

**From:** [REDACTED]  
**To:** [A303 Stonehenge](#)  
**Subject:** A303 Stonehenge - TR010025 Reference 20020712  
**Date:** 14 March 2019 11:44:50  
**Attachments:** [80034-R0011-00.pdf](#)

---

Dear Sir or Madam

Please find attached an initial expansion of my reservations on the above project (80034-R0011-00.pdf). This document is in the region of 2,500 words and could therefore be used for evaluation at "Deadline 2" (Annex C of letter referenced TR0025 and dated 4 March 2019)

My purpose in sending it early is to help inform the Preliminary Meeting of potential issues raised in my earlier submission referenced 20020712.

I would be grateful for confirmation of receipt as I am not sure of the submission process at this stage. I am rather busy at the moment, but in the event that you believe my attendance at the above meeting could be beneficial, would you be so kind as to let me know?

My kind regards

**Jonathan Morris**

Ir. BEng CEng FStructE FICE Eurlng MHKIE

[REDACTED]

-----

On 04/03/2019 11:56, A303 Stonehenge wrote:

Dear Sir/ Madam

**Planning Act 2008 – Section 88 and The Infrastructure  
Planning (Examination Procedure) Rules 2010 – Rule 6**

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

**Notice of Preliminary Meeting and availability of Relevant  
Representations**

Your reference: 20020712

Please find below a website link to the Rule 6 letter giving notice of, and the agenda for, the Preliminary Meeting. This letter includes a number of important annexes.

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000511-190304%20TR010025%20Rule%206%20letter%20-%20Cover%20FINAL.pdf>

If this link does not open automatically, please cut and paste it into your browser.

Yours faithfully

A303 Amesbury to Berwick Down Case Team  
National Infrastructure Planning  
The Planning Inspectorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

Web: <https://infrastructure.planninginspectorate.gov.uk/>  
(National Infrastructure Planning)

Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)

Twitter: [@PINSgov](https://twitter.com/PINSgov)

This communication does not constitute legal advice.  
Please view our [Privacy Notice](#) before sending information to the Planning Inspectorate.

# **A303 Valuation Issues**

Notes on A303 proposals

80034-R0011-00  
14 March 2019

*Reference: 20020712*

## INDEX

### **1.0 Introduction**

- 1.1 General introduction
- 1.2 Executive Summary

### **2.0 Valuation review and notes**

- 2.1 Overview of valuation
- 2.2 Available documentation
- 2.3 Reservations on the valuation survey.
- 2.4 Identified Issues with valuation:
- 2.5 Other considerations

### **3.0 Summary**

**Appendix A:** References

**Appendix B:** Extracts

## 1.0 Introduction

### 1.1 General introduction

1.1.1 This review considers baseline assessment methodology and the socio-economic evaluation together with a small section on whether a proportionate option consideration of alternatives that reflects all the relevant policy and legal requirements has been undertaken.

1.1.2 This document is produced for the Preliminary Meeting but could also be used for final review.

1.1.3 In summary, the documentation shows that the basis of valuation appears to have overestimated the value (benefit) of the “short tunnel” proposals by approximately £1.5bn.

1.1.4 These notes are primarily based upon the “A303 Stonehenge. Amesbury to Berwick Down Technical Appraisal Report”, “A303 Stonehenge Amesbury to Berwick Down. Valuing Heritage Impacts” (additional documents to those of the TAR), the Green Book (HM Treasury) and its associated references together with miscellaneous documents provided as part of the consultation.

1.1.5 These and other references in the text (reference and page marked thus: <sup>[ref:p:no]</sup>) can be found in Appendix A (References). Where a chapter is referred to, the reference is marked thus: <sup>[ref:chapter:no]</sup>.

### 1.2 Executive Summary

1.2.1 This document reviews a concern that the methodology applied to this particular project may be setting an unsustainable environmental precedent by allowing a project to proceed based on aspirations which will not be achieved in practice: Those aspirations have been used to generate a valuation of the project benefit which is required for a publicly financed project to proceed.

1.2.2 The TAR quantifies this project as “medium” value for money <sup>[1:p214]</sup>. However, if the aspirations of benefit are not met, the project could be reclassified as “low” value for money. A project that is low value for money is, essentially, detrimental on environmental grounds.

## 2.0 Valuation review and notes

### 2.1 Overview of valuation

2.1.1 The HM Treasury Green book suggests that Stated Preference, Revealed Preference or the Life Satisfaction Approach be used for evaluation of major schemes <sup>[14:p57]</sup>. The Green Book refers to guidance <sup>[15]</sup> on how to achieve this type of assessment.

2.1.2 A Contingent Valuation Survey was used to establish value for this project <sup>[1:p12]</sup>. The Stated Preference method of this type, as defined by the Green Book's additional guidance <sup>[15]</sup>, "uses specially constructed questionnaires to elicit estimates of people's Willingness to Pay for (or Willingness to Accept) a particular outcome" <sup>[15:p7]</sup>.

2.1.3 The Green Book provides additional guidance: "Value can be measured in two ways. Equivalent Variation (EV) is the amount of additional income the individual would need to obtain the same level of utility that they would get from consuming the non-market good".... "EV is usually used in cases when a good or service is provided and is, in this sense, often associated with the term Willingness to Pay (WTP). CV is usually used in cases when there is a reduction in the good or service and is associated with Willingness to Accept (WTA)." <sup>[15: p9]</sup>

2.1.4 "Contingent valuation methods construct and present a hypothetical market to questionnaire respondents. A detailed description of a good, how it will be provided, and the method and frequency of payment are usually highlighted. Following this, questions are posed in order to infer a respondent's WTP or WTA. These valuation questions can be presented in a number of different ways, including open ended, bidding game, payment card, and dichotomous choice elicitation formats (see Annex A)." <sup>[15: p11]</sup>

2.1.5 The guidance <sup>[15: Chapter 4]</sup> also looks at disadvantages of various methods which can be used. In the conclusion <sup>[15: Chapter 7]</sup>, the guidance cautions: "Traditional preference-based approaches have provided us with many valuations over the past few decades which we have been able to use in policy analysis. *They have also frequently provided us with implausible estimates.*" <sup>[15: p53]</sup> (italics not in original reference).

### 2.2 Available documentation

2.2.1 References to the Contingent Valuation Study (CVS) can be found within the technical Appraisal in the following locations:

#### **Volume 1<sup>[1]</sup>:**

Executive Summary <sup>[1:p12]</sup>

Chapter 11: Economic Assessment <sup>[1: p195 onwards]</sup>

Refer in particular to clauses 11.11.5 and 11.11.10

Chapter 20: Appraisal Summary <sup>[1:p195 onwards]</sup>

Refer in particular to clauses 20.1.3, 20.1.11 and 20.1.12

#### **Appendices**

The CVS is also indirectly referred to in Appendix H: Assessment summary

2.2.2 Note that the TAR documents do not describe in detail what benefit the respondents believe that they will be getting.

2.2.3 The Contingent Valuation Study (CVS) was obtained by a researcher using a Freedom of Information request. However, parts of the CVS were removed from the FOI supplied documentation. More detail on this can be found in section 2.3 below.

## 2.3 Reservations on the valuation survey.

2.3.1 The guidance <sup>[15]</sup> referred to by the Green Book <sup>[14]</sup> states: *“it is unlikely that reliable research for a single sample study can be carried out for less than £25-£30,000 (excluding the field survey costs).”*

2.3.2 The Technical Appraisal document <sup>[1: p12]</sup> states:

*“Quantifying impacts on the WHS is highly challenging and required an innovative approach. In accordance with HM Treasury Green Book guidance, a Contingent Valuation study was undertaken which sought to place a value on the benefits of removing the A303 from the vicinity of Stonehenge.”*

2.3.3 The Contingent Valuation Study (CVS) was not made available to the general public but a redacted version was released after a FOI request by a researcher. This resulted in two documents: HE551506 AA GEN SWI RP JX 000025 Redacted <sup>[12]</sup> and HE551506 AA GEN SWI RP JX 000026 <sup>[13]</sup>.

2.3.4 Within those documents, the detailed valuation report <sup>[12: p3]</sup>, clause 1.1.10 states:

*“In total, we received 3,535 completed survey responses composed of visitors N=432, Local Population N=1,001, General Population N=2,102. Following the surveys, the respondents were redistributed into three study groups of visitors, road users, and the general population. This was because some of the general population sample were regular road users, whilst some of the local resident survey (local residents as a proxy) were not. To ensure that the study groups maintained representativeness of their respective populations, the visitor group was weighted by age, and the general population group weighted by region, gender, age group and income group to ensure representativeness of real- world populations.”*

2.3.5 The detailed valuation report <sup>[12: p4]</sup> goes on to state:

*“We elicited WTP and WTA values across all three study groups for the following hypothetical scenario (from hereon, ‘the road scheme’) (note that the full text and information material is in Appendix 1):”*

2.3.6 However, there is no “Appendix 1” in the documents. Nevertheless, a second supplied document under the Freedom of information request is assumed to be Appendix 1. It appears to list features in clause 1.1.8 of the TAR <sup>[1: p3]</sup>.

2.3.7 However, the results of the larger surveys appear to have been omitted from the second document of the FOI request: (see HE551506 AA GEN SWI RP JX 000026 <sup>[13]</sup> for details). Within the second document, the Appendices appear to contain the survey results (Appendix A of “Appendix 1”<sup>[13]</sup>), but items A2, A3 and A4 have had the full text of the survey omitted and replaced by a blank page. It is not therefore available for review.

2.3.8 The reason that this may be a concern is that the only information available for review is a single sample study which falls outside the requirements stated as necessary for an evaluation in the Green Book guidance.

2.3.9 However, for the purposes of this review, it is assumed that the undisclosed full survey produced similar results to that of the pilot survey (for which results were made available).

2.3.10 The “identified issues” in section 2.4 (below) are based on the assumption that the undisclosed questions of the full survey are similar to those described in the pilot study.

## 2.4 Identified Issues with valuation:

### 2.4.1 The public appear to not be getting what they are willing to pay for

2.4.1.1 The main report <sup>[1]</sup> indicates that the majority of the aggregate willingness to pay (which generated value/benefit) is found from general population responses:

**Table 11-2 Aggregate Willingness to Pay/Accept**

Group	WTP/WTA variable	%	Relevant Population	Mean (£ Net Present Value)	Aggregation to national level
Visitors	Annual tax	67%	363,776	£68	£24m
	Compensation (one off)	0.5%	2,517	£188	
Road Users	Annual tax	67%	854,212	£22	£51m
	Compensation (one off)	2%	27,204	£81	
General Population	Annual tax	59%	31,653,894	£14	£1,251m
	Compensation (one off)	2%	1,229,012	£58	
Total net present value (2016 prices and values)					£1,326m
Total net present value (2010 prices and values)					£992m

11.4.48 Upper and lower bound results have also been derived based on a 95% confidence interval for the Willingness to Pay / Accept values based on the respective sample sizes. The results show a range of £1.2bn to £1.5bn. The interpretation of this analysis is that we are 95% confident that the willingness to pay (net of willingness to accept) is between £1.2bn and £1.5bn.

2.4.1.2 In the above, the vast majority of valued benefit was generated by the General Population survey. The second Appendix <sup>[13, p25]</sup> shows how the reasons to pay were generated: These percentages are based on pilot surveys (unfortunately the final reports were excluded from the FOI request (see section 2.3 above).

2.4.1.3 Below are extracts from that report:

### **C.3 Stonehenge General Population Pilot Debrief questions 21st September 2016**

We performed a pilot survey of the online general population survey using a nationally representative panel of n=46. The pilot general population survey was performed over 20<sup>th</sup>-21<sup>st</sup> September 2016. The pilot was performed under identical conditions to the full survey. We obtained 46 completed pilot surveys and debrief questions.



Table 4 shows the reasons people gave for being willing to pay an increase in taxes. Only two people responded that they stated a WTP because they did not believe they would have to pay.

WTP for tunnel route - Reasons to pay	N.	%
A dual carriage-way would relieve traffic congestion and reduce accidents	8	22.22
A new road would benefit local community	2	5.56
I do not believe I would really have to pay	2	5.56
I support the removal of the A303 from a historic landscape	3	8.33
People should have the opportunity to visit the whole of the Stonehenge World Heritage Site and explore all its archaeological monuments without the land severance caused by the road	10	27.78
Stonehenge is a national icon that should be protected	9	25
The road spoils the tranquility of the Stonehenge World Heritage Site	2	5.56
Total	36	100

#### 2.4.1.4 Of these reasons to pay (on which benefit is calculated):

**1)** The first is a question about a dual carriageway and not a tunnel. It achieved 22.22% of responses. It talks about relieving traffic congestion and reducing accidents.

However, research <sup>[21]</sup> has shown that severe accident rates [and cost rates] in tunnels were often found to be higher than those on the corresponding larger roads.

*This reason to pay appears not to be applicable to the tunnel solution as it does not achieve what the correspondents think they would get by paying additional taxes: Other solutions generate more benefit of the type anticipated.*

**2)** The stated reason to pay of the fifth item (27.27%) will not be accomplished by the scheme: Removal of the road will only give access to the “Stonehenge Landscape” of which most land is to the North of the A303. The remainder of the WHS to the South contains some bye-ways with public access. However, the monuments themselves can not be accessed except by trespass: the land is not defined as CROW accessible:

*The issue with this is that approximately 28% of respondents identified a willingness to pay for this access. However, access will not be achieved by building a tunnel [see Appendix B, item 1]. Though some relatively minor access will be available to what is essentially privately held land, this does not address the benefit that the tax payers believe that they will get.*

**3)** The stated reason to pay of the sixth item (25%) is that Stonehenge is a national icon which should be protected.

*It is unclear why the respondents think that a tunnel would achieve this. In the very long term a tunnel would need additional expenditure to maintain it (not budgeted for in the above costs). Without that expenditure, the decay of the tunnel would destabilize the ground below Stonehenge. Therefore the (low) budget allowances that the tax payers think they are paying to provide protection would in fact do the opposite.*

*If protection of a national icon is required over the very long term, significant additional budget allowances may be required.*

2.4.1.5 Of the above reasons to pay, only items 4 and 7 would be addressed by provision of a tunnel. This accounts for only 13.89% of the reasons to pay that have been produced in support of a tunnel.

2.4.1.6 On this basis, and accounting for negative impacts listed above, the tunnel appears to have inadequate cost-benefit.

## 2.4.2 The definition of a tunnel within the valuation documentation

2.4.2.1 The respondents were not informed that a choice exists between a cut and cover tunnel and a bored tunnel: Only "a tunnel". A cut and cover tunnel, which is significantly less expensive, would achieve the same description given to the correspondents. Correspondents do not appear to have been given preference choices to opt for the low-cost method of achieving the same aim:

5.2.6 Respondents were first asked if they would in principle be willing to pay an increase in annual taxes over a three-year period to support the alternative scheme using the following text.

*"For the next set of questions, please imagine a situation where the tunnel scenario was selected and was paid for by an increase in national taxes, for three years. Please think for a moment about how much the proposed scenario to remove the A303 from the World Heritage Site would be worth to you and your household, if anything. Would you be prepared to pay something, even if only a very small amount, to support the construction of a tunnel route?"*

(extract from reference 12)

2.4.2.2 Therefore, even if a tunnel could achieve the benefit aims of the CVA (see section 2.4.1 above), a different type of tunnel appears to be able to achieve those benefits at a lower cost.

## 2.5 Other considerations

2.5.1 In the very long term, which this project is wholly based upon, vehicle use will probably become automated and electric.

2.5.2 The existing TARs do not consider simple options such as keeping the existing road, making it one way to double volume, reducing the speed and making a lower speed limit mandatory (which further increases throughput).

2.5.3 In the event that a 'one way' option were considered, a second 'temporary' dual carriageway could be constructed using pre-loading of fill over a protection layer to preserve the archaeology below. In the very long term, this could have no impact on the archaeology and could be removed at a later date.

### 3.0 Summary

3.0.1 In summary, the documents appear at initial review to have overvalued the benefit of the proposals. However, this conclusion is based on pilot surveys (due to the main surveys not being included within the FOI request).

3.0.2 The valuation of benefit also appears to apply equally to a much less expensive option.

3.0.3 For a project such as this to be a sustainable development, the principle that benefit must be achieved should be observed. This may impact on the inspectorate's Assessment of Principal Issues [Reference 31: Annex B, Objective 12] <sup>[31]</sup>

3.0.4 In addition, other methods may not have been fully considered. This may impact on the inspectorate's Assessment of Principal Issues [Reference 31: Annex B, Objective 3] <sup>[31]</sup>

Jonathan Morris FICE FStructE

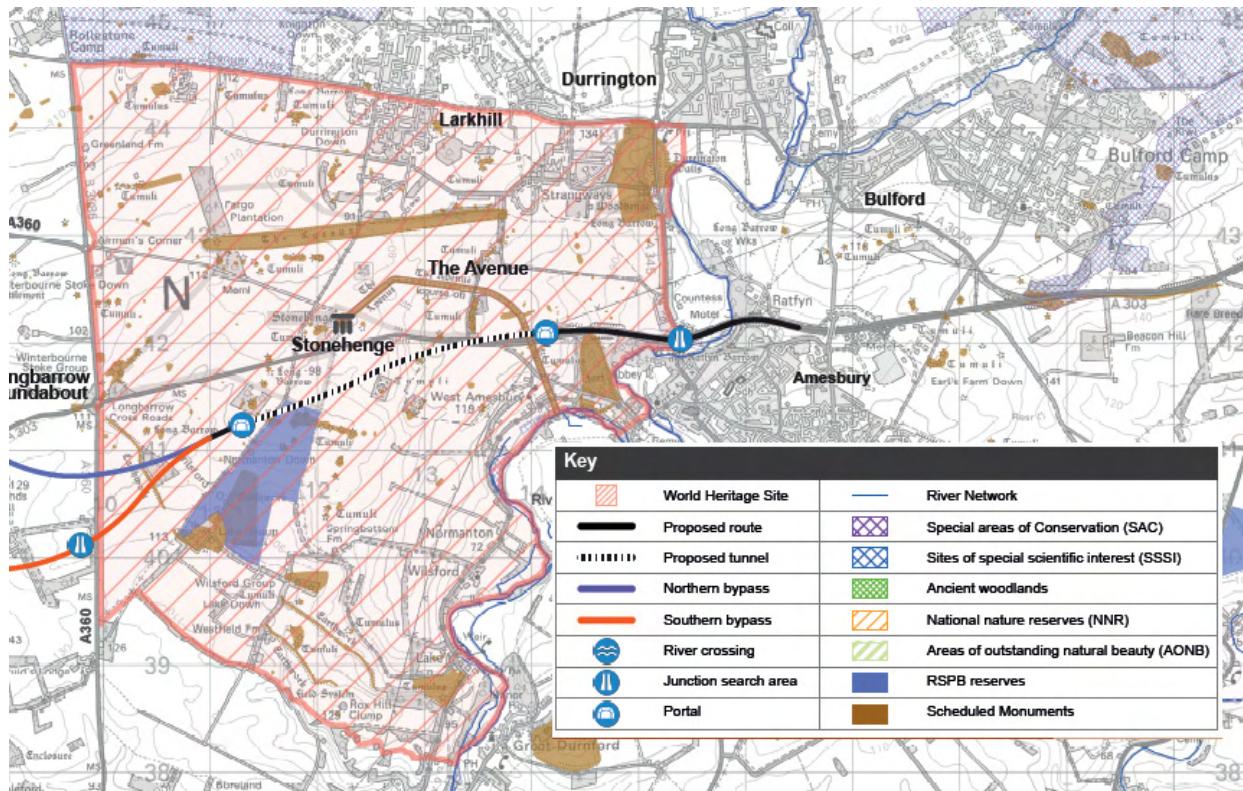
---

## Appendix A: References

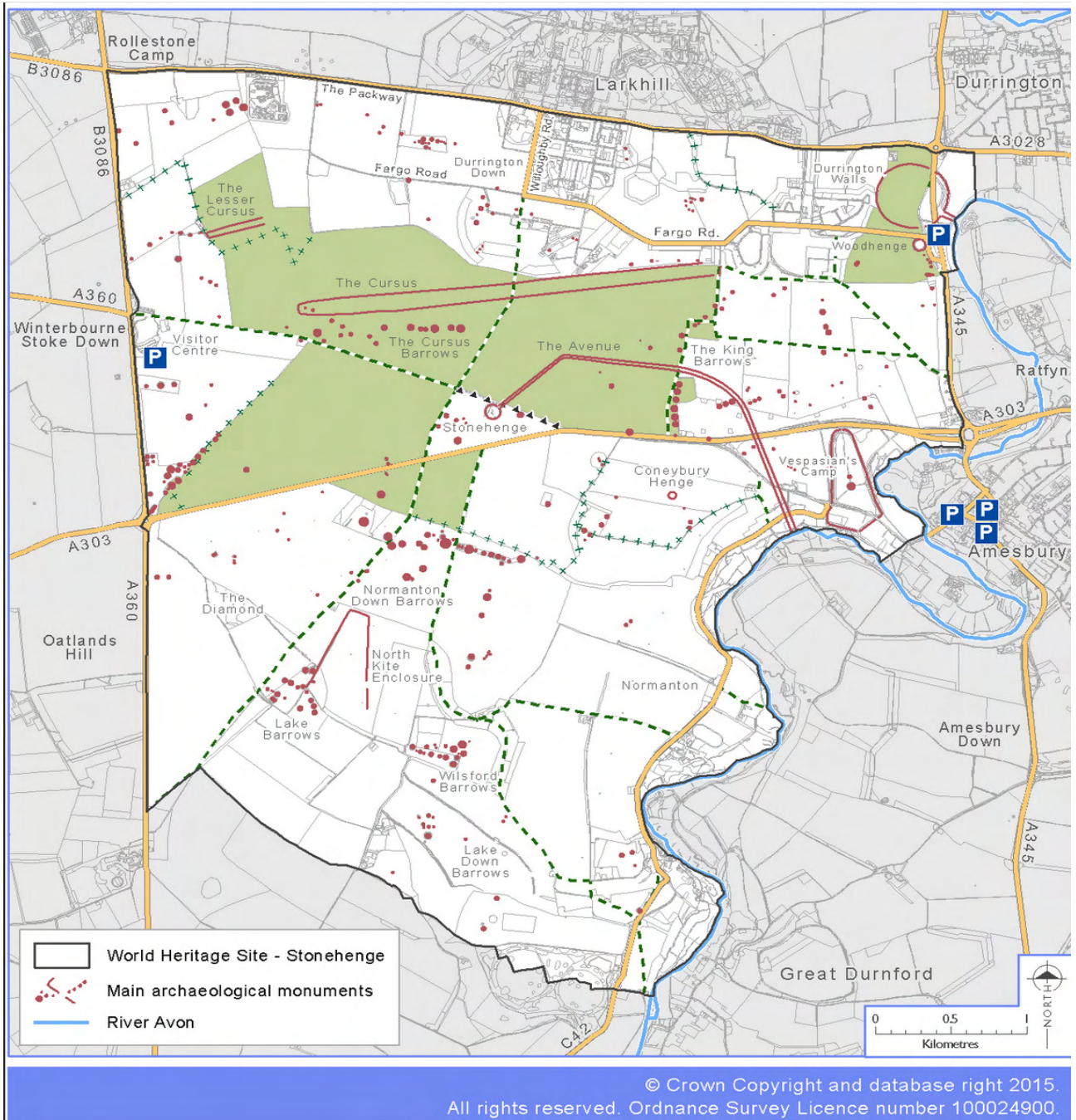
- 1[1] A303 Stonehenge. Amesbury to Berwick Down Technical Appraisal Report volume 1
- 2[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix A {volume 2}
- 3[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix B {volume 3}
- 4[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix C {volume 4}
- 5[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix D {volume 5}
- 6[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix E {volume 6}
- 7[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix F {volume 7}
- 8[1] A303 Stonehenge. Amesbury to Berwick Down TAR Appendix G & H {volume 8}
- 
- 12[2] A303 Stonehenge Amesbury to Berwick Down. Valuing Heritage Impacts (HE551506 AA GEN SWI RP JX 000025 Redacted.pdf)
- 13[2] A303 Stonehenge Amesbury to Berwick Down: Valuing Heritage Impacts: Appendices (HE551506 AA GEN SWI RP JX 000026.pdf)
- 14[3] THE GREEN BOOK: Appraisal and Evaluation in Central Government
- 15[3] Daniel Fujiwara and Ross Campbell , *Valuation Techniques for Social Cost-Benefit Analysis (United Kingdom: HM Treasury, July 2011*
- 16[4] Area Plans. A303\_A0planV2.pdf
- 
- 21: Accident Rates in Road Tunnels and Social Cost Evaluation. *Procedia - Social and Behavioral Sciences*, Volume 53, 3 October 2012, Pages 166-177 (open access)(Caliendo & De Guglielmo
- 
- 31: Letter referenced Our Ref: TR010025 available at:  
<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000511-190304%20TR010025%20Rule%206%20letter%20-%20Cover%20FINAL.pdf>

## Appendix B: Extracts

### 1: Value and Accessibility



*Extract from general area plans showing southern zone thought to be accessible post tunnel construction*



Extract from:  
<http://www.stonehengeandaveburywhs.org/about-us/stonehenge-avebury/>

Showing extent of WHS and monument location and indicating extent of land which is currently considered to be general access (National Trust but note that, although accessible, this is not defined as Access Land)

NATURAL ENGLAND
CRoW & Coastal Access maps


**Further Information on**

- » CRoW & Coastal Access Restrictions
- » Coastal Access
- » Contact Us

CRoW & Coastal Access > CRoW & Coastal Access Maps

[Help](#)  
[Print](#)

## CRoW & Coastal Access Maps



**Grid Reference at Centre:** Easting: 411250 Northing: 141250

© Crown Copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 100022021.

**Map Key**

- Access Land (CROW)
- Coastal Margin
- England Coast Path
- Background

**Access Land (CROW) Information**

Public Access rights apply within the areas shown as access land unless the land falls into a category of excepted land, or is subject to local restrictions, or exclusions. For general information [click here](#).

**Coastal Margin Information**

Public Access rights apply within the areas shown as Coastal Margin but not over cropped land, buildings and their curtilage, gardens or restricted land, for example many areas of saltmarsh and mudflat. Take note of conditions and local signage. For more information [click here](#).

**Restrictions Information**

Details of the restrictions on access land (CROW and Coastal Margin) can be found

» [Back to Search Screen](#)

**Restrictions and Exclusions Information**

For general details on CRoW & Coastal Access Restrictions [click here](#). Any restrictions in force between the dates you selected are listed here. If you wish to find out more information about a particular restriction, further details are contained within the PDF attachment linked to each case below.

The date(s) that you have selected to view the CRoW & Coastal Access map and Restrictions for are:

From  To  search

You can select to change the date displayed, please select a new date or range and select Search to proceed.

Case No	Type	Purpose	From	To	More Information	View Map

Access mapping website terms: By using these pages you are agreeing to the terms and conditions contained [here](#)

Extract from CroW showing that Land south of Stonehenge is not access land

[http://www.openaccess.naturalengland.org.uk/wps/portal/oasvs/maps/MapSearch/!ut/p/c5/pY\\_LDolwFES\\_xS-4V8FSIKUMUEsRBXIsGovGsFCIfi4eiGu0YUzy8nk5FAOQv9FfyvL7tRcihpSylkSDhJ3tkAziDZL9NALbMG9aYD6sGdE4UqY\\_nqnkKKuthVt\\_UeXiueij6pneJc2Q2mHml85Wiej9WG3iS1mmVdVp38SOeRl3ewHs-TiShRxBJ1aAZoYSooeNfQZc1el2vzyfYfJtzkflYPcGCU6OKSQCwPcS\\_m3L0hm7wAkdhuiQ!!/dl3/d3/LOIDU0IKSmdwCgIRb0tVUm1aZyEhL29Cb2dBRUIRaGpFQ1VJZ0FJQUI5RkFNahdVaFMOSIJFQUIBR2IJQVFBREVRQWdBV0InQkFBQSEhLzRDMWl5V19QcjbNq1VneEVtUKNVd2chIS83XQxHMDZIMKmwOU9UUKUwSTB.ITORMSkxxT0c0L28wQWlyOTU4MzAwMjQvNDEwMTEwNzI3OTYwL2phdmF4LnNlcnZsZXQuaW5jbHVkZS5wYXR0X2luZm8vJTQc3AIIME9wZW5BY2Nlc3MIME9wZW5BY2Nlc3NNYXAuanNw/](http://www.openaccess.naturalengland.org.uk/wps/portal/oasvs/maps/MapSearch/!ut/p/c5/pY_LDolwFES_xS-4V8FSIKUMUEsRBXIsGovGsFCIfi4eiGu0YUzy8nk5FAOQv9FfyvL7tRcihpSylkSDhJ3tkAziDZL9NALbMG9aYD6sGdE4UqY_nqnkKKuthVt_UeXiueij6pneJc2Q2mHml85Wiej9WG3iS1mmVdVp38SOeRl3ewHs-TiShRxBJ1aAZoYSooeNfQZc1el2vzyfYfJtzkflYPcGCU6OKSQCwPcS_m3L0hm7wAkdhuiQ!!/dl3/d3/LOIDU0IKSmdwCgIRb0tVUm1aZyEhL29Cb2dBRUIRaGpFQ1VJZ0FJQUI5RkFNahdVaFMOSIJFQUIBR2IJQVFBREVRQWdBV0InQkFBQSEhLzRDMWl5V19QcjbNq1VneEVtUKNVd2chIS83XQxHMDZIMKmwOU9UUKUwSTB.ITORMSkxxT0c0L28wQWlyOTU4MzAwMjQvNDEwMTEwNzI3OTYwL2phdmF4LnNlcnZsZXQuaW5jbHVkZS5wYXR0X2luZm8vJTQc3AIIME9wZW5BY2Nlc3MIME9wZW5BY2Nlc3NNYXAuanNw/)

And see: <https://www.gov.uk/right-of-way-open-access-land/use-your-right-to- roam>

Hyperion House, Hyperion Avenue, Polegate, East Sussex

Page 13 of 13