From: Woodhouse, Helen
To: A303 Stonehenge

Cc: <u>Harries, Beth; Barrett, Rebecca; Owen-John, Henry; Wiseman, Andrew;</u>

Subject: A303 Stonehenge TR010025: Historic England"s (HBMCE) Deadline 6 Submissions

Date: 26 July 2019 21:16:30

Attachments: TR010025 HBMCE Responses to Ex A Ouestions for Deadline 6 - 26 July 2019.pdf

Dear Sir/ Madam,

Application by Highways England for an Order Granting Development Consent for the A303 Amesbury to Berwick Down

References: TR010025 - 20019871

Deadline 6 Submission

As referred to in our Written Representations, the Historic Buildings and Monuments Commission for England is generally known as Historic England. However, due to the potential for confusion in relation to "HE" (Highways England and Historic England), we have used "HBMCE" in our formal submissions to the examination to avoid confusion.

Please find attached the following submissions on behalf of Historic England (HBMCE) in relation to the above application:

• HBMCE's Responses to the ExA's Written Questions issued on 5 July 2019.

We note that there are a number of documents (DAMS, dDCO, Mitigation Schedule etc.) which are proposed to be updated and will comment on these as appropriate following their submission.

As set out in our Written Representations we are the Government's statutory adviser on all matters relating to the historic environment, including world heritage. We have therefore sought to focus on advising the Examining Authority on those pertinent matters that will assist and inform the Examining Authority's understanding of the implications to the historic environment arising from the scheme. To that end, we do not intend to engage in providing commentary on the documentation submitted by other parties with regards to documents submitted and received to Deadline 5. This should not however be taken that an absence of comment is implicit agreement with comments made.

SoCG

 We are pleased to note that good progress continues to be made in discussions on the SoCG, and that following conversation with Highways England this week we understand that an updated version is now due to be submitted at Deadline 7.

Hearings

 We note that the Examining Authority has confirmed that further hearings will be held on 21, 22, 29, 30 August. As with the previous hearings, we would attend and engage with these hearings as appropriate and look forward to receiving the agendas. Due to the holiday period, if these

- agendas could be sent out as soon as possible that would be greatly appreciated.
- As previously indicated in correspondence, Mr Henry Owen-John (our Head of International Affairs) is not available other than on 29 August. Should therefore any issue arise regarding the recent World Heritage Committee decision we would seek to respond to this in writing and would trust that this is acceptable.

Accompanied Site Visit

 We would also provide a representative, as appropriate, to attend the site visit which is proposed for 29 August.

Should you have any queries regarding our submission, please do not hesitate to contact me.

I should be grateful if you would confirm receipt of our documents.

Yours faithfully,

Dr Helen Woodhouse Team Leader - Development Advice Regions Group

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RESPONSES TO THE WRITTEN QUESTIONS OF THE EXAMINING AUTHORITY FOR DEADLINE 6 (26 July 2019)

ON BEHALF OF THE

HISTORIC BUILDINGS AND MONUMENTS COMMISSION FOR ENGLAND

(HISTORIC ENGLAND)

("HBMCE")

Application by

Highways England for an Order granting Development Consent for the A303 Amesbury to Berwick Down

PINS Reference No: TR010025

HBMCE Reference No: 20019871

ExA Question Ref & Topic:	Question for:	<u>Question</u>
DCO.2 Draft Developmen	t Consent Order (dDCO)	
DCO.2.14	Wiltshire Council	Article 7 –Limits of deviation
	National Trust Historic England	Please indicate whether there are any outstanding concerns, for example, in relation to whether provision should be made for consultation with stakeholders before the proposed LoD for the tunnel could be invoked or whether any other drafting amendments are sought in relation to Article 7?

As the Examining Authority will be aware from our response to the d2DCO on 21 June, we raised a number of points regarding the limits of deviation – see paragraphs 105 – 125 of our submission. However, these points in effect coincided and crossed with the updated version of the dDCO submitted by Highways England on the same date. We note that an updated version of the dDCO is due to be submitted on 26 July and would hope that our earlier submissions will have been considered and addressed as appropriate in redrafting Article 7 in this updated version. We reserve our position to make further comment if our issues remain unaddressed.

DCO.2.23	National Trust	Article 15 – Authority to survey and investigate land
	Historic England	Please indicate whether there are any outstanding concerns as regards the regulation of any intrusive surveys that would be allowed by this article under the relevant measures in the OEMP [REP4-020] and DAMS [REP4-024].

As the Examining Authority will be aware from our response to the d2DCO on 21 June, we set out in paragraphs 140-143 our comments on this draft Article. However our submission coincided and crossed with the updated version of the dDCO submitted by Highways England on the same date. We note that an updated version of the dDCO, is due to be submitted on 26 July. We would hope that our earlier submissions will have been considered and addressed as appropriate in this updated version. We reserve our position to make further comment if our issues remain unaddressed.

DCO.2.26	Wiltshire Council	Article 22 – Compulsory Acquisition of Rights
	National Trust Historic England	Please indicate whether there are any outstanding concerns as regards the power to impose restrictive covenants on groundworks on land above the tunnel and the implications that might have for archaeological investigations in the WHS.

HBCME Response:

We commented on the need to ensure the potential to undertake archaeological research in the land above the tunnel in paragraphs 111-115 of our response to the d2DCO on 21 June. Discussions continue with Highways England to address the concerns raised and identify an acceptable solution to enable archaeological work to continue without affecting the stability of the tunnel. We would hope to update the Examining Authority in due course.

DCO.2.37	Wiltshire Council	Requirement 3 (1) and (2) -Preparation of detailed design etc.
	National Trust Historic England	The Applicant's DL4 written summary of oral submissions put at the DCO hearing on 4 June 2019 [REP4-029] indicates that the updated OEMP includes further design commitments, design principles and a stakeholder consultation mechanism that has emerged from ongoing
		i. Please provide an update on those ongoing discussions with the Applicant in relation to such matters and indicate whether it is agreed that the dispute mechanism proposed in section 4 of the updated OEMP would be adequate?
		ii. Should matters such as design principles, stakeholder consultation and dispute mechanisms be the subject of specific DCO Requirements or does their inclusion within the OEMP provide adequate safeguards?
Преме респектов		iii. Are those design-related matters as set out in the OEMP sufficiently precise and detailed to be readily enforceable or are any further drafting changes sought?

As the Examining Authority will be aware from our response to the d2DCO on 21 June, we set out in paragraphs 182-183 our comments on this draft Requirement. However, our submission coincided and crossed with the updated version of the dDCO submitted by Highways England on the same date. We have continued to discuss the development of the OEMP with Highways England through heritage design meetings and note that an updated version of the dDCO is due to be submitted on 26 July. We would hope that our submission will have been considered and addressed as appropriate in this updated version and will also

continue to contribute to discussion to enhance and refine the design principles in conjunction with the design commitments included in the OEMP. We understand that an updated version of the OEMP is also due to be submitted on 26 July and similarly would hope that those continued discussions will have influenced its further development.

Until we have considered how the revised OEMP reflects the continued discussion following submission of the previous version at Deadline 4 involving stakeholder consultation, dispute mechanisms and design related matters), we are unable to provide our final view on these matters or on how readily these might be enforced under the Scheme, but would hope to update the Examining Authority in due course.

DCO.2.39	Historic England	Requirement 3 (1) and (2) –Preparation of detailed design etc
		Please provide further details of your proposal for a design parameters document.

As the Examining Authority will be aware from our comments at Deadline 4 regarding the OEMP, we set out in sections 5-7 our advice regarding the heritage-led approach that was needed to inform the detailed design of the Scheme (the basis for a robust approach to design parameters).

HBMCE are continuing to discuss with Highways England the further development of the Design Principles and Design Commitments included in the OEMP.

Design Parameters should provide the basis for delivering scheme aspirations and vision. They should set out the requirements for the necessary details to achieve that vision. In relation to this Scheme, this is particularly pertinent because we would expect the design parameters to have the international importance of the WHS at its core, in line with the Department for Transport's cultural heritage objective for the Scheme. We understand that an updated version of the OEMP is due to be submitted on 26 July. We would hope that our previous comments on the OEMP and subsequent advice through heritage design meetings will have been considered and reflected in this updated version as the basis for further discussion.

HBMCE would therefore ask the Examining Authority to note that further discussions are on-going at this time regarding this issue in order to address the concerns raised.

DCO.2.40	Wiltshire Council	Requirement 3 (1) and (2) –Preparation of detailed design etc.
	National Trust Historic England	The Applicant's response to ExQ1DCO.1.81 (ii) recognises the need to give key stakeholders confidence that the detailed design of the scheme would be carried out appropriately [REP2-030].
		i.Please provide an update as regards the discussion of an appropriate mechanism to achieve the matters 1, 2 and 3 set out in that response and indicate whether any further changes to the updated OEMP[REP4-020]are envisaged in that respect.
		ii.Please comment as to the merits of a specific design parameters document over and above the various design commitments and principles specified within the updated OEMP that would be secured by a specific DCO Requirement?

HBMCE would ask the Examining Authority to note that further discussions are on-going at this time regarding this issue in order to address the concerns raised, and that consequently we are unable to provide our final view on these matters at this time, but would hope to update the Examining Authority in due course. We would refer the Examining Authority in addition to our responses to DCO.2.37 and DCO.2.39.

DCO.2.43	Wiltshire Council	Requirement 4 –Outline Environmental Management Plan
	National Trust	The Applicant's DL4 written summary of oral submissions put at the DCO
	Historic England	hearing on the 4 June 2019[REP4-029], refers to the amended OEMP submitted at DL3 and the provision for consultation contained
	English Heritage	therein[REP3-006].
	Environment Agency	Do the parties have any outstanding concerns in this respect and would the provision for consultation be satisfactorily secured by the dDCO Requirement 4?

As the Examining Authority will be aware from our response to the d2DCO on 21 June, we set out in paragraph 184 our comments on this draft Requirement. However our submission coincided and crossed with the updated version of the dDCO submitted by Highways England on the same date. We note that an updated version of the dDCO is due to be submitted on 26 July and would hope that our submission will have been considered and addressed as appropriate in this updated version. As noted in our submission discussions continue on this matter between HBMCE and Highways England, and also discussions are taking place through heritage design meetings on the OEMP in which regard we would refer the Examining Authority to our response to DCO.2.37 in relation to on-going consultation. We reserve our position to make further comment if our issues remain unaddressed.

DCO.2.48	Historic England	Requirement 4 –Outline Environmental Management Plan
		The Applicant's DL4 written summary of oral submissions put at the DCO hearing on the 4 June 2019[REP4-029] refers to section 4 of the updated OEMP and the mechanism set out therein for consultation on aspects of the detailed design within the WHS.
		Does this provide a sufficiently clear mechanism or is there an alternative mechanism that would be preferable?

HBMCE Response:

HBMCE would refer the Examining Authority to our response above to question DCO.2.43. We remain in discussion with Highways England in relation to how we can best fulfil our statutory role and the level of our engagement in the various elements of the Scheme, including development of the detailed design. We would hope to update the Examining Authority on the progress of that discussion in due course. We reserve our position to make further comment if our issues remain unaddressed.

DCO.2.51	Wiltshire Council	Requirement 4 –Outline Environmental Management Plan
	National Trust Historic England	There has been concern expressed by various parties as regards the lack of control over the design of lighting at the tunnel portals.
	Flistofic Effgialia	Does the updated OEMP provide sufficient controls in that respect and/or should the approval of the design of the lighting scheme specifically be the subject of a dDCO Requirement?

In our Written Representations (7.6.24) HBMCE indicated that whilst it is possible that some aspects of lighting for the Scheme might be comfortably addressed at Detailed Design Stage, sufficient indication of the parameters for decision making must be subject to Examination. We advised that this might be addressed through production of a lighting strategy for the Scheme. In relation to the tunnel portals specifically (7.6.50) we advised that clarification regarding how light levels will be managed at these points in the landscape to avoid any harm to Attribute 4 of the OUV of the WHS. Subsequently HBMCE have continued through heritage design meetings in relation to the OEMP to discuss the provision for lighting design at the tunnel portals and elsewhere where there is potential for the WHS to be affected. We understand that an updated version of the OEMP is due to be submitted on 26 July and would hope that these issues will have been addressed as appropriate in this updated version. We would hope to update the Examining Authority further on this matter in due course once we have reviewed the updated OEMP. We reserve our position to make further comment if our issues remain unaddressed.

DCO.2.52	Wiltshire Council	Requirement 4 –Outline Environmental Management Plan
	National Trust Historic England	The Applicant's DL4 written summary of oral submissions put at the DCO hearing on the 4 June 2019[REP4-029]refers to the consultation which has taken place on the detailed design of the public rights of way within the WHS and the further details and commitments in that respect set out in the updated OEMP submitted at DL3[REP3-006]. i. Please indicate whether these design commitments and principles are agreed and considered to be sufficiently precise and comprehensive or do they require further amendment? ii. Does the OEMP, as secured by Requirement 4, provide a satisfactory means of achieving these aims or is it considered that a further specific Requirement in relation to this matter is necessary?

In our Written Representations (7.6.67-71) HBMCE highlighted the need for further information regarding the design of PRoWs to ensure that the approach was appropriate and sensitive to the historic landscape. We indicated that discussion on the design approach would continue as part of the iterative discussion of design principles during the Examination period. Subsequently HBMCE have continued through heritage design meetings in relation to the OEMP to discuss the PRoW design and how the needs of the various user groups can be balanced with the need for appropriate management of the rights of way whilst ensuring in all cases that the final design reflects and responds to the international significance of the landscape. We understand that an updated version of the OEMP is due to be submitted on 26 July and would therefore hope to update the Examining Authority further on this matter in due course once we have reviewed the updated OEMP. We would ask the Examining Authority to note that discussions

continue on this matter between HBMCE and Highways England through heritage design meetings on the OEMP.

DCO.2.64	Wiltshire Council	Requirement 11 -Details of consultation
	National Trust	Are there any outstanding concerns as regards the provision for
	Historic England	consultation with relevant stakeholders and the means whereby this would be secured by the dDCO?
	English Heritage	
	Environment Agency	

As the Examining Authority will be aware from our response to the d2DCO on 21 June (paragraph 191) this was a new provision in the d2DCO. We understand that the Council, in their "Response to Highways England Comments on Deadline 3 submissions" at paragraph 2.11 refer to the draft DCO for the A303 Sparkford to Ilchester Scheme and that within this draft DCO requirement 5 in Schedule 2 part 1 has provisions relating to "details of consultation". This provides that the report to be submitted to the Secretary of State must set out the consultation undertaken, the response of the undertaker to that consultation and enclose a copy of all consultation responses. This would appear to provide greater clarity around the consultation process and may be a necessary provision to consider further.

In addition to this HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role. There would need to be engagement with HBMCE to provide assistance in ensuring that the appropriate safeguards for the historic environment are in place in the dDCO. Further discussions will be required regarding the extent of engagement including in relation to what would constitute an appropriate consultation mechanism in this situation and its form in the DCO. We would hope to update the Examining Authority on the progress of that discussion in due course.

We reserve our position to make further comment if our issues remain unaddressed.

CH.2 Cultural heritage		
CH.2.1	The Applicant	Consultation/ agreement/ approval
	All Interested Parties	The ExA considers that every effort should be made to reach agreement with Heritage Monitoring Advisory Group (HMAG) and Wiltshire Council Archaeology Service (WCAS) on the form and content of the Detailed Archaeological Mitigation Strategy (DAMS)[REP4-024]. In the event of disagreement, it considers that the statutory bodies should fulfil their normal role in having the final decision on the form and content of the DAMS. Given the unsurpassed international importance of the site it is vital that this role remains with the nationally authorised statutory bodies, who carry the greatest expertise and who operate in a completely independent and objective manner. Similarly, during the preliminary and main works, with regard to fieldwork issues of mitigation, unexpected finds, the signing off of sites, and so on, every effort should be made to reach agreement. In the event of a dispute, it is unlikely that reference to the SoS would be practicable and it considers that the statutory bodies should again fulfil their normal role. The statutory role of Wiltshire Council and Historic England is confirmed in the DL4 version of the DAMS.
HBCME Response:		Please comment.

The three discrete roles of HBMCE have been set out in section 2 of our Written Representations, and within this section we set out

the basis for HMAG (and the Scientific Committee) – see paragraphs 2.21 -2.28. Those roles were also reflected in our responses to the ExA Questions at CH.1.30 which reiterated our statutory responsibilities and powers as a statutory consultee and as adviser in relation to the WHS.

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role. We note that the Examining Authority have recognised that the statutory bodies should fulfil their normal role: "it is vital that this role remains with the nationally authorised statutory bodies, who carry the greatest expertise and who operate in a completely independent and objective manner".

Discussions continue between HBMCE and Highways England in relation to stakeholder consultation and dispute mechanisms. We are therefore unable to provide our final view on these matters at this time, but would hope to update the Examining Authority in due course.

HBMCE is also involved in HMAG, as was made clear in our Written Representations, but HMAG does not represent HBMCE and cannot fetter its statutory powers.

As a member of the group known as HMAG we would agree that it is a positive and productive forum for discussion between the Applicant, the statutory consultees (Wiltshire Council and HBMCE), The English Heritage Trust, and the National Trust regarding the DAMS. Together with input from the Scientific Committee (where appropriate), the forum of HMAG provides helpful opportunities for problem solving discussion and facilitates scope for informal agreement on the form and content of the DAMS. In this respect, regular meetings are making progress in doing so.

HBMCE consider that, in our statutory role, it is appropriate for us jointly with Wiltshire Council (as local planning authority) to provide independent confirmation to the Examining Authority (and through it to the Secretary of State) that the final version of the

DAMS document is appropriate and proportionate in relation to international obligations, the requirements of national policy (NPSNN 5.140) and all relevant published guidelines and standards.

As noted above, discussions continue with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in other elements of the Scheme. We would hope to update the Examining Authority on the progress of that discussion in due course.

CH.2.5	The Applicant	Archaeological loss
	All Interested Parties	Please confirm the location and area of land which would be archaeologically sterilised under the Proposed Development

HBMCE Response:

HBMCE notes that this question is posed to the Applicant and All Interested Parties. It may be more appropriate at this juncture for the Applicant to respond in relation to the technical details of its Scheme before HBMCE can be in a position to comment in full.

CH.2.6	The Applicant	Geophysical techniques
	All Interested Parties	Discuss the reliability of the investigation results of different geophysical techniques and the need to compare data sets across different techniques.

Section 7.5 of the HBMCE Written Representations dealt with the "gaps and sufficiency of information", and paragraph 7.5.4 commented more specifically on geophysical matters and the further work to be done at that stage. The purpose of the geophysical survey conducted to date in relation to the Scheme has been several fold: to inform the understanding of the historic landscape and extent of preservation of archaeological remains within the DCO limits; inform the assessment of the impact of the Scheme on archaeological remains and other designated and non-designated heritage assets affected by the Scheme; inform the approach to avoidance and minimisation of those impacts; and where this is not possible their appropriate and proportionate mitigation.

The Scheme traverses an internationally important and inscribed prehistoric landscape, and therefore the results of this work have potential to contribute to international research agendas. Consequently as part of the drafting for the DAMS a research framework is in development to guide the archaeological mitigation of this development Scheme, including in relation to the results of the geophysical surveys.

The Stonehenge WHS has over the years attracted a large amount of archaeological research including large areas of geophysical survey and the results of these have potential to contribute to the development of that research agenda.

The geophysical programme has included both magnetometry and GPR as well as earth-resistance surveys. Magnetometry can cover large areas rapidly, but the GPR coverage necessarily has to be more targeted as it is not possible to match the rate of

magnetometer survey. Both techniques have been demonstrated to work well on the predominantly chalk geology and are consequently considered reliable and tested for their application in this landscape and as part of a methodology for non-intrusive investigation as part of a large development scheme. For the current scheme, the area covered by GPR and/or earth resistance is a relatively small fraction of the area covered by the magnetic survey and often focused on monuments already identified by the latter.

The complementarity of different geophysical techniques and the need to use more than one technique to improve reliability of interpretation are well known (English Heritage 2008, Figure 7, p24). It would therefore be productive to overlay and compare the interpretations where more than one technique has been used, informed by the differences in what has been detected with different techniques, with the excavation evidence.

In addition, sampling theory dictates the smallest anomaly that can be detected with a given sample interval and it has been shown that in archaeological prospecting the resolution of smaller pit and post hole features is demonstrably improved as sample resolution increases (Linford et al. 2007; English Heritage 2008, Fig 6).

Given the recognised high potential for features of this type and size within the DCO limits, the development of the DAMS has taken account of the potential for smaller features to be identified as part of the archaeological mitigation that were not identified by the geophysical surveys. Accordingly appropriate mitigation measures are included in the DAMS that reflect the understanding of the potential for further archaeological remains to be identified during the intrusive work related to the Scheme. A comparison and holistic interpretation of the geophysical survey results with the results from other investigative techniques conducted to date also forms a means to target and focus the development of individual SSWSIs.

References cited;

English Heritage 2008 Geophysical survey in archaeological field evaluation, second edition. Swindon, English Heritage.

Linford, N, Linford, P, Martin, L and Payne, A 2007 'Recent results from the English Heritage caesium magnetometer system in comparison to recent fluxgate gradiometers'. Archaeological Prospection, 14 (3), 151-166.

All Interested Parties	At the ASI it was clear that, despite the early summer foliage, visibility and aural connection exists between these historic assets and areas to the parth. During autumn and winter, with the loss of
	and areas to the north. During autumn and winter, with the loss of foliage, the visual and aural link is almost certain to be greater. In any event, we cannot be sure the tree screen will remain in its present form. The settings of the assets, therefore, extend to the north and, at present, contribute to their significance through the enclosing backdrop they offer. The Proposed Development may well harm the settings of these historic assets through greater visual prominence of traffic which would be elevated on the flyover, even if noise levels are contained. Also, as was clear at the site visit that the eastern portal, from which traffic would emerge on a rising incline, would be visibly intrusive, particularly at night with upward angled headlights. It would be likely to have an impact on the existing character and
	significance of Vespasian's Camp. Please comment.

In our Written Representations (7.6.98) HBMCE noted both the negative effect of the proposed raised highway on the significance of the Amesbury Abbey Grade II* Registered Park and Garden as well as in relation to other designated heritage assets. As the Examining Authority have identified the existing road is visible from within both the registered park and garden and the scheduled

monument of Vespasian's Camp.

HBMCE continue to discuss the development of the design principles in relation to the Scheme with Highways England through heritage design meetings. In our comments on the OEMP (5.2) submitted on 21 June 2019 HBMCE advised that the Design Principles should cover the entirety of the Scheme, not just the WHS (We would refer the Examining Authority in addition to our response to DCO.2.39 on this point). Consequently design considerations relating to how the visual impact of the raised highway might be minimised could be addressed in the further development of the OEMP, taking account of seasonal change in levels of visibility. We understand that an updated version of the OEMP is due to be submitted on 26 July in which we hope our comments regarding the expansion of the scope of the design principles will have been addressed, forming the basis for further discussion.

Discussions continue between HBMCE and Highways England through heritage design meetings on the OEMP. We would hope to update the Examining Authority on the progress of that discussion in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(i) Comments are invited on the expanded sections of the Archaeological Research Strategy, including the Research Questions. Can any light be shed on theories concerning changing populations over time, and the idea of a funerary zone to the west characterised by lithics, and a living zone to the east characterised by ceramics?

In our Written Representations (7.6.118-120) HBMCE advised that whilst the development is primarily a road infrastructure proposal and does not constitute a detailed research proposal, given that it runs through an internationally recognised and highly significant historic environment, and given one of the four aspirations of the DfT specifically relates to "cultural heritage", the development of a specific research framework for the Scheme would be appropriate.

The purpose of the Research Strategy is to assist in identifying the extent, type and method of investigation that will be most successful in revealing the significance of the WHS and other designated heritage assets, and in identifying the most appropriate mitigation measures for that significance. We have also advised that we consider the approach to archaeological mitigation would benefit significantly from a landscape scale approach, again linked to key research themes and an understanding of significance/OUV in the context of continuity and transitions in the landscape as well as the distribution of evidence for different types of activity.

HBMCE has continued to provide detailed advice to Highways England regarding the development of the Research Strategy as an integral part of the DAMS. On the basis of our specialist expertise, including from conducting our own research within this

landscape, we have contributed suggestions to add to the scheme specific research questions that have been evolving from those included, principally, in the Stonehenge and Avebury Archaeological Research Framework. We note that an updated version of the DAMS is due to be submitted on 26 July and would hope that our comments on the Archaeological Research Strategy will have been incorporated in that document. We would hope to update the Examining Authority further after we have reviewed the updated version of the DAMS.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(ii) Comments are invited on paras 5.2.7 and 5.2.8, which include detail on Tunnel movement monitoring stations. Should movement parameters be specified and trigger points set for the instigation of remedial measures to be put forward by the Contractor for agreement? Should movement monitors also be located elsewhere to safeguard archaeology, and should similar measures be put in place for vibration risks?

As noted in HBMCE's Written Representations 7.6.54; the response to ExA question No1.5; and summary of oral submissions at the Issue Specific Hearing 5 on Noise and vibration, health and wellbeing (19), comments have been made regarding tunnel movement monitoring.

HBCME continues in discussion with Highways England regarding the tunnel movement monitoring and the monitoring stations. Our advice has focused on assisting them to identify the least physically and visually intrusive method for baseline monitoring whilst ensuring that the quality of the data collection will be sufficient to inform robust decisions regarding the proposals for tunnel movement monitoring during construction of the Scheme. We have identified that parameters will need to be specified with trigger points appropriate for the nature of the heritage assets potentially affected.

The discussions have contributed both to the development of the DAMS and the OEMP. We note that an updated version of the DAMS is due to be submitted 26 July and understand that an updated version of the OEMP is also to be submitted. We will be reviewing these in light of the on-going discussions relating to these matters. We would then hope to update the Examining

Authority on the progression of these discussions in due course.	
We would also refer the Examining Authority to our response to question Ns.2.7.	

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(iii) Comments are invited on para 5.2.11, Handling, storage and placement of excavated topsoil. Why should the first bullet point apply only to topsoil from within the WHS? Who judges whether topsoil could contain archaeological artefacts in the second bullet point?

HBMCE in its submission on Issue Specific Hearing 4 on Flood risk, groundwater protection, geology, land contamination, waste and materials management at para 16.3 referred to a strategy to deal with soil management, and this was also referred to in para 1.10 of the HBMCE submission on the DAMS at 31 May.

HBMCE continues in discussion with Highways England regarding the integration of a consistent approach for management of excavated topsoil under the scheme between the DAMS, the OEMP and the Soil Management Strategy and within which of these documents appropriate mitigation measures are best located, ensuring that the documents support cross compliant methods of working to avoid conflict with BS3882. For example, the BS3882 is likely to be best located within the OEMP and the Soil Management Strategy. By reference to these documents it will therefore be linked to the processes set out in the DAMS without requiring its specific reference in that document since it is not specifically relevant to archaeological processes. We have continued to discuss with Highways England the proposals for handling, mapping, and reuse of topsoil within the WHS to inform further discussion and drafting of the approach outlined under this section of the DAMS.

We note that an updated version of the DAMS is due to be submitted on 26 July and understand that an updated OEMP is also to be submitted and we will be looking to review the relevant sections of both documents in conjunction with the outline Soil

Management Strategy to inform our further advice on this subject.

We would then hope to be able to update the Examining Authority in due course on how these matters and our advice to date has been addressed.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(iv) Comments are invited on paras 5.2.43 and 5.2.54, Geotechnical and other intrusive surveys.

HBMCE Response:

HBCME considers that it is appropriate for the DAMS to form the single overarching guide to all archaeological work, including intrusive geotechnical surveys, conducted under the Scheme. Consequently we have advised in relation to approaches to such investigations in the drafting of this and other sections of the DAMS.

We note that an updated version of the DAMS is due to be submitted on 26 July and will be looking to review the relevant sections of this document to inform our further advice on this subject. We would hope to update the Examining Authority on this matter in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(v) Comments are invited on para 6.1.16, Archaeological Clerk of Works. Should it be monitor rather than co-ordinate archaeological site works –responsibility for co-ordination would probably fall to the contractor

In HBMCE's response to ExA Question CH.1.29 we advised that a clear strategy is required setting out how and who within the Highways England Project Team is responsible for liaising with the relevant heritage statutory consultees who should ultimately be responsible as the archaeological curators for the Scheme in monitoring and overseeing compliance with heritage legislation, the consent and DCO documentation in so far as it pertains to the historic environment. (See also HBMCE Written Representations 7.6.124).

In our comments submitted on 31 May on the DAMS we advised (1.9) in relation to the need for the DAMS to set out an approach to fully integrate the fieldwork and post-excavation elements into the fieldwork phase to support an iterative and flexible strategy which is critical to achieving best practice. We advised that the DAMS must establish and reinforce regular communication between specialist members of the team and the fieldwork Project Manager and field staff. We remain in discussion with Highways England regarding how the DAMS will establish communication procedures outside the project team in particular with statutory consultees in order to access relevant specialist advice where needed in the implementation of SSWSIs, and critically, in relation to gaining necessary approvals. Through our attendance and engagement in HMAG meetings on the development of the DAMS we have continued to advise regarding the close coordination of archaeological works and the flow of information reflexively between preliminary and main works stages, and between works in separate areas of the Scheme.

In our summary of oral submissions at Issue Specific Hearing 2 on Cultural Heritage we outlined the approach to our advice on the DAMS (6) and indicated that the lines of reporting and decision making responsibilities and how these were to be secured in the Development Consent Order (DCO) was a matter of on-going discussion between HBMCE and Highways England (6.4).

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(vi) Para 6.1.17, Unexpected finds. The ExA suggests that if agreement is not forthcoming on the significance of the find and the appropriate course of action, approval of the Wiltshire Council/Historic England is sought as statutory bodies.

HBMCE Response:

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in the various stages of the Scheme and how this is set out in the DAMS and in relation to the approval of SSWSIs and provision of advice in unexpected circumstances. However, we note and welcome the Examining Authority's question on unexpected finds and its suggestion and will look to discuss this further with Highways England and the extent to which it could be dealt with as part of any process for approval of an addendum or new SSWSI.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(vii) Comments are invited on para 6.1.20, Interruptions and delays –who makes the decision regarding the cessation or resumption of work?

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in the various stages of the Scheme and how this is set out in the DAMS and in relation to the provision of advice in unexpected circumstances. We would expect in general that any process to deal with unexpected delays should instigate the same process of approval as ultimately agreed for sign off of archaeological operations on site under the SSWSI.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(viii) Comments are invited on paras 6.3.14 to 6.3.16 regarding ploughzone sampling

HBMCE Response:

HBMCE has provided Highways England with advice regarding the approach to ploughzone sampling that should be set out in the DAMS. In our comments submitted on 31 May on the DAMS (1.7) we indicated that the adoption of a research led approach to archaeological mitigation would enable not just an 'iterative strategy', responding to significance and OUV as it is revealed during the programme of work, but an 'intelligent strategy' to evolve in relation to execution of the Scheme so that wherever possible it can identify and robustly justify where and how archaeological investigation would add value in terms of furthering our understanding of

this internationally important landscape. For this reason, HBMCE promoted more detailed interrogation of the information currently available from the emerging evaluation reports to intelligently target future work in the ploughzone under the mitigation strategy.

In our summary of our oral submissions at Issue Specific Hearing 2 on Cultural Heritage (6.2.5) we indicated that we were exploring how possible it might be to reduce the level of uncertainty regarding what archaeological remains and evidence might be identified. At that stage the DAMS took an iterative approach to the level of work required based on significance (including OUV). We considered that it might be possible to enhance this approach further to develop an intelligent strategy based on our understanding of the spatial distribution of features and material in relation to the factors that affect it.

We currently remain in detailed discussions regarding this issue and await the results of further analysis of the evaluation results from the Scheme to assist in identifying the most appropriate strategy in response to the archaeological significance of the remains in the plough zone. We are aware that an updated version of the DAMS is due to be submitted on 26 July and would hope that this will have addressed our comments to date including the comments we have made in HMAG and Scientific Committee meetings. We will look to review the updated version of this document, and continue to assist Highways England in developing a robust strategy in the DAMS for the capture of information relating to activity in this important landscape that is preserved within the plough zone on the basis of this and the further analysis that is awaited. We would therefore hope to be able to update the Examining Authority on the progress of this analysis and its application into a further revised version of the DAMS in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(ix) Comments are invited on paras 6.3.42 and 6.3.43, Tree hollows.

We would refer the Examining Authority to our response to question CH.2.9 (viii) above since the same analysis is contributing to our advice regarding the development of a strategy for investigating and sampling tree hollow within this landscape. We would, therefore, similarly hope to be able to update the Examining Authority on the progress of this analysis and its application into a further revised version of the DAMS in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(x) Comments are invited on Section 8.1 Communications Strategy, Section 8.2 Progress Reporting, and Section 8.3 Monitoring of Post Excavation Works.

HBMCE Response:

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in those elements set out in the Communications Strategy. We note that an updated version of the DAMS is due to be submitted on 26 July. We would therefore look to review this updated version and provide the Examining Authority with an update in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(xi) Para 8.4.2: the ExA suggests 'approved by the TPA in agreement with HMAG/WCAS'.

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in the various stages of the Scheme including the sign-off of archaeological works. We note that an updated version of the DAMS is due to be submitted on 26 July. We would therefore look to review this updated version and provide the Examining Authority with our final view on the most appropriate body who should be responsible for sign off in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(xii) Comments are invited on Table 11.3, Summary of proposed mitigation areas, and Appendix D Action Areas: Proposed archaeological fieldwork areas and preservation in situ areas

HBMCE Response:

At the Issue Specific Hearing 2 on Cultural Heritage (see summary of HBMCE oral submissions (6.3.2) we indicated that our advice at that stage had focused on ensuring that the range of techniques available under the DAMS is comprehensive and appropriate to the nature of the remains that are likely to be encountered and the research questions that might be answered. This is so that all the available options can be drawn down into the Site Specific Written Schemes of Investigation. This advice has drawn on that identified in our Written Representations including approaches to appropriate protection measures for sites identified for 'preservation in situ' in line with our published *Preserving Archaeological Remains* (2016) guidance (7.6.128)

We remain in discussion with Highways England in relation to the approaches set out in the areas covered in Table 11.3 and Appendix D and are in the process of providing them with our detailed comments through HMAG meetings. Since that process of discussion has yet to conclude, we are able to update the Examining Authority at this time. We note that an updated version of the DAMS is due to be submitted on 26 July. We would therefore look to review this updated version and provide the Examining Authority with an update in due course on the proposed mitigation areas.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(xiii) Flowchart A2, Archaeological Mitigation: phases and roles – should the box heading Project supervision read, Project inspection and monitoring, since the archaeological contractor will supervise his work team and the TPA project manager will inspect, monitor and approve?

HBMCE Response:

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in the various stages of the Scheme. Since this has implications for the roles and responsibilities as set out in the flow charts we are not currently in a position to provide our final view on this subject. We note that an updated version of the DAMS is due to be submitted on 26 July. We would therefore look to review this updated version and provide the Examining Authority with an update in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(xiv) FlowchartsA3 to A9, should the double headed arrows linking the top tiers of boxes signify agreement?

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role and the level of our engagement in the various stages of the Scheme. Since this has implications for the roles and responsibilities as set out in the flow charts we are not currently in a position to provide our final view on this subject. However we note that the arrows are helpful as a minimum in denoting the flow of information and advice and identifying who are the main points of contact for those organisations that will have responsibilities during the preliminary and main works stages of the Scheme on site. We note that an updated version of the DAMS is due to be submitted on 26 July. We would therefore look to review this updated version and provide the Examining Authority with an update in due course.

CH.2.9	All Interested Parties	DAMS DL4 Version [REP4-024]
		(xv) Further comments, if any, are invited on the DAMS provisions for the treatment of archaeology buried under arisings, that affected by haul roads and compounds, and that subject in other ways to vibration, compression, crushing, or distortion [REP4-024]

HBMCE Response:

In our Written Representations (7.6.16) HBMCE set out a series of questions relating to the proposed deposition of arisings within the landscape at Parsonage Down which we considered would be helpful in understanding the potential impacts on the

archaeological remains that would be buried beneath. Since then we have continued in detailed discussion with Highways England, jointly with Wiltshire Council, in order to gain a better understanding of the potential implications and to develop the approach set out in the DAMS accordingly. We note that an updated version of the DAMS is due to be submitted on 26 July and we would look to review this in the context of those discussions in the hope that it has addressed our previous comments appropriately.

In relation to the potential impact of the compression of archaeological remains, including under temporary haul roads and site compounds, we remain in discussion with Highways England regarding the calculation of the loads and compression that is necessary to inform our advice on this subject and the approach to be set out in the DAMS.

In relation to vibration we would also refer the Examining Authority to our response to questions CH.2.9 (ii) and Ns.2.7.

De.2 Design		
De.2.1	The Applicant	OEMP, Chapter 4: Detailed Design [REP4-020]
	All Interested Parties	Chapter 4 of the OEMP is headed 'Development of detailed design in the WHS'. However, para 4.4.4 deals with matters outside of the WHS, quite rightly in the ExA's view, since the detailed design aspects should be matters of concern and consistency throughout the whole Scheme.
		Therefore, should the title of the chapter be amended, and its scope widened?

HBMCE concur with the Examining Authority's suggestion. In our comments on the OEMP submitted on 21 June we advised (5.2) that there was need for the Development of the Detailed Design section of the document to be expanded across the full extent of the Order limits so that an equally sensitive approach is adopted to elements of the Scheme located within the setting of the WHS or within the setting of other scheduled monuments outside the WHS not considered to contribute to the OUV of the WHS, as within the WHS itself. HBMCE consider that it is important to ensure that there is a consistent and holistic approach to the development of the detailed design across the entire Scheme.

De.2.2	The Applicant	OEMP, Chapter 4: Detailed Design – Design Vision [REP4-020]
	All Interested Parties	Section 4.3, Design Principles –intended guidance indicated in para 4.3.2 (a), (b), and (c); and in Table 4.1, in particular P-G01, and P-LE01 to 03: The ExA endorses the aim set out in the DAS of minimising the visibility of new structures within the WHS (para 4.4.3), and responding to two sensitive landscapes; the heritage landscape and the wider setting (para 4.4.9), without competing with them or providing an alternative focus. Overall, an understated approach of restrained visual impact and elegance is appropriate. Despite the proposed guidance intended to achieve this, an
		imaginative input through an overall design vision is necessary. This is absent from the Scheme at present and, in a Scheme of international importance such as this, it is not appropriate to leave the design to the contractor. Do the parties agree?

In HBMCE's comments on the OEMP submitted on 21 June we advised (sections 6 & 7) regarding the need for a design vision for the Scheme. We considered that the vision should respond to the character of the WHS, both in terms of its historic and natural environment, as the starting point for the design of the Scheme. In our view the vision should outline a set of unifying principles on which basis the current illustrative and detailed designs could both evolve. It should set a bar for the quality of both design and delivery that should be expected across all aspects of the Scheme, commensurate with the international importance of the WHS

landscape and directly responding to the elements within that landscape that convey its OUV.

HBMCE has continued to discuss the further development of the OEMP in heritage design meetings, including the need for an overarching vision as well as the design commitments and principles which will set parameters for decision making at detailed design stage to secure the delivery of that vision in practice. We understand that an updated version of the OEMP is due to be submitted on 26 July and would hope that this will address the advice that we have provided to date. We would ask the Examining Authority to note that further discussions are on-going at this time regarding the further development of the OEMP in order to address the concerns raised by the Examining Authority. Further comments with regards to design are set out in HBMCE response to Examining Authority's questions in DCO.2.37 etc.

De.2.3	The Applicant	OEMP, Chapter 4: Detailed Design – [REP4-020]
	All Interested Parties	Para 4.4.3: Should consultation also take place on the fencing, or other safety measures, preventing access to the cutting?

HBCME Response:

Paragraph 7.6.33 of HBMCE's Written Representations referred to the security fencing being set down to ensure that it was not visible above the top of the cutting. We further advised that the critical assessment was in relation to the landscape integration of the portal approaches and deep cuttings and the minimisation of negative effects as a result of the overarching engineering and structural design (7.6.36). We indicated that we would provide additional updates to the Examining Authority concerning the proposed design of these elements following submission of additional information and as iterative design discussions proceed during the examination. HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role,

and in relation to aspects of consultation and approval relating to specific elements of the design of the Scheme. We also remain in discussion regarding how the proposed Stakeholder Consultation Group will operate as set out in the OEMP.

We would ask the Examining Authority to note that further discussions are also on-going regarding the further development of the design principles and commitments in the OEMP in this regard. We understand that an updated version of the OEMP is due to be submitted on 26 July in which we hope our comments regarding the design principles and other comments we have provided to date will have been addressed and would look to provide the Examining Authority with a further update in due course on the basis of the updated OEMP. Further comments with regards to design are set out in HBMCE response to Examining Authority's questions in DCO.2.37 etc.

De.2.4	The Applicant	OEMP, Chapter 4: Detailed Design – [REP4-020]
	All Interested Parties	Para 4.4.4: Should consultation also take place on:
		i. River Till viaduct? ii. Countess flyover? iii. Green Bridges?

HBCME Response:

We would refer the Examining Authority to our response to question De.2.3 above.

De.2.5	The Applicant	OEMP, Chapter 4: Detailed Design – [REP4-020]
	All Interested Parties	Para 4.4.14: Notes that it is appropriate that the final decision on detailed design remains the Applicant's preserve, using its expertise and knowledge as to what would be appropriate and operationally feasible in the context of the Scheme.
		However, matters such as operational geometry and other matters of highway functionality would be defined in the OEMP and elsewhere, and would have been confirmed during the development of the design process well before the final decisions are made on detailed design. Wiltshire Council is the statutory body regarding planning matters, including design approvals, and has expertise and knowledge as to what would be appropriate.
		In the exceptional event of it not being possible for the SCG and The Authority to reach agreement after escalation of the matter, should not the final decision on detailed design rest with Wiltshire Council?
HBMCF Respons	20.	

HBMCE remains in discussion with Highways England in relation to how best to fulfil our statutory role in relation to aspects of consultation and approval relating to specific elements of the design of the Scheme, and the proposed mechanisms for escalation when agreement cannot be reached. We also remain in discussion regarding how the proposed Stakeholder Consultation Group will operate as set out in the OEMP.

We would hope to update the Examining Authority in due course on our position in relation to where the final decision on detailed

design should rest, but would also refer them to our response to question DCO.2.37.

We understand that an updated version of the OEMP is also due to be submitted on 26 July and similarly would hope that those continued discussions will have influenced its further development. Until we have considered how the revised OEMP has reflected the continued discussion following submission of the previous version involving stakeholder consultation, dispute mechanisms and design related matters, we are unable to provide our final view on these matters or on how readily these might be enforced under the Scheme, but would hope to update the Examining Authority in due course.

Fg.2 Flood risk, g	groundwater protection, geology	and land contamination
Fg.2.42	Applicant	Blick Mead hydrogeology
	Environment Agency	Notwithstanding the Applicant's position that future monitoring of
	Historic England	groundwater at the Blick Mead site is not required, it is suggested that the site could/would be monitored more generally and more widely (with reference to MW-WAT10). The Groundwater Management Plan is proposed to be prepared in consultation with the Environment Agency only who have no heritage responsibility. In the event that groundwater levels are affected at the Blick Mead site it is unclear how any reporting and subsequent remediation would be adequately secured without any requirement to take account of the heritage assets at the site. In this context, how would any general monitoring adequately take
		account of the effect on archaeological remains?

In HBMCE's summary of oral submissions during the Issue Specific Hearing on Blick Mead (7.4.2) we recommended that if any further monitoring was conducted in relation to Blick Mead it would be beneficial for it to follow the recommendation given in sections 5.1 and 5.2 of Historic England's *Preserving Archaeological Remains* guidance, and in Appendix 4 of that guidance (1.4 and 1.5). This would ensure that the results of any such monitoring would be able to take account of the effect on archaeological remains.

Fg.2.44	Applicant	Blick Mead hydrogeology
	Environment Agency	The extent of the archaeological remains at the Blick Mead site is
	Historic England	unknown.
	Wiltshire Council	To what extent should this influence any monitoring at the site both in terms of establishing the baseline and then ongoing monitoring?
	Mark Bush on behalf of the	
	Blick Mead Project team	
	The Council for British Archaeology	

HBMCE has provided our advice to date in relation to Blick Mead on the basis of information submitted to the Examination and already in the public domain. If further information, such as from additional archaeological excavation of the site, became available then this could be used to inform any future monitoring if it is revealed before monitoring arrangements (as set out in response to Fg 2.42) are put in place.

Fg.2.46	Applicant	Blick Mead hydrogeology
	Environment Agency	In the Environment Agency's response to DL4 it was advised that any
	Historic England	dewatering in the vicinity of the Blick Mead site has the potential to impact on groundwater levels but that this would be subject to regulation
	Wiltshire Council	by the Environment Agency [REP4-049]. It appears that an assessment of risk to all receptors would be required prior to the issue of any licence.
		Would any assessment of risk extend to the effect on archaeological remains and is there sufficient expertise in the process to scrutinise any heritage impacts prior to issuing any licence?

As noted in our responses to questions Fg 2.42 and 2.44 we have provided advice to date based on information that has been submitted, and that if further information becomes available, then this could be used to inform any future monitoring in accordance with the published advice in *Preserving Archaeological Remains* (2016). HBCME is not usually consulted by the Environment Agency on abstraction licences and we would consider that as this is a non designated archaeological site, then in the first instance that it would be a matter for Wiltshire Council's Archaeological Service to advise on (HBMCE Issue Specific Hearings Summary 7.5.10).

Fg.2.47	Applicant	Blick Mead hydrogeology
	Environment Agency	In the Environment Agency's response to DL4 it was noted that there is
	Historic England	potential for the final design to deviate from that assessed to date and, if this were to occur, then further assessment of risk in respect of the
	Wiltshire Council	magnitude and extend of impacts on groundwater would be required [REP4-049].
		If this were to occur what measures would there be to ensure that any further risk assessment would take account of the potential to impact on the archaeology at the Blick Mead site?

The Applicant may be best placed to advise on the potential for the final design to deviate from that assessed to date. HBCME would expect that in the event that there was deviation from the assessed scheme the Applicant would review the groundwater assessment with regard to Blick Mead to assess what impacts the proposed change in design would have on the seasonal pattern of water levels on the site, and the lowest limits of these in particular. We would consider that as this is a non designated archaeological site, then in the first instance that it would be a matter for Wiltshire Council's Archaeological Service to advise on (HBMCE Issue Specific Hearings Summary 7.5.10)

Fg.2.48	Applicant	Blick Mead hydrogeology
	Environment Agency Historic England	Please provide a detailed response to the submissions made by Mark Bush on behalf of the Blick Mead Project Team[REP4-047].
	Wiltshire Council	Please have particular regard to the tiered assessment and whether it would be necessary for this to be advanced ie to tier 4?

In our summary of oral submissions at the Issue Specific Hearing on Blick Mead HBMCE set out our guidance and basis for our approach. In paragraph 7.3.3 we explained that Appendix 3 of our *Preserving Archaeological Remains* guidance describes the type of data that is required to inform a tiered approach to assessment. This assessment is not linked to the significance of the archaeological remains that are being assessed. It is based solely on the quality of data that is needed to verity the conceptual model that is produced to inform the assessment. Since we understand that the Environment Agency are content with the methodology, general model and conclusions of that modelling we are therefore able to confirm that the Applicant has followed our guidance in producing the tiered assessment and that sufficient information has been brought together for the reliability of the conceptual model to reach an acceptable level.

The submission REP4-047 suggests that Highways England and HBMCE are in error in considering the tiered assessment alongside a consideration of "whether significant effects were established at each level". However, the tiered assessment is not intended to be used in isolation. As is highlighted in the passage of the guidance quoted in REP4-047, 'The investigation should continue up the tiers until the reliability of the conceptual model has reached an acceptable level. The level that is considered acceptable depends on what the conceptual model is being used for.' In this instance, the level of assessment required is considered alongside the identified construction impacts. Our understanding is that as the construction impacts assessed by the

Applicant would have a negligible impact on water levels at the site, further more detailed assessment was not undertaken. HBMCE has only provided advice in relation to the application of our guidance on *Preserving Archaeological Remains* and the assessment techniques it sets out to inform Highways England's EIA (ISH2: 7.2.1, 7.3.1). Consequently HBMCE have no further comments to make in response to the submissions made under REP4-047. And would consider that the Applicant and Environment Agency are better placed to provide a more detailed response.

HW.2 Health and	l Wellbeing	
HW.2.1	Applicant	Loss of the casual encounter with the Stones as you pass on the A303is
	Historic England	referenced by numerous RRs as an important part of the cultural experience of the area. The WHS Management Plan recognises there
	ICOMOS	has been routes through the landscape for significant periods of time and the location of the road has opened this up to artists, poets, musicians
	Wiltshire Council	etc which has further developed the cultural significance of the site.
		Whilst there will remain views from rights of way would you agree the casual encounter by the commuter will be lost? What significance do you consider this has on the OUV
		ii. What significance do you consider this has on the OUV for the WHS?

(i) HBCME Response: Whilst there will remain views from rights of way would you agree the casual encounter by the commuter will be lost?

In our Written Representations (5.4.7) HBMCE noted that the experience of the Stonehenge monument for many people is kinetic as they drive along the existing A303. There will therefore be a loss of this "casual encounter" by motorists on the A303 as a consequence of the proposals. However, the proposals do seek to provide for a restricted byway running along the route of the old A303. This will improve visitor access which will provide a different experience for those going along this route to that which would be experienced from a car. The Management Plan 2015 – 2020 identifies various priorities, one of which is the enhancement of the visitor experience in the wider landscape.

HBMCE supports the aspiration and principle of enhanced public access to the WHS and its monuments as part of the Scheme.

This aspiration is also in line with the SAAS WHS Management Plan, as well as Article 4 of the 1972 Convention to identify, protect,

conserve and transmit cultural heritage to future generations (HBMCE Written Representations 7.6.65).

(ii) What significance do you consider this has on the OUV for the WHS?

In our Written Representations (5.4.7) HBMCE addressed the fact that the experience of the Stonehenge monument for many people is kinetic as they drive along the existing A303. The existing A303 forms part of the setting of the Stonehenge monument and hence the WHS more generally. Good Practice in Planning Advice Note 3 indicates that elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. It goes on to advise that the contribution that setting makes to the significance of a heritage asset does not depend on there being public rights or an ability to access or experience that setting. The Attributes of the Stonehenge WHS were set out in paragraph 5.7.9 of our Written Representations, and we note that none of these Attributes of OUV relate to the specific experience of the monument gained from the existing A303. Attribute 7 refers to the influence of the remains on architects, artists, historians, archaeologists and others who have visited the site. The majority of those who contributed to the cultural significance of Stonehenge are likely to have gone there with the specific purpose of visiting the monument. The presence of the A303 and its traffic within the landscape impacts on the inspiration that the monument currently provides.

HW.2.2	Applicant	How have the competing desires of the Druids who wish to
	Wiltshire Council	have any human remains found on the site reinterred and
	WillStille Couriei	archaeologists desire to study, understand and display those
	Historic England	remains been considered and addressed? [REP3-012, REP2-
		003(Article 16), APP-296, REP2-032 (HW.1.17)]
		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

HBMCE recognises that the treatment of human remains from archaeological contexts is a sensitive and emotive subject. In addition to the potential for their study to inform us about our shared past, they may have a personal, cultural, symbolic, spiritual or religious significance to particular individuals or groups (DCMS 2005). It is essential to ensure that human remains are treated with respect, employing high standards and best practice (APABE 2017). HBMCE believes that it is important to respect the beliefs of all individuals and groups, but that it is also vital to consider wider public attitudes toward human remains, and to take into account outcomes from previous consultation (Thackary & Payne 2010). The advice provided by HBMCE regarding the treatment of archaeological human remains is guided by current best practice and informed by national research (Thackary & Payne 2010). HBMCE therefore considers that the approach that should be followed is one which is consistent with current best practice (APABE 2015, 2017) for the retention of archaeological human remains within an appropriate archive repository.

References cited:

Department for Culture, Media and Sport. 2005. Guidance for the Treatment of Human Remains in Museum Settings.

Advisory Panel on the Archaeology of Burials in England. 2017. Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (2nd ed.)

Thackary, D and Payne, S. 2010. Report on Consultation on the Request for Reburial of Prehistoric Human Remains from the Alexander Keiller Museum at Avebury. Available from: https://historicengland.org.uk/content/docs/consultations/report-on-

consultation-pdf/

Advisory Panel on the Archaeology of Burials in England. 2015. Large Burial Grounds: Guidance on Sampling in Archaeological Fieldwork Projects.

LV.2 Landscape and Visual		
LV.2.1	Applicant	Integrity of landscape and cultural heritage
	All Interested Parties	The integral nature of the landscape, astronomy, the skies, and the monuments of Stonehenge is of enormous importance. The Stonehenge landscape has changed and developed spatially, visually, and emotionally into an enormously significant setting of ceremonial and cultural importance over many thousands of years.
		In the Examination, some have argued that this aspect, of paramount importance, has been underappreciated in the ES and the HIA. Criticisms have been made of the failure to consider emerging evidence which might give rise to new theories on the significance and history of the Stonehenge landscape. Also, criticism has been made of the absence of a precautionary approach, which might prevent the Scheme destroying evidence or disrupting ancient topography and important spatial interrelationships within and beyond the WHS. Please comment, particularly in the light of:
		i.HIA, page 23, penultimate paragraph, re: second Attribute (the physical remains in relation to the landscape), 'The Scheme has been developed to avoid known concentrations of archaeological remains'[APP-195].
		ii.Josh Pollard and colleagues' 2017 publication, which identified not only the area adjacent to the western approach,

but also a substantial area to the north, several kilometres long, with a remarkable density of Beaker associated material. A risk exists of sterilising this evidence with the construction of the western approach and the Longbarrow junction. (Noted in Part 1, paragraph 9 of the 5/6 June ISH written summary of the Consortium of Archaeologists and Blick Mead Project Team[REP4-047]).

iii. The discovery of two longbarrows to the south in 2017 adding to the remarkable concentration of Neolithic monuments dating from before the construction of Stonehenge. These appear to form a circular array focussed on the top of a dry valley (Wilsford Coombe?), which the western approach cutting would disturb. (Noted in Part 2, paras 11 and 12 of the same written summary [REP4-047], and elsewhere including Dr David Field's Written Representation[REP2-163]).

iv.A much later array dating from the Early Bronze Age is suggested in Section 4 of Paul Garwood's paper, Winterbourne Stoke Crossroads, Early Bronze Age funerary complex. He notes the clustering of monuments in large complexes with linear arrangements, within sight of Stonehenge and its wider environs. Whilst their central focus is Stonehenge they relate in a complex spatial and visual relationship to each other.

v.The failure to make use of viewsheds from particular monuments to gauge the visual connectedness of features within the overall landscape.

vi.Operational Guidelines for the Implementation of the World Heritage Convention (WHC.17/01) notes at paragraph 100 that, for properties nominated under criteria (i) –(vi), boundaries should be drawn to include all those areas and attributes which are a direct tangible expression of the OUV of the property, as well as those areas which in the light of future research possibilities offer potential to contribute to and enhance such understanding.

vii.HIA paragraph 5.10.4 [APP-195]and Highways England's response to ExQ1CH.1.58 [REP2-025]note that, in the forthcoming WHS boundary review, mooted changes include extension of the existing boundary to the north and west. This suggests extreme caution should be exercised with regard to the Longbarrow junction works. The junction, with its motorway scale partially sunk into the landscape, has the potential to fundamentally alter the ancient topography integral to the above points, interfere with the connected monument arrays, and disturb archaeological remains.

HBMCE Response:

HBMCE structured our Written Representations (Section 5) to reflect the significance of the interconnectedness of this

internationally important landscape, the spatial and temporal continuity of the human activity within it, and the integral relationship of the evidence of that human activity with the natural landscape to which it responds. Section 5.4 references the theories regarding the symbolic value of the Stonehenge circle and also addressed research into the spatial relationships between monuments linked historically, physically and functionally demonstrating a structured and planned, designed approach to this landscape of aesthetic value and architectural interest.

Our request for further visualisations reflects the significance of specific visual relationships between monuments but also of the experience of those relationships gained from moving around and being immersed within the landscape. We would also refer the Examining Authority to our response to question LV.2.3 at Deadline 2.

Our on-going advice in relation to the DAMS (REP3-054) reflects our appreciation of the significance of the archaeological material that will be affected by the Scheme, including that within the plough zone (cf also HBMCE's response to ExA question CH.2.9. (viii)), and the need to interrogate the results of the evaluation in sufficient detail to provide a robust understanding of its significance to inform decision making in relation to the Scheme. This is also reflected in our advice regarding the need for a research framework to guide the strategy for archaeological mitigation across the Scheme.

In our summary of our oral submissions during the Issue Specific Hearing 2 on Cultural Heritage (2.4.3) we commented on the discussions related to the current and potential extent of the World Heritage Site. We noted that the setting study and boundary review are at an early stage and therefore there is little that can be said about them at present. Any proposed boundary modification would have to be agreed by the State Party and submitted to the World Heritage Committee for approval. A minor boundary modification is one that does not alter the OUV or geographical area to any significant extent. More extensive changes to geographical area or OUV require a re-nomination. There is therefore no immediate prospect of a modification to the boundaries of

the WHS.		

LV.2.3	Applicant	Visual receptors associated with the route of the existing A303
	All Interested Parties	and Green Bridge 4
		i.Have analyses been made of the visual effects of the cutting from points on the ex A303, especially those close to the western portal where the cutting is at its widest and deepest and the ex A303 closest?
		By my rough calculation, at Chainage 7200, the cutting is 35m wide and 11m deep, with a width of 60m across the embankment tops. At that point, the ex A303 is only 20m from the permanent fence line and the edge of the embankment, and only 35m from the edge of the cutting.
		ii.Have analyses been made of the visual effects of the embankments and cutting from Green Bridge 4?

In our Written Representations (7.5.14-28) HBMCE set out our advice regarding the additional visualisations we consider necessary to inform the Examination of the Scheme. Amongst these we highlighted views in close proximity to the Scheme. We noted and welcomed the request in the Examining Authority's first written questions for a series of visualisations that coincided with our own requests. HBMCE remains in discussion with Highways England regarding the additional visualisations that we have requested. We understand that Highways England are working on other visualisations and we therefore hope to be able to update the Examining Authority on our view of the visual effects once all these visualisations have been submitted in due course.

LV.2.4	Applicant	Tranquillity
	All Interested Parties	The OED defines tranquillity as serenity, calmness; Chambers Dictionary as calmness, peacefulness; the GLVIA glossary as a state of calm and quietude associated with peace.
		Tranquillity is considered within ES Chapter 7: Landscape and Visual [APP-045], where the IAN 135/10 definition of tranquillity is adopted, as remoteness and sense of isolation[]often determined by the presence or absence of built development and traffic. The analysis then relates largely to the perception of noise, although it touches on the perception of vehicles and settlements, and the panoramic extent of views. Figure 7.5 illustrates existing tranquillity across the study area as mapped by the CPRE.
		i. How is the CPRE analysis derived? Is it based on noise measurement or on other factors?
		ii.Have attempts been made to map projected tranquillity with the Scheme in place?
		iii. Have attempts been made to analyse tranquillity in terms of serenity, calmness, and peace rather than the impact of noise, qualities which might be affected by the proximity to major road cuttings or junctions, whether or not accompanied by noise?
		iv. Has the connection between tranquillity and the feeling of

completeness of the landscape and the interconnectedness of its features been considered?
v.Has the connection between tranquillity and the presence of astronomical features and light pollution in night skies, particularly important on this site, been considered? These points apply in relation to both the construction and operational phases of the Scheme

As noted in our Written Representations in paragraph 6.10.23 in relation to Attribute 6, tranquillity is considered within the Settings Assessment which acknowledges that the Scheme can make a significant contribution to reducing ambient traffic noise, whilst it cannot restore a wholly peaceful situation. We would also note that we drew attention to the relationship between light pollution and the astronomical significance of the WHS as established and described in Attribute 4 in our Written Representations (e.g. 6.10.19; 7.4.24; 7.4.28). However, we would note that as this question is posed to the Applicant, as well as the Interested Parties, it may be more appropriate at this juncture for the Applicant to respond on the technical details of the Scheme.

LV.2.6	Applicant	Landscaping scheme
	Wiltshire Council	i.Why, in Requirement 8 of the DL4 dDCO, is the submission
	Historic England	and approval of the overall landscape scheme limited to Work No 4 and the WHS [REP4-018]?
		ii.Are Wiltshire Council and Historic England content that only consultation, rather than agreement, should be in place prior to submission to the SoS for approval?

As the Examining Authority will be aware from our response to the d2DCO on 21 June, we set out in paragraph 189 our comments on this draft Requirement. However, our submission coincided and crossed with the updated version of the dDCO submitted by Highways England on the same date.

We have now had an opportunity to review the submitted d3DCO and note and welcome the amendment that has been made in draft Requirement 8 through the inclusion of a new provision which refers to a landscaping scheme being subject to consultation with the planning authority and HBMCE. However we note that this would only be in relation to the World Heritage Site and Work No4, and we concur with the Examining Authority's question as to why this is just limited to Work No 4.

As has been set out in our Written Representations at paragraph 7.6.36, an iterative design approach is required, and the critical assessment at this stage is in relation to its landscape integration and the minimisation of negative effects as a result of the overarching engineering and structural design. This is a landscape without parallel, and following on from our understanding of the response provided by Highways England in their oral submissions on the DCO in relation to draft requirement 8 they have accepted that there should be an overarching landscaping scheme being implemented in these (WHS) areas rather than on a part by part

basis, and they recognise this in the context of the sensitivities of the WHS. However whilst there is a boundary to the WHS, this is not something that has a hard defined edge, and so we would respectfully request that our engagement and consultation is not limited to the World Heritage Site, but for the whole of the Order area. This would then ensure a complementary approach within and without the WHS.

We would note the question regarding consultation and agreement and that discussions continue between us and Highways England on the development of the OEMP in relation to the landscaping scheme, design principles, and further discussions are necessary with regards the OLEMP. As such we are not yet in a position to comment further on this matter but would hope to update the Examining Authority in due course.

Ns.2	Noise and Vibration	Noise and Vibration	
Ns.2.7	Historic England	Vibration effects on archaeology	
	Applicant Wiltshire Council	In light of the comments made by the different parties to date can you advise on the latest position in respect of:	
	The Council for British Archaeology	 i. An agreed methodology for measuring vibration and what standards could be used to safeguard archaeological remains. 	
	ICOMOS	ii. The level at which significant effects might occur.	
	Blick Mead Project team	iii. How any vibration will be monitored to protect archaeology.	
		iv. Mechanism/mitigation to avoid potential adverse effects including any agreed positions of monitoring locations	

HBMCE remains in discussion with Highways England regarding the potential effects of vibration and subsequent settlement on archaeological remains and on the Stonehenge monument itself through heritage design meetings regarding the provisions in the OEMP for appropriate mitigation measures. We understand that an updated version of the OEMP is due to be submitted on 26 July and would hope that this will reflect those conversations and the issues raised. Our advice has focused on understanding what assessments have been conducted to date, identifying the most appropriate methodology for monitoring impacts on sensitive heritage receptors, and ensuring that the parameters for assessment and decision making are appropriate for the nature of each individual receptor and its particular sensitivity.

Our advice is guided by our involvement in other major construction programmes involving tunnelling procedures (e.g. Crossrail), and our published guidance including that relating to *Piling and Archaeology* (Section 4.7) where the impact of vibration on historic structures and archaeological remains is considered, and *Preserving Archaeological Remains* (2016) in terms of identifying the assessment processes needed to inform decision making about the likely impact, as well as relevant publications (e.g. Sidell et al 2004). On this basis it will be necessary to agree the level of disturbance considered acceptable to both archaeological and structural elements.

We have advised Highways England in relation to ensuring that the modelling conducted provides a reliable and robust baseline from which decisions can be made. If the modelling is correct, those areas beyond the centre line of the tunnel for which settlement is predicted within the order of 1-2mm would reflect, on the basis of our involvement, similar circumstances to the Crossrail tunnel (in relation to the technical issues associated with assessment of the potential impacts of tunnelling despite this scheme not being consented under the NSIP process). Within this extent of settlement on the Crossrail project it was considered unlikely that archaeological remains would experience a significant effect as the level of soil movement and settlement would be within the range of that caused by natural processes such as the heating/cooling of soil, bioturbation, or groundwater fluctuations. On-going monitoring will need to confirm that the model is accurate. Further discussion is required regarding those areas where a greater degree of settlement is predicted.

Ideally then, an appropriate methodology would need to be agreed to identify significant deviation from the model to enable decisions to be taken in a timely manner to protect archaeological remains if necessary. This might potentially form a decision tree that could be included in the OEMP and related to the DAMS as necessary. The Highways England engineer should consider providing the contractor with acceptable quantitative vibration and settlement limits forming parameters to any such decision tree. Further detail on the methodology for predicting the vibration effects will need to be set out with information on the results of that modelling

exercise, and if possible, an assessment of the probability of exceeding those results. There will also need to be a process for calibrating the predictions prior to commencement of the tunnelling.

We would ask the Examining Authority to note however that on-going discussions are continuing with Highways England in relation to these matters and that we will also need to review any revised draft of the OEMP submitted on 26 July in the light of those on-going discussions. Whilst we are therefore unable to provide our final position at this time, we would hope to update the Examining Authority in due course.

We would also refer the Examining Authority to our response to CH.2.9 (ii).

References cited:

Sidell, E J, Higuchi, T, Allison, RJ and Long, AJ 2004 'The response of archaeological sediments and artefacts to imposed stress regimes as a consequence of past, present and future anthropogenic activity', In Nixon, T (ed) Preserving Archaeological Remains in situ? Proceedings of the 2nd Conference 12-14 September 2001. London: Museum of London Archaeology Service, 42-9

Ns.2.8	Historic England	Settlement effects on archaeology
	Applicant Wiltshire Council	In light of the comments made by the different parties to date can you advise on the latest position in respect of:
	The Council for British Archaeology ICOMOS	 i. An agreed methodology for measuring settlement, and what standards could be used to safeguard archaeological remains. ii. The level at which significant effects might occur. iii. How the settlement will be monitored to protect
	Blick Mead Project team	archaeology. iv. Mechanism/mitigation to avoid potential adverse effects including any agreed positions of monitoring locations

HBMCE Response:

We would refer the Examining Authority to our response to question Ns.2.7 above where we have addressed both issues relating to vibration and settlement. We would also refer the Examining Authority to our response to CH.2.9 (ii).