

Kent International Gateway – Archaeology Note

Note re KIG 7.4 Appendix 2

Introduction

- 1.1 This note refers to Appendix 2 of the Rebuttal Proof of Evidence on Archaeology (KIG 7.4) submitted by Mr Paul Chadwick on behalf of the appellant. In this appendix Archaeological Services University of Durham presents four pages of responses to Paragraphs 6.15 to 6.42 of my evidence (KCC 2.1).
- 1.2 I have subsequently discussed (19/10/09) the responses to my evidence with Dr Linford at English Heritage who has been advising the County Council on the geophysics works since 2007. I have incorporated his verbal comments to me within my notes below.

Responses

- 2.1 As I set out in paragraph 6.21 of my evidence, Dr Linford has reaffirmed that he believes the survey has been carried out to an acceptable standard. He maintains that piloting and testing through a more limited sample would have been a preferable approach. He remains of the view that it would have been better to combine the survey with some targeted Earth Resistance survey based on the results of the magnetic survey trial to provide a complementary set of data.
- 2.2 Response 6.15 – Durham University confirm here that they were not provided with the KCC specification by CgMs. CgMs had by this time acknowledged that they had a copy of it (KCC 2.3 Appx 4 email 30th April 2009). This is particularly unfortunate as Durham University would have understood better the importance that the County Council attach to understanding the geology of the site, the approach that we wished to follow and the combination of surveys that KCC had specified. The section on 'Briefs and Specifications' in English Heritage Guidance (CD 6.7.3 page 7) demonstrates the importance of this documentation.
- 2.3 Response 6.15 – With respect to Durham University's understanding of the geology of the site, they are correct in saying that no areas of alluvium, colluviums and Head

are shown on the BGS mapping of the site **but** Head is shown nearby on the BGS mapping (KCC 2.2 Fig 1). There also appears to have been no consultation of the geotechnical work for the site. The borehole logs included in Appendix 1 of the Archaeological Deposit Model (CD 3.30 Appx 5) clearly state the presence of Head or Head Deposits in a number of locations. The monitoring of the test pits in 2007 (CD 3.1 Appx 13.8 pages 4-7) also identified subsoil deposits as I have explained in my evidence (KCC 2.1 para 6.12). This information should have been made available by CgMs to Durham University to inform their selection of technique and for use in the interpretation of their results.

- 2.4 Response 6.16 – Approval of method statement – The method statement was submitted to KCC at 4.20pm on Friday 1st May (KCC 2.3 Appx 4), prior to a bank holiday weekend and the geophysics survey started on the following Tuesday morning. The method statement was not formally approved though the methodology was acceptable.
- 2.5 Response 6.18 – I note that reference is made to crops in 4.2 but the report didn't describe the height of these crops or the effect of their presence on the reliability of the survey. My comment on reliability related to the lack of a trial survey to test the technique.
- 2.6 Response 6.20 – Durham have contested my use of the word 'identified'. I agree with them that there is no absolute certainty without full excavation.
- 2.7 Response 6.21 – My limitations refer to 6.25 of my proof, the interpretation includes aspects in 6.31 – 6.33 of my proof (KCC 2.1).
- 2.8 Response 6.22 – The paragraph quoted from the Hey and Lacey report (CD 6.7.2 para 3.2.3 refers to geophysical survey including resistivity survey. Reference should be made to the more detailed review on page 85 of Hey and Lacey for the true picture as the "*magnetometer response was comparatively unhelpful*" at Thurnham Villa. At the villa earth resistance survey produced good results while the magnetometry was not so good. Dr Linford has advised me that the magnetometry could not have been looked at on its own to identify the nature of the site though most of the main buildings had some high magnetic properties that produced a response. You could not have identified the site as a villa on that evidence alone.

- 2.9 Response 6.22 - Points made on alluvium and colluviums and depths are not supported on reading of the paragraphs referred to (CD 6.7.2 paras 3.2.4 & 3.2.5). Indeed the report noted that only one site, that of Thanet Way which lies on chalk had an average topsoil depth of over 0.5m and was responsive to magnetic survey in places. The report stated that even on that site the more deeply buried parts of the site were less responsive than those with only 0.25m to 0.3m of topsoil cover. Thurnham Villa and Westhawke Farm did not have colluviums present. Dr Linford has advised me that it is hard to correlate depth with response to magnetic survey as it depends on how magnetic the feature is. A well-fired feature would clearly be more responsive and detectable at greater depths.
- 2.10 Response 6.22 - Dr Linford has drawn my attention to the selection basis for choosing Earth Resistance. He points out that as well as masonry structures the technique can identify a range of features (CD 6.7.3 Tables 2 and 3)
- 2.11 Response 6.23 - I am pleased to receive confirmation on this point and that the crops did not affect data quality more than marginally. I note that lifting the machine affects the ability to detect weaker responses. Buried depth has a similar effect.
- 2.12 Response 6.24 - I acknowledge that there is an increase in the near surface ferrous detritus in Area 12 but that this doesn't counter the views in my paragraph expressed by Dr Linford.
- 2.13 Response 6.25 - My comments stand – there should have been more discussion of the geology and site conditions and this considered more in site selection. The geotechnical information predated the Durham Survey so was clearly not provided.
- 2.14 Response 6.25 - comments on the selection of the technique – apparent shallowness of deposits has been based on the presence of cropmarks in the area. These are not widespread across the site and consideration of the geotechnical results would have shown the depth of deposit that could be anticipated.
- 2.15 Response 6.26 - Durham University confirm that the archaeology identified in the survey was located on higher ground. This is relevant to interpretation and should have been mentioned in the report.

- 2.16 Response 6.27 - I am advised by Dr Linford that he would expect to see parameters reported. It is good practice to describe the different parameter variables in a geophysics report as indicated in the English Heritage guidance (CD 6.7.3 page 9 list of methods).
- 2.17 Response 6.28 - Trace plots are not in my copy of the SES Appendix, but are in the original report.
- 2.18 Response 6.29 – This is confirmation that the features could be archaeological, but I accept their need for clarity in the report and agree that only excavation will tell.
- 2.19 Response 6.31 - Durham's response supports a point that I am making, that features will not necessarily show up on the magnetic survey, in this case the crop marks.
- 2.20 Response 6.32 - I agree with Durham's comments, which support my evidence.
- 2.21 Response 6.33 - This point only refers to the use of my word 'dismiss'.
- 2.22 Response 6.34 - I note with interest that the report was provided on the 2nd July. It was not received by KCC prior to the start of the subsequent trial trenching works and in fact received on the 22nd July – see correspondence (KCC 2.3 Appx 4) and my account in paragraph 6.34 (KCC 2.1). KCC were unable to properly consider the scope of the trial trenching in advance of the works.
- 2.23 Response 6.36 - I agree with Durham University's comment. My paragraph is description and my concern is that the issue was not picked up subsequently in interpretation by Wessex or CgMs.
- 2.24 Response 6.30 (relates to para 6.39) - I have not stated that I would expect a 1:1 relationship from geophysics and agree that geophysics is unlikely to identify every single feature. Durham recognise a plotting error has been made in the field containing Trench 5. They claim that there has been no similar error over the rest of the site though I would suggest that they do not have the evidence to confirm this.

2.25 - Response 6.42 - The response by Durham University that “excavation may or may not identify further archaeological features” acknowledges the limitations of the survey. Dr Linford has confirmed to me his view that there has been too little testing by trial trenching of the geophysics to draw any meaningful conclusions about its reliability. It would have been useful to test other areas and combine the geophysics with other surveys as has been advised in the guidance (CD 6.7.3 page 13).

2.26 - In summary , 'absence of evidence is not evidence of absence'.

