

an assessment of relevant alternatives to the western cutting was required (see [269] above).'

And at paras. 283–4:

'283. The submission of Mr. Strachan QC that the SST has decided that the proposed scheme is "acceptable" so that the general principle applies that alternatives are irrelevant is untenable. The case law makes it clear that that principle does not apply where the scheme proposed would cause significant planning harm, as here, and the grant of consent depends upon its adverse impacts being outweighed by need and other benefits (as in para. 5.134 of the NPSNN).

284. I reach that conclusion without having to rely upon the points on which the claimant has succeeded under ground 1(iv). But the additional effect of that legal error is that the planning balance was not struck lawfully and so, for that separate reason, the basis upon which Mr. Strachan QC says that the SST found the scheme to be acceptable collapses.'

It is primarily for these reasons that ground 5(ii) of the legal challenge was upheld and the SoS's Decision to approve the Scheme was found to be unlawful.

1.7. In view of these findings by the Secretary of State, it would be a matter of some interest to learn whether Historic England and the National Trust remain of the opinion that there would be overall benefit to the WHS as a result of the Scheme.

1.8. The Applicant, in its discussion of this matter, has failed to point out that the WHC warned in its 2021 Decision that, should the DCO be granted, there could be inscription on the List of World Heritage in Danger and potential loss of WH status for the WHS. This would include Avebury, the other part of the same WHS. The relevant Items of the Decision are:

'11. Regrets that the Development Consent Order (DCO) has been granted for the scheme; and therefore, further considers in conformity with Paragraph 179 of the Operational Guidelines that the approved A303 improvement scheme is a potential threat to the property, which - if implemented - could have deleterious effects on its inherent characteristics, notably to its integrity;

12. Notes moreover that in the event that DCO consent was confirmed by the High Court, the property warrants the inscription on the List of World Heritage in Danger;'

The DCO was quashed by the High Court. Nevertheless, the WHC's threat of placing the WHS on the List of WH in Danger continues should the SoS grant a DCO following redetermination. Without fundamental amendment, the Scheme poses a major threat to a heritage asset of the highest significance in NPSNN terms. That the WHC is capable of and willing to remove WHS status is underlined by loss of status for Liverpool Maritime Mercantile City WHS in 2021: a major disgrace for the UK Government.

Appendix

Findings of the Secretary of State concerning the Proposed Scheme

In short, the Secretary of State has found:

- a. The Scheme represents ‘the greatest physical change to the Stonehenge landscape in 6000 years and a change which would be permanent and irreversible, unlike a road constructed on the surface of the land’ (para 258 of the High Court Judgment and para 5.7.225 ExAR and adopted by SoS at his Decision Letter (DL)[10]);
- b. The overall impact to the WHS (i.e. once benefits have also been taken into account) would be ‘significantly adverse’ (para 279 High Court Judgment);
- c. The scheme would not produce an overall net benefit for the WHS and, in that sense, it is not acceptable *per se* (para 282 High Court Judgment);
- d. There would be net harm to OUV attributes, integrity and authenticity of the WHS (para 285 High Court Judgment);
- e. Attributes (3), (5) and (6) of the OUV would suffer ‘major harm’ (para 97 High Court Judgment and ExAR 5.7.227-229 and adopted by SoS at DL[10]);
- f. ‘Irreversible harm would occur, affecting the criteria for which the Stonehenge, Avebury and Associated World Heritage Site was inscribed on the World Heritage List’ (PR 5.7.326 cited at para 103 High Court Judgment)
- g. The Longbarrow Junction falls firmly within the settings of the WHS as a whole and of asset groups 12 and 13 (ExAR 5.7.241). Seen from above, the Longbarrow Junction would ‘dwarf all other individual features, including the Stones’ (ExAR 5.7.243 and adopted by SoS at DL[10]). Further its broad geometric outlines would be evident at surface level and would ‘appear at odds with the surrounding smaller scale morphology of rectilinear fields and small groupings of traditional buildings’ (ExAR 5.7.224 and adopted by SoS at DL[10])
- h. ‘The Junction, together with the cutting leading to the western portal, represents a single, very large, continuous civil engineering undertaking, spanning the western boundary of the WHS. Given the arbitrary nature of the boundary and the underlying expansive and unified character of the cultural landscape, the junction would have effects on the OUV similar to those described for the cutting and western portal.’ (ExAR 5.7.245 and adopted by SoS at DL[10])

- i. 'The harm [caused by the Longbarrow Junction] reflects that caused by the cutting on the OUV, including a continuation of the harm to the Wilsford/Normanton dry valley. Also, the harm to the overall assembly of monuments, sites, and landscape through major excavations and civil engineering works, of a scale not seen before at Stonehenge. Whilst the existing roads could be removed at any time, should a satisfactory scheme be put forward, leaving little permanent effect on the cultural heritage of the Stonehenge landscape, the effects of the proposed junction would be irreversible.' (ExAR 5.7.247 and adopted by SoS at DL[10])
- j. The OUV of the WHS would be harmed by 'potentially serious loss of assets...because of the civil engineering excavation works' (ExAR 5.7.308 and adopted by SoS at DL[10])
- k. The Secretary of State has 'serious concerns regarding the effects of elements of the Proposed Development on the OUV of the WHS, and on the cultural heritage and the historic environment of the wider area' (ExAR 5.7.207 and adopted by SoS at DL[10])
- l. The western part of the WHS would be 'seriously disturbed by the intervention of the cutting and the western portal' (ExAR 5.7.217 and adopted by SoS at DL[10]);
- m. The presence and scale of the cutting would be much greater than shown in Highways England's 'Western Cutting Zone of Theoretical Visibility study' [REP7-025] (ExAR 5.7.223 and adopted by SoS at DL[10])
- n. Whilst much harm arises from the effect of existing roads including the A303 'the roads could be removed at any time, should a satisfactory scheme be put forward, just as the A344 was removed, leaving little permanent effect on the cultural heritage of the Stonehenge landscape.' (ExAR 5.7.224 and adopted by SoS at DL[10])
- o. The eastern portal and cutting would 'harm the landscape values of the OUV. In addition, the Countess barrows would be a little nearer the line of the road than at present, having a slight negative effect on the OUV. However, the main danger to Blick Mead would be harm or loss to Mesolithic remains through changes in patterns of ground water, which could give rise to enormous damage...' (ExAR 5.7.256 and adopted by SoS at DL[10])
- p. The Secretary of State found the following overall effects to each of the OUV attributes (ExAR 5.7.307-313 and adopted by SoS at DL[10]):

Attribute 1: Stonehenge itself as a globally famous and iconic monument.
The tunnel would remove the intrusion of trunk road traffic, allow partial reunification of the WHS, and reconnection of the Avenue. However, the

recognised importance of Stonehenge would suffer were the major permanent and irreversible engineering works proposed to take place within the WHS and its setting.

Attribute 2: The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites. The tunnel would allow preservation of the monuments and sites under which it would pass and prevent any further traffic damage arising from the surface roads. However, potentially serious loss of assets could occur because of the civil engineering excavation works.

Attribute 3: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape. The removal of the existing road would enhance the settings of sites and monuments, reunify much of the landscape, and reunite the Avenue. However, this would be at the expense of the intervention of major engineering works in the Wilford/Normanton dry valley, both within and to the west of the WHS, which would irreversibly harm the landscape of the WHS including the settings of monuments either side of the valley, the site of the Early Bronze Age route to Stonehenge, flanked by significant arrays of monuments, as well as the wider setting of the landscape.

Attribute 4: The design of Neolithic and Bronze age funerary and ceremonial sites and monuments in relation to the skies and astronomy. The Proposed Development would enhance this Attribute through the removal of surface traffic and light pollution which can interfere with appreciation of solstice events and the night sky.

Attribute 5: The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other. The removal of the road would lead to the reunification of much of the landscape, to an extent restoring the relationships of sites and monuments to each other. However, this would be at the expense of much more fundamental spatial severance and visual disturbance to the relationship of monument groups either side of the Wilford/Normanton dry valley, and the significant space they create between them, and to the setting of the WHS as a whole caused by the intervention of the Longbarrow Junction.

Attribute 6: The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel. The removal of the road and the reunification of much of the landscape, together with the reconnection of the Avenue, would benefit aspects of the landscape assembly of sites, monuments and their interrelationships, whilst the associated engineering works would substantially harm other aspects. In the ExA's view, the benefits would not outweigh the harm arising from the excavation of a deep, wide cutting and other engineering works, within the WHS and its setting, of a scale and nature not previously experienced historically in this 'landscape without parallel'.

Attribute 7: The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others. Whilst the present road intrusion would be removed, in the ExA's view, the aesthetic and spiritual damage would be profound and irreversible.

- q. With regards to integrity the Secretary of State found that the proposed development would compromise the opportunity to enhance the integrity or intactness of the WHS 'because of the location of the Longbarrow Junction, an extremely large engineering structure alien to the WHS OUV, at or near an area which might be integrated into the WHS. This would be in addition to the harm to integrity arising from the continuation of the Junction's road system as a cutting into the WHS, introducing irreparable spatial division and harming understanding, into the WHS.' (5.7.315 ExAR and adopted by SoS at DL[10])
- r. With regards to authenticity the Secretary of State found:
- 'The authenticity of the WHS would be enhanced by the removal of the surface roads which confuse its ability to clearly and credibly express its cultural values through the attributes noted. However, the Proposed Development would bring a deeper and permanent confusion, through fundamentally altering the assembly which conveys understanding of the historic use of the landscape and its relationships of location and setting, and would thereby inhibit access to the spirit and feeling of the WHS.' (ExAR 5.7.319 and adopted by SoS at DL[10])
- 'The Proposed Development would seriously harm the authenticity of the WHS.' (ExAR 5.7.320 and adopted by SoS at DL[10])
- s. Overall the Secretary of State found:
- 'The Proposed Development would benefit the OUV in certain valuable respects, especially relevant to our present generation. However, permanent irreversible harm, critical to the OUV would also occur, affecting not only our own, but future generations. The benefits to the OUV would not be capable of offsetting this harm. The overall effect on the WHS OUV would be significantly adverse.' (ExAR 5.7.321 and adopted by SoS at DL[10])

