

Consortium of Stonehenge experts' submission on National Highways' response to Redetermination 4

Secretary of State letter 20 June 2022

Applicant's response to the request for comments Q1, Q3–Q6 – Response document
[Redetermination 4.1](#)

SoS Question 1 *The Secretary of State notes in response to his consultation letter dated 24 February 2022 that the Consortium of Stonehenge Experts identified that four assets are not included in the Applicant's assessment. The Applicant is asked to confirm to the Secretary of State whether these assets have been included in the assessment and, if so, to specify in the material where the assessment of those assets is set out. If an assessment has not been undertaken, the Applicant is asked to provide the necessary assessment on these assets so the Secretary of State can appropriately consider them.*

National Highways' response

Sixteen points (1.2.1–1.2.16) were made in NH's response to the Consortium. Those that are of substance are summarized here:

- The three archaeological sites highlighted by the Consortium are not identified in the HER (consulted in December 2021) and therefore are not recognized as heritage assets (1.2.4).
- The archaeological remains identified comprise a small number of subsurface archaeological features (small pits) and scatters of worked flint flakes (1.2.7).
- The Heritage Impact Assessment takes account of the nature of the material and the lack of association with subsurface features; these remains are not schedulable under the 1979 Act nor are they considered to be of equivalent significance to SAMs and of national importance (1.2.8).
- The Detailed Archaeological Mitigation Strategy provides for a comprehensive programme of archaeological excavation and recording of the archaeological remains within the footprint of the scheme (1.2.9)
- The Blick Mead site will not be physically impacted by the Tunnel Scheme, nor will the groundwater levels at the Blick Mead Site change due to the construction and operation of the Scheme (1.2.13).
- The Examining Authority report (2020) was satisfied that the Tiered Assessment of Blick Mead conducted by National Highways was adequate (see Recommendation Report paragraph 5.9.106) (1.2.15).
- *"The Outline Environmental Management Plan, as updated in May 2020 in response to the Secretary of State's request, required in measure MW-WAT10 that the Groundwater Management Plan sets out how Blick Mead is to be considered to safeguard the groundwater levels associated with the preservation of archaeological remains at the Blick Mead site"* (1.2.16).

Points 1.2.10 – 1.2.16 concern the archaeological site of Blick Mead and are addressed below in the second half of this document.

Submission of the Consortium of Stonehenge experts

The four points (1.2.4, 1.2.7–1.2.9) are specious and can be shown to be erroneous.

1. Failure of NH to recognize archaeological sites as heritage assets (1.2.4)

The three sites are: remains of a large Beaker-period settlement with burials, a probable Neolithic settlement west of it, and a probable Neolithic settlement at the eastern portal. The remains of the large Beaker-period settlement were described and mapped in a peer-reviewed archaeological paper (Pollard *et al.* 2017). Knowledge of this substantial site has thus been in the public domain for five years. There has clearly been a failure or a lack of resources to update the HER. Secondly, attention has been drawn to this site and its significance throughout the Public Examination process, so that to deliberately not recognize it as a heritage asset is to adopt a knowingly and prejudicially blinkered approach. It is not acceptable to deny the existence of a large and significant archaeological site because it has not been entered – for whatever reason – onto the Swindon & Wiltshire HER.

Paragraph 124 of the NPSNN states that '[N]on-designated heritage assets of archeological interest that are demonstrably of equivalent significance to Scheduled Monuments should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance.'

Footnote 98 states 'There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.'

It can be noted that there is no requirement in the NPSNN for an asset to be included on the HER in order for them to be considered as an 'asset of archeological interest that [is] demonstrably of equivalent significance to Scheduled Monuments...'. As set out in the Consortium's previous submission, the asset is undoubtedly of archeological interest and of equivalent significance to a scheduled monument. This is also addressed in the next section.

2. Nature and significance of the archaeological remains (1.2.7)

This very substantial Beaker-period site can be divided into two zones. Its northern area is c. 1,400m N–S by c. 300m E–W and its southern area is c. 800m E–W by c. 300m N–S. NH have also sampled part of this southern area with a 1% sample of artefacts from topsoil. Considering just this southern area of c. 240,000sq m, which would be dissected by the road cutting proposed outside the western portal, field evaluation for NH has revealed sub-surface features consisting of five pits and two human burials. These derive from a 2% trenching programme within c. 50,000sq m of the sampling corridor where it crosses the archaeological site.

NH have not properly considered the implications of this systematic sampling, from both trenching (2%) and test-pitting (1%), for the total 'population'. To scale up to the total area of this archaeological site of 240,000sq m would infer the presence of as many as 1,200 Beaker-period pits and well over 100 Beaker burials for this one site. Within the c.50,000sq m of the sampling corridor this sample indicates a probable total of 250 Beaker-period pits

and 100 burials still preserved, many of which must lie within the proposed road line. Such remains of small pits and burials do not appear to have been identifiable from geophysical survey.

Such a density of pits (one per 200sq m) is not unexpected and is less than the density encountered at the Neolithic settlement of Durrington Walls. With just two burials (an adult and a neonate) found during trenching, scaling up of their likely density is more difficult. Yet this is known to be a portion of the Stonehenge landscape with a high density of Beaker burials from barrows and flat graves: 14 more Beaker burials are known from within the area of this site (Bowden *et al.* 2015: table 3.2), an unusually high concentration of Beaker burials in national terms (Garwood 2012: fig. 3.9).

It is clear that this meets the definition of being an 'asset of archeological interest that [is] demonstrably of equivalent significance to a scheduled monument'. The site is of a rare type: not only are Beaker and Early Bronze Age settlements far less well known than those of any other later prehistoric period but to be of this size is also exceptional. The combination of numerous burials alongside settlement remains on this site is also exceptional. Its proximity to Stonehenge and the round barrow cemeteries of Winterbourne Stoke Crossroads and Normanton Down as well as to Stonehenge raise the possibility that it may have been where the mourners and barrow-builders lived while burying the dead and where the megalith-builders of Stonehenge's stages 3 & 4 lived.

3. Schedulability and national importance of the archaeological remains (1.2.8)

It is true that the wording of the 1979 Act allows only structures, works *etc.* to be scheduled as ancient monuments so this does exclude the dense scatter of lithics, accompanied by Beaker pottery, within the ploughsoil above the pits and burials. However, these Beaker-period pits and burials are structures and are thus included within the meaning of the 1979 Act. In any event, the NPSNN and NPPF provide that where archeological assets which are not designated (i.e. scheduled) but are demonstrably of equivalent significance to Scheduled Monuments they should be subject to the same policies which apply to designated assets. Scheduling is also discretionary in that the criteria do not require all nationally important remains to be protected. The OUV requirements relate to key issues of significance and any physical evidence relating to those is inherently included. Both in national planning policy and international heritage standards that apply here, remains of this type are not by their nature excluded from being of national or international importance.

By the criteria for judging national importance (finds, rarity, period, survival, diversity, potential, fragility and vulnerability, group value), this Beaker-period site, with its high potential for buried structures in the form of pits and burials, is exceptional: together with its northern neighbour, it constitutes the largest known Beaker-period settlement in Europe. It is also unique in combining burials with settlement remains. Most importantly, it appears to have formed a major focus of settlement perhaps replacing the earlier settlement at Durrington Walls, in an east-to-west shift in Neolithic–Early Bronze Age settlement around Stonehenge (Pollard *et al.* 2017). NH's attempt to deny that these archaeological remains are not nationally important, without providing any rebuttal of our claims from actual evidence simply does not stand up.

4. Comprehensiveness of archaeological recording of the remains (1.2.9)

The mitigation strategy is not comprehensive, as stated in numerous 2019 submissions by the Consortium/Blick Mead team, the CBA, and in a separate submission on the DAMS by Paul Garwood. As set out in the Consortium's previous representation of April 2022, some 370,000 flint artefacts will be lost without record and c. 1700 sub-surface features will be destroyed without excavation on the three identified archaeological sites. Such archaeological losses are simply unacceptable for the Stonehenge World Heritage Site. The CBA has also further highlighted the limitations inherent both in the identification of areas of significance (especially for non-linear features) and also in the proposed sampling mitigation strategy.

Conclusions: National Highway's failures to adequately address SoS's Question 1

1. National Highway's failure to recognize important archaeological sites, one of them published in a peer-reviewed paper (Pollard *et al.* 2017), as heritage assets is unacceptable. It is not good enough to use the excuse that these sites had not been entered into the local HER by 2021 to claim that they do not exist as heritage assets.

2. In characterizing the remains from these archaeological sites, National Highways have failed to consider the difference between a sample and what it is a sample of. Their characterization of the archaeological remains found during their very limited sampling as 'a small number' of features underplays the potentially enormous number of sub-surface structures and buried artefacts that lie within these archaeological sites and within the proposed road line that would cut through them. As a sample, the finds represent just 1%-2% of the likely total of below-ground structures and artefacts, numbering probably in the hundreds and thousands. In the case of the very substantial Beaker-period site, this may number over 1000 pits and over 100 burials. The unscientific approach adopted is contrary to basic EIA principles of describing the character and extent of the heritage asset inferred from sampling, not just a description of the sample obtained.

3. National Highway's bald claim that these archaeological sites are not of national importance is unsupported and indefensible. In particular, the Beaker-period site is formed of the remains (pits, burials, artefacts) of a likely settlement larger than any known from this period in Europe. It ranks highly on all the criteria used for assessing archaeological sites in England. Survival of sub-surface structures, probably over a thousand, would make this particular site equivalent in importance to a Scheduled Ancient Monument.

4. National Highway's claim that their mitigation strategy is comprehensive does not square with the fact that hundreds of thousands of artefacts and over a thousand sub-surface features will be left uninvestigated within these sites if the scheme goes ahead.

Recommendations

1. The current scheme will cause profound damage to archaeological remains, to the WHS, and also to the spatial relationship of monuments as set out in the Consortium's previous submissions.
2. The cut and cover extension would do little to obviate this as it would still involve significant loss of the physical fabric of the WHS.

3. If a tunnel is to be chosen then the bored tunnel is the better option as it would involve much less loss of physical fabric of the WHS including the archaeological remains and would be less harmful in terms of the interruption of the spatial relationship between monuments.
4. However, a tunnel is not the only available alternative. It is necessary to re-consider a southern bypass around the WHS. This would not affect the physical fabric of the WHS. NH have provided insufficient information on this option and it must be re-visited.

Who we are

The Consortium of Stonehenge Experts is a group of 22 senior scholars who have carried out internationally recognised research within the Stonehenge WHS within the last ten years or more. Most of us are employed by UK universities; many were employees of various universities or of English Heritage when doing that research. Seven of us are independent members of the Scientific Committee of the A303 Stonehenge – Amesbury to Berwick Down scheme. We are:

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Dr Umberto Albarella PhD University of Sheffield

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Prof Colin Richards PhD University of the Highlands & Islands

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Blick Mead Project experts' submission on National Highways' response to Redetermination 4

By David Jacques (University of Buckingham) and Tony Brown (University of Southampton) for the Consortium

Secretary of State letter 20 June 2022

Applicant's response to the request for comments 1.2.1 D, 1.2.10-1.2.16 – Response document [Redetermination 4.1](#)

National Highways' response

Six points (1.2.10–1.2.16) were made in National Highways' response to the submission from the Blick Mead Project. Those that are of substance are summarized or quoted below here:

- The Blick Mead site will not be physically impacted by the Tunnel Scheme, nor will the groundwater levels at the Blick Mead Site change due to the construction and operation of the Scheme (1.2.13).
- The Examining Authority report (2020) was satisfied that the Tiered Assessment of Blick Mead conducted by National Highways was adequate (see Recommendation Report paragraph 5.9.106) (1.2.15).
- *“The Outline Environmental Management Plan, as updated in May 2020 in response to the Secretary of State’s request, required in measure MW-WAT10 that the Groundwater Management Plan sets out how Blick Mead is to be considered to safeguard the groundwater levels associated with the preservation of archaeological remains at the Blick Mead site”* (1.2.16).

Submission of the Blick Mead Project experts

The claims by NH in points (1.2.13, 1.2.15 and 1.2.16) fail to address the SoS question 1 in relation to Blick Mead.

1. The ExA report stated -

“The final version of the OEMP [AS-129] requires, in MW-WAT10, that the Groundwater Management Plan sets out how Blick Mead is to be considered. This would positively require the Plan to address the Blick Mead site. However, the ExA remains concerned that this does not provide adequate detail to ensure suitable monitoring (and mitigation if required) (5.9.109).

The ExA report also advised that –

“When the archaeological importance of the Blick Mead site is considered together with the alteration or destruction of the deposits which could arise, if groundwater flows were adversely affected, the ExA is of the view that specific monitoring for this site is required. This would be necessary to ensure that the heritage asset is conserved” (5.9.108).

There is yet to be “specific monitoring” at Blick Mead other than that recorded by just two water meters which were placed in wrong areas of the site without consultation with the Blick Mead Project’s experts in 2017. The ExA report’s stress on the need for there to be “adequate detail to ensure suitable monitoring” (5.9.108) at Blick Mead has therefore yet to be met. ExA point 5.9.110 additionally recommends that:

To ensure monitoring (and potential mitigation) is adequate the ExA considers that it would be necessary to specifically require monitoring of groundwater and soil moisture levels, the approval of trigger levels below which remediation would be necessary and the approval of a remediation plan. The ExA therefore recommends that R4 in the dDCO is amended to specifically require this as part of the Groundwater Management Plan. The proposed wording has been included in the ExA’s recommended DCO”.

Despite the concerns raised by the ExA, NH has not conducted **any** additional monitoring of the Blick Mead site.

As has been explained in numerous submissions to the Secretary of State (including by Dr George Reeves on behalf of the Stonehenge Alliance) the tunnel proposal brings a significant risk of dewatering in the area. As is set out below, and as has been repeatedly stated by the Blick Mead Project Team, de-watering would be disastrous for the preservation of Mesolithic remains at Blick Mead. The failure of NH to definitively show that the proposal will not lead to de-watering and thereby substantial harm to Blick Mead means that the scheme should be refused on this basis alone.

Further, the draft OEMP still suffers from the flaws which were identified by the ExA. In the event that any DCO is granted it will be necessary for there to be a requirement which seeks to protect Blick Mead as far as possible in accordance with the recommendation of the ExA.

2. National Highways’ response does not acknowledge that the Examining Authority’s report in 2020 was produced before the publication of a peer-reviewed international journal (Hudson, Pears and Jacques *et al* 2022), which details how Mesolithic eco facts have survived at Blick Mead due to the water table levels. Specifically, this work confirmed the presence and extent of prehistoric horizons at Blick Mead dating from the very Late Upper Palaeolithic/Early Mesolithic, c.9160 BC (*the earliest ever date recovered from the Stonehenge World Heritage Site*), to the very Late Mesolithic period. These layers were found sealed beneath plough soil and terraces dated to the mid-Bronze Age, and, crucially, *no contamination of aDNA or pollen was evident from later human activity in this sequence*. Above the Bronze Age plough soil, the environmental time-slices continued through to the present day. *Astonishingly, Blick Mead thus provides an environmental archive of this part of the World Heritage Site which spans the whole of the Holocene. It is the only place in Western Europe to have produced such a sequence.*

The article makes it plain that without the survival of sedaDNA and pollen from Blick Mead, maintained by water-table levels over millennia, the new insights the Project has gained into the development of this part of the Stonehenge landscape during the Mesolithic and into the early Neolithic, and beyond, would have been lost. Blick Mead’s wider environs, however, have not been explored, and any chance to do so will be lost if tunnel works disturb the water table and interfere with the local hydrological regime. Neither have been

measured adequately (see above). It is therefore entirely wrong for NH to rely upon the fact that the ExA was satisfied that the tiered assessment in 2020 was “appropriate” without acknowledging the discoveries detailed in the peer reviewed journal in 2022 which provided an entirely new data set to factor in. That data-set emphasises the sensitivity of the site and therefore that a Tier 4 assessment ought to have been conducted (as set out in previous submissions).

A note on the importance of the water table levels being maintained at the Blick Mead Site

Modern archaeology includes the analysis of organic remains preserved in sediments and soils as well as artifacts and structures (Brown et al. 2022). Traditionally these are pollen, snails, beetles etc. but increasingly they include molecular ‘fossils’ such as aDNA and also lipid biomarkers (fats etc.). This is a revolution in archaeology. However, the preservation of these molecular fossils requires the sediments to remain within the permanently saturated, or at least seasonally, saturated zone. We know that they are best preserved under of low REDOX conditions and where there is no or minimal leaching (as happens above the water table). This makes understanding the hydrological conditions at Blick Mead of critical importance.

Specifically, the main areas of concern with NH approach remain:

1. A lack of understanding and modelling of the horizontally elevated permeability associated with the Whitway/Stockbridge Rock/Barrois Horizon zone as highlighted by Dr G.M. Reeves (Submission to planning Inspectorate Ref. TR010025). This causes uncertainties in the effects on the springs not only at Blick Mead but also to the south.
2. A lack of modelling of shallow groundwater flows both before and after the works incorporating the full design of drainage works and any infiltration or runoff ponds.
3. A lack of appropriate modelling at high sensitivity to model seasonal water table fluctuations at the site and groundwater levels below 68m OD which would damage the archaeological resource (as per ExA report 5.9.108-110 above). This should also include climate change scenarios as changes in precipitation and evapotranspiration may also make the site more vulnerable and cannot be divorced from the changes to the hydrological catchment caused by the tunnel and associated works.
4. A failure to undertake a Tier 4 assessment despite the uncertainties revealed in NA’s assessment (Highways England 2018) and in light of the peer reviewed recently published discoveries (Hudson, Pears, Jacques *et al.* 2022).

Most of these points were made in the Report to the Planning Inspectorate in 2018 by Professor Brown (University of Southampton) and Dr Bradley (University of Birmingham). It remains a fact that the appropriate monitoring of the site, at the correct spatial and temporal scales, has not been undertaken and so we cannot be any more assured of a lack of hydrological impact than was given in the report of 2018. It is therefore wrong for NH to highlight that ExA was satisfied that the tiered assessment in 2020 without mentioning the concerns it raised in the same report (5.9.08-10). NH responses also do not acknowledge

that the ExA's report was published before the internationally important results from Blick Mead in 2022.

To conclude, monitoring by NH at Blick Mead, as stipulated in the ExA report and Outline Management Plan, has, to-date, been completely inadequate. This should already have been addressed in order to assess any hydrological impact at this important site because, without it, NH lacks the necessary information about the significance of and impact on the Blick Mead asset as required. What is also clear, is the continuing impact of this site on our understanding of the Stonehenge landscape, and on how its environment – and human use of this environment – changed in prehistory.

Taken together the inadequacies in NH response to the Blick Mead submission condemn it to fall far short of the requirements needed to satisfy key policy and legal tests.

References

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