

Minutes

A303 Stonehenge – Amesbury to Berwick Down

Title:	Scientific Committee		
Date:	23 February 2018	Time:	10:00 – 16:30
Location:	The Bowman Centre, Shears Drive, Amesbury, Wiltshire, SP4 7XT		

Attendees:

Scientific Committee

Professor Sir Barry Cunliffe (BC)
 Dr Mike Allen
 Dr Andrew Fitzpatrick
 Dr David Field
 Mike Pitts
 Dr Colin Shell
 Professor Vince Gaffney
 Dr Josh Pollard
 Professor Mike Parker Pearson
 Professor Nicky Milner – via
 Skype

HMAG

Melanie Pomeroy-Kellinger (Wiltshire Council) (MPK)
 Dr Nicola Snashall (National Trust)
 Phil McMahon (Historic England) (PM)
 Kate Davies (English Heritage)

 Leslie Smith (Highways England)
 Andrew Clark (Highways England) (AC)
 Chris Moore (AmW) (CM)
 Huw Sherlock (AmW)
 Andy Mayes (AmW)

Apologies

Professor Tim Darvill
 Professor Clive Ruggles

 Professor Oliver Craig
 Julian Richards
 Dr Heather Sebire

Chair: Sir Barry Cunliffe

Agenda Item	Action
Welcome	
<ul style="list-style-type: none"> No comments had been received on the minutes from the previous meeting 	
Presentation on Blick Mead by David Jacques (DJ) and Tony Brown	
<ul style="list-style-type: none"> The Chair welcomed DJ and TB to the meeting. He explained that the committee was keen to learn details of the Mesolithic site at Blick Mead, arising from the excavation, to enable it to arrive at an understanding of the effects of the rerouting of the A303 on the archaeology of the site. The waterlogging of the site and the possible effects of a lowering of the water table were of particular concern In their presentation DJ and TB made the following points. The Andrew's Map of 1773 shown showing Blick Mead in relation to the River Avon floodplain The Blick Mead excavation teams were able to dig for only 14 days between 2005 and 2010 due to land access restrictions. The Antrobus family are reticent about allowing access (mentions Pitt Rivers and Charles Darwin being refused access) so time restrictions were respected stringently by the excavators. 3 trenches extending below 50cm were started in 2010 Overburden from 1960's road widening sealed deposits with unstratified microliths ranging in date from early- late Mesolithic. This represents a very significant assemblage, cited Darvill, T's 2006 comment that '<i>little can be said about either the technological or cultural relationships of the 7th -5th millennium BC from the material around Stonehenge as there is simply not enough of it to judge</i>'. The water table was encountered in all trenches at c. 0.5m below ground level. 	

- 100% sieving of deposits from Trench 19 through 5mm and 2mm mesh sizes using bespoke equipment designed by Tony Legge.
- Currently only 190 square metres have been excavated.
- Faunal remains - approximately 2500 well preserved animal bone fragments have been recovered with little or no sign of rolling, indicating this is not a secondary deposit. The bulk of the animal bone was found in trench 19, this includes an unusually high proportion of auroch bones, but includes other species (cited Simon Parfitt's analysis) such as marten, salmon and trout and a toad bone (that may show signs of having been cooked).
- Cited Sophie Charlton's ZOOMS analysis which showed that of 20 identified bones 12 were from aurochs.
- Some evidence of cut marks on bone.
- Isotopic analysis of a dog tooth of 5th Millennium date shows evidence of long distance migration.
- Only 3 trenches (19, 22 & 23) within the spring area have been excavated into the waterlogged areas to a depth greater than 0.5m (below the water table).
- Trench 19, measuring 18 square metres has produced a density of 3000 pieces of struck flint and 9000 pieces of burnt flint per square metre from the Mesolithic horizon.
- Radio carbon date range from 8000BC to early- mid Neolithic with a concentration in the late 5th millennium BC.
- Confirmation that work up to the 2016 season will be published on 1st March
- Tony Brown presented on the environmental setting.
- Mentioned work by Reading University (2013, to be included in forthcoming publication) who put a transect (not complete) of boreholes across the site from the terrace edge into the floodplain.
- A question was asked as to whether the waterlogged deposit extends up to the current A303 corridor. The answer given was yes, and beyond this, there is an extensive floodplain aquifer.
- 3 boreholes represent a transect from the edge of the dry land site, from the old river bank out onto the floodplain.
- Enough peat was retrieved to allow pollen analysis in 2 locations (site 2 and site 1), but these were not directly linked to the archaeology and the basal date was 2620 cal BC so too late for the site, but shows that pollen sequences are preserved.
- Beetle evidence from the waterlogged trenches, (19 & 22) and within the Mesolithic horizon showed an interesting range of habitats, even from the preliminary analysis. Water beetles from slow moving water, probably a cut off channel. Temporary grassland, ponds, decaying vegetation, a weevil that lives on clover and a wood ant. No evidence of species living in closed canopy woodland.
- LIDAR data shows a series of scars from a palaeochannel which originated in the late glacial period, becoming a secondary channel by the Mesolithic period. The main channel probably lay to the south of Blick Mead. There is evidence of two or three superimposed palaeochannels banked up against the edge of the floodplain.
- The edge of the floodplain and the surface aquifer coincide at this point.
- The borehole closest to the edge of trench 24 produced a very good range of dryland grasses, including plantain.
- 41 pollen types found – overall indication is that in the Mesolithic the site lay in a large clearing at the edge of the floodplain. Fungal spores from dung were also found, indicating the presence of herbivorous mammals.
- This core contained a microlith.

- Results of DNA analysis not yet available (delayed by PCR, but is now in sequencing in Grenoble). Site has good potential for DNA sampling, being waterlogged and has also been protected from drying out by the 1960's road building spoil.
- Bone is well preserved and material is proximal
- Simple approach to DNA sampling has been used, metabar coding, using a p6 loop on the chloroplasts of plants and the most reliable mammal prime.
- DNA seems to bind best to clay, and then remains stable so there is enough with 50 base pairs or more to get good results.
- The Chair thanked the presenters for an effective presentation which demonstrates the value of the site and it's potential. .
- A question was asked about the potential for further sites in the area with similar levels of preservation in association with lithic scatters. DJ cited the work by Wessex Archaeology to the north of the A303 and the geophysics results from the Stonehenge Hidden Landscapes project which are suggestive of waterlogged conditions.
- A discussion of the stratigraphic integrity of the site concluded that horizons within the dry areas on the bank of the palaeochannel can be directly related to those within the waterlogged areas, which is a rare occurrence.
- A discussion was held around the possibility of peat on the site – peat bodies have been identified closer to the Countess Roundabout and the potential should be considered for these to survive beneath the existing roundabout and approaches. This could be of great environmental potential in relation to Blick Mead and the other Mesolithic deposits recorded on the north side of the A303.
- Evidence was found during excavations by Geoff Wainwright that some of this peat was removed when the road was constructed between 1963-1968.
- [Post-meeting note: the preliminary geotechnical report for the 2005 published scheme quotes work undertaken by Halcrow in 2000 as part of a an options report for Countess junction. This geotechnical work found that:
 - The existing embankment is formed of very dense fill of placed and compacted chalk.
 - Comparison of trial pit logs with those of the 1965 boreholes indicates that the soft, alluvial materials [including peat] were removed, prior to placement of this fill, with the embankment being founded on the river gravels (or possibly an engineered granular starter layer).
- An accompanying profile and test pit logs from the Halcrow 2000 report are appended to these minutes, for information]
- CM commented that even if some peat remains the effects of surcharging from weight of the embankment are likely to already have happened.
- AC described the details of the Proposed Scheme in the zone close to Blick Mead.
- PM confirmed that the Planning Act and NPPF made clear that allowing substantial harm to archaeology of the highest significance should be wholly exceptional. In seeking to avoid substantial harm, the recently updated Historic England guidance on preservation of remains in situ is relevant, notably Appendix 3 which deals with remains in water environments. These guidelines have been sent to the committee. A detailed assessment using the tiered approach given in the guidelines in relation to the results from Blick Mead needs to be prepared and circulated.
- CM noted that discussions between AmW and PM and Jim Williams, EH chief scientific adviser are ongoing and the iterative approach set out in the Historic England guidance to assessing the potential effects of dewatering, principally on the aquifer, of the scheme will be undertaken.

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<ul style="list-style-type: none">• DJ asked what the current programme to submission of the DCO is, and whether local monitoring of ground water would take place at Blick Mead over the seasonal cycle to inform this.• AC replied that the DCO is currently due to be submitted in late summer. Hydrogeological modelling of the chalk aquifer across the Stonehenge area has been undertaken using Environment Agency data and bespoke borehole data and monitoring undertaken over the last 18 months as well as data gathered for the published scheme.• TB noted that the work undertaken at Star Carr showed that having a shallow ground water model at a sub 10 metre scale is essential to effectively model potential impacts on waterlogged environments as the relative amounts of water are small and the loss of 10-20 cm of groundwater would have major impact on shallow deposits. Inserting a series of dip wells for gathering data of this kind is not an onerous task (either in terms of labour or cost).• VG noted that having the finer grained analysis of the local water environment is just as important as understanding the broader scale hydrogeology.• DJ noted that detailed assessment has not yet been carried out at Blick Mead.• The Chair asked if the types of modelling outlined by TB and in the guidelines would be insisted on by Historic England. PM replied that this must be the case.• CS noted that this would need to be of at least twelve months duration to cover seasonal variations.• TB indicated that he would be prepared to work with the project team to monitor variations in the water table in the immediate vicinity of the site over a period of time.• BC stated that the Committee would work to ensure that the construction methods used on the road sector past the site would have as little impact on the archaeology as possible. Preservation would be preferred to mitigation..• DJ aims to make a proposal to National Trust for a bigger trench to assess survival of ecofacts moving away from Blick Mead (north of the A303).• DJ asked for an opportunity to come back for another presentation.• A discussion was held around working in collaboration with DJ with future work for the A303 scheme.• The chair thanked DJ and TB for offering such a full and interesting presentation of the site and said that the committee would welcome an update in due course. TB's offer of collaborating in the monitoring of the water table was particularly valuable. He hoped it would be acted on as a matter of urgency. He said that the Committee were concerned to ensure that any effects that roadworks might have on the archaeology of the area would be mitigated in the most effective way possible and to the highest of standards	
Minutes and Actions	
<ul style="list-style-type: none">• SSWSIs for the eastern and western portals and for investigations relating to GI works at Stonehenge Bottom had been circulated to members for information. It was noted that the minutes of the previous meeting recorded that SSWSIs would be circulated for comment. This had not been done. It was explained that time had been very short and the SSWSI's closely followed the guide lines laid down in the Evaluation Strategy and the Overarching WSI which had been circulated in draft and commented on. The Chair said that if any member had comments they could be sent in for consideration.• Minutes accepted	

Kate Fielden's Letter	
<ul style="list-style-type: none"> • BC received a paper from Kate Fielden on OUV. With KF's permission it had been circulated to members. The paper was discussed. • Confirmation was received from PM that all work on OUV has been done in accordance with published guidance. • BC suggested that HE should be asked for a written response to the issues raised in KF's paper and that both should be placed on the Members only section of the website for future reference. • PM to provide Historic England's position on OUV. 	PM
ICOMOS Mission	
<ul style="list-style-type: none"> • Confirmation that the next Advisory Mission is in early March and only for three days. • Itinerary will be one day on the scheme, one day on archaeology and one day on stakeholders; • Detail of the third day to be circulated early next week. • The Chair has been invited by Highways England to meet the Mission as a representative of the Scientific Committee. Scientific Committee members will be able to comment on the consultation as individuals, a consensus Committee position is not required under the Terms of Reference. 	PM
Scientific Committee Website	
<ul style="list-style-type: none"> • Thanks to all who have sent photos and biographies for the website. Just one member left and MPK will chase • Members only section up and running and a reminder of the username and password was circulated at the meeting. MPK agreed to amend the access to this part of the web site as currently the login is difficult to find. 	MPK
Preferred Scheme Presentation	
<ul style="list-style-type: none"> • Presentation by AC – description of the scheme given while running through visualisation video of the Proposed Scheme. • Confirmation that no extra lighting will be added to Countess Roundabout, just upgraded and modernised. • AC confirms that feedback on the scheme is requested now and throughout consultation – feedback forms were given out. • A discussion was held around green bridges and the potential number and locations of these. The consensus was that more and bigger green bridges would be preferred in respect of the western approach cutting. 	
Progress to date with ongoing Archaeology	
<ul style="list-style-type: none"> • CM presented an update on the archaeological evaluation programme. The Evaluation Strategy and Overarching WSI have been circulated for comment; CM confirmed that comments provided by the Scientific Committee have been taken on board. • CM described the 6 SSWSIs that flow from these strategic documents. BC said that he thought these were comprehensive and demanded an exacting standard. • Work is ongoing on site at the Eastern Portal – fieldwalking, test pitting and trial trenching. The committee would visit the work in the afternoon. 	
HIA Presentation	
<ul style="list-style-type: none"> • LS to send HIA Scoping Report to all committee members. <i>Post meeting note – this has been done.</i> • BC thought that HIA Scoping Report is very thorough. • CM gave an overview of the HIA – purpose and contents. <ul style="list-style-type: none"> ○ OUV of the WHS and the attributes of OUV ○ HIA method ○ Impact of current A303 	LS

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<ul style="list-style-type: none">○ Potential impacts of proposed scheme○ Mitigation measures● Timing of HIA to be in parallel with the EIA and to go into the DCO application (September)	
AOB	
<ul style="list-style-type: none">● MPK mentioned that the building we were in “Bowman Centre” was named after an important archaeological find (graves of the ‘Amesbury Archer’ and Boscombe Bowman) which were found a short distance away in 2001. The excavation has been published by a member of the Committee, Andrew Fitzpatrick. The whole of the housing development, known as King Gate and Archers Gate, has been excavated over the last few years and found to be rich in archaeological remains from the Prehistoric and Roman periods, including five Roman cemeteries.	