# A303 Amesbury to Berwick Down

## TR010025

## 6.1 Environmental Statement

Chapter 6: Cultural heritage

Volume 6

APFP Regulation 5(2)(a)

Planning Act 2008

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# 6 Cultural heritage

## 6.1 Introduction and competent expert evidence

6.1.1 This chapter assesses the potential cultural heritage effects of the construction and operation of the Scheme, following the methodology set out in the Design Manual for Roads and Bridges ("DMRB") Volume 11, Section 3, Part 2 (HA208/07; Ref 6.1). The chapter details the methodology followed for the assessment, summarises the regulatory and policy framework related to cultural heritage and describes the existing environment in the area surrounding the Scheme. Following this, the design, mitigation and residual effects of the Scheme are discussed, along with the limitations of the assessment. The cultural heritage assessment is supported by Appendices 6.1 to 6.11 as listed on the contents page.

6.1.2 As well as presenting the findings of the EIA in respect of cultural heritage, this chapter also incorporates a Heritage Impact Assessment (HIA) which specifically addresses the impacts of the Scheme upon the Outstanding Universal Value (OUV) of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS).

6.1.3 This chapter of the ES has been undertaken by competent experts with relevant and appropriate experience. The technical lead for the cultural heritage assessment is Neil Macnab; his professional qualifications and experience are summarised in Appendix 1.1.

## 6.2 Legislative and policy framework

6.2.1 As discussed in Chapter 1 Introduction, the primary basis for deciding whether or not to grant a Development Consent Order (DCO) is the National Policy Statement for National Networks (NPSNN) which, at sections 4 and 5, sets out policies to guide how DCO applications will be decided and how the impacts of national networks infrastructure should be considered. Table 6.1 identifies the NPSNN policies relevant to the cultural heritage assessment and where in the ES chapter information is provided to address the policy.

**Table 6.1: Relevant NPSNN policies for the cultural heritage assessment**

| Relevant NPSNN paragraph reference | Requirement of the National Policy Statement for National Networks (NPSNN) (Paraphrase) | Where in the ES Chapter is information provided to address this policy |
|---|---|---|
| 5.124 | Non-designated assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments should be considered subject to the policies for designated heritage assets. | Non-designated assets that are demonstrably of equivalent significance to a designated heritage asset are considered as such in this assessment and subject to the policies for designated heritage assets.<br>See 6.3.12; Table 6.2. |

| Relevant NPSNN paragraph reference | Requirement of the National Policy Statement for National Networks (NPSNN) (Paraphrase) | Where in the ES Chapter is information provided to address this policy |
|---|---|---|
| 5.125 | The Secretary of State should also consider the impacts on other non-designated heritage assets. | Non-designated assets are considered in this assessment 6.3.12. |
| 5.126-5.127 | An assessment of any likely significant heritage impacts of the proposed project as part of the EIA. The applicant should include an appropriate desk-based assessment and, where necessary, undertake a field evaluation. | An appropriate desk-based assessment and field evaluation have been undertaken. |
| 5.131 | When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. | The impact of the Scheme on the significance of heritage assets is considered in Section 6.9 and Appendices 6.8 and 6.9. |
| 5.133 | Where the proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm or loss of significance is necessary in order to deliver substantial public benefits which outweigh that loss or harm. | The assessment does not identify any instance of 'substantial harm' or total loss of significance to any designated asset. |
| 5.134 | Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use. | As above. See also the Case for the Scheme (Application Document 7.1). |
| 5.135 | Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The Secretary of State should treat the loss of a building (or other element) that makes a positive contribution to the site's significance either as substantial harm or less than substantial harm, as appropriate, taking into account the relative significance of the elements affected and their contribution to the significance of the Conservation Area or World Heritage Site as a whole. | The assessment takes into account the relative significance of heritage assets and their contribution to the significance of the WHS as a whole. The assessment does not identify any instance of 'substantial harm' or total loss of significance to any designated asset. |
| 5.137 | Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. | The Scheme design is heritage led and would bring substantial beneficial changes to the central part of the WHS. |

| Relevant NPSNN paragraph reference | Requirement of the National Policy Statement for National Networks (NPSNN) (Paraphrase) | Where in the ES Chapter is information provided to address this policy |
|---|---|---|
| 5.140 | Requirement to record and advance understanding of a heritage asset's significance prior to it being lost if this loss is justified. | Section 6.8.6 sets out the requirement for archaeological fieldwork and recording. See also Appendix 6.11. |
| 5.142 | Consider requirements to ensure that appropriate procedures are in place for the identification and treatment of yet undiscovered heritage assets with archaeological interest discovered during construction. | See Section 6.8.6 and Appendix 6.11. The majority of the archaeological fieldwork and recording would be undertaken prior to construction in the preliminary works stage. |
| 5.144-5.146 | The applicant should undertake an assessment of any likely significant landscape and visual impacts in the EIA… The applicant's assessment should include significant effects during construction of the project and/or its operation on landscape components and landscape character (including historic landscape characterisation). | The assessment has regard to historic landscape character and the impact of the Scheme upon it. See Section 6.9 and Appendix 6.6 and 6.8, and Chapter 7 Landscape and Visual Assessment. |

6.2.2 Other relevant policies and guidance have been considered as part of the cultural heritage assessment where these have informed: the identification of assets and resources and their value; the assessment methodology; the potential for significant environmental effects; and required mitigation. Relevant policies and guidance are considered in the sections below:

## National Planning Policy

a) National Planning Policy Framework (NPPF) – with particular reference to Section 16 Conserving and Enhancing the Historic Environment (Ref 6.2).

6.2.3 In accordance with the NPPF, the NPSNN policies relating to the applicant's assessment are the primary source of policy guidance regarding this assessment. The NPPF was revised in 2018, but the requirements which relate to this assessment have not substantively changed, and the NPSNN remains the primary source of policy guidance.

## National Guidance

a) National Planning Practice Guidance (PPG), DCLG (Ref 6.3);

b) Historic Environment Good Practice Advice in Planning Note 2 (GPA2). Managing Significance in Decision Taking in the Historic Environment. Historic England (Ref 6.4); and

c) Historic Environment Good Practice Advice in Planning Note 3 (GPA3). The Setting of Heritage Assets (2nd edition). Historic England (Ref 6.5).

### Local Planning Policy

a) Wiltshire Core Strategy (adopted 2015), with particular reference to Core Policy 58 (Ensuring the conservation of the historic environment) and Core Policy 59 (The Stonehenge, Avebury and Associated Sites World Heritage Site and its setting) (Ref 6.6).

### World Heritage Convention

6.2.4 The Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) is the principal global instrument for the protection of cultural and natural heritage (Ref 6.7; see Appendix 6.1 to this ES Chapter for a list of international conventions and guidance with reference to undertaking the HIA). The World Heritage Convention was adopted by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1972 and came into force in 1975. The UK ratified the Convention on 29 May 1984.

6.2.5 By signing the Convention, the UK Government has undertaken to identify, protect, conserve, present and transmit its World Heritage properties to future generations. In England, these commitments are fulfilled through the statutory planning system, designation of specific assets within World Heritage properties and the development of WHS Management Plans.

*Stonehenge, Avebury and Associated Sites WHS Management Plan*

6.2.6 The Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan 2015 sets out a framework for the management of the WHS (Ref 6.8; see Appendix 6.1 to this ES Chapter for a list of international conventions and guidance with reference to undertaking the HIA). Its primary purpose is to sustain the Outstanding Universal Value (OUV) of the WHS. The Management Plan 2015 includes the following aims:

a) Aim 3: Sustain the OUV of the WHS through the conservation and enhancement of the Site and its attributes of OUV.

b) Aim 6: Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS.

## 6.3 Assessment methodology

### The relationship between the EIA and HIA, and its presentation within the ES

6.3.1 This ES chapter is the primary document which reports the Scheme impacts on and the resulting significance of effects for heritage assets. It reports the

impacts on all designated and non-designated heritage assets, including the Stonehenge, Avebury and Associated Sites WHS.

6.3.2 The purpose of the HIA is to assess the potential negative and positive impacts of the Scheme on the OUV of the WHS in accordance with ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (Ref 6.9). The HIA addresses both designated and non-designated heritage assets relevant to the OUV of the WHS. It deals only with impacts on OUV and does not examine impacts on other designated or non-designated heritage assets that do not contribute to OUV as defined in the Statement of Outstanding Universal Value (SoOUV; Ref 6.10).

6.3.3 The HIA is included as Appendix 6.1.

## Guidance

6.3.4 As a Highways England scheme, the cultural heritage assessment has been undertaken following the guidance provided by DMRB, with specific reference to the following:

a) DMRB Volume 10 Environmental Design and Management, Section 6 Archaeology, Part 1 HA 75/01 Trunk Roads and Archaeological Mitigation (Ref 6.11);

b) DMRB Volume 11 Environmental Assessment, Section 2, Part 5, Assessment and Management of Environmental Effects HA205/08 (Ref 6.12); and

c) DMRB Volume 11 Environmental Assessment, Section 3, Part 2, Cultural Heritage HA 208/07 (Ref 6.13).

6.3.5 Since the publication of this guidance in 2007, national policy has been revised and updated guidance has been issued by English Heritage/Historic England, particularly in respect of the conservation and setting of heritage assets. This is contained within NPSNN, NPPF, PPG, GPA2 and GPA3. The guidance within these documents has been taken into account in the assessment.

## Baseline data sources

6.3.6 The following sources of information have been reviewed and form the basis of the assessment for cultural heritage:

a) National Heritage List for England (NHLE);

b) Wiltshire and Swindon Historic Environment Record (WSHER), including the Wiltshire Historic Landscape Characterisation (WHLC);

c) National Mapping Programme (NMP) and other aerial photographic sources as relevant, including the English Heritage's 2001 Stonehenge WHS Mapping Project and Historic England's Aerial Investigation and

Mapping Team's recent re-survey of the entire Stonehenge World Heritage Site;

d) Cartographic sources (refer to Appendices 6.2 and 6.4);

e) Relevant primary and secondary sources;

f) Results from major research projects within the Stonehenge landscape (subject to availability) including but not limited to: the field walking of the 1980s Stonehenge Environs Project; the geophysical survey of the Stonehenge Hidden Landscape Project (Ref 6.14); the Stonehenge Riverside Project (Ref 6.15); and recent Historic England research including the Stonehenge World Heritage Site Landscape Project, and the Stonehenge Southern WHS Survey Project (Ref 6.16);

g) Published and unpublished reports from archaeological investigations (refer to Appendices 6.2 and 6.10);

h) Stonehenge, Avebury and Associated Sites World Heritage Site Research Framework (Ref 6.17);

i) South West Archaeological Research Framework Resource Assessment and Research Agenda (Ref 6.18) and Research Strategy 2012-2017 (Ref 6.19); and

j) Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan 2015 (Ref 6.20).

6.3.7 As described in Section 6.6, these data sources have been augmented by an extensive programme of non-intrusive and intrusive field investigations.

6.3.8 In addition, the cultural heritage study draws on data from other technical disciplines contributing to this assessment, including: Air Quality; Biodiversity; Geology and Soils; Landscape and Visual; Noise and Vibration; Road Drainage and the Water Environment; Material Assets and Waste; Traffic; People and Communities; Climate; and the highways and tunnel design.

## Methodology for determining effects

6.3.9 The assessment of impacts on cultural heritage assets has been undertaken in accordance with the methodology described in DMRB Volume 11, Section 3, Part 2 (HA208/07). This is a Detailed Assessment as described in paragraph 3.9 of HA208/07, which is the level required when there is the potential for significant impacts on cultural heritage resources.

6.3.10 The overall approach to the assessment of the significance of effects is in line with DMRB Volume 11, Section 2, Part 5 (HA205/08). This provides guidance on the assessment and management of environmental effects, including advice on determining the magnitude of impacts and the significance of effects.

6.3.11 HA208/07 splits the cultural heritage resource into three separate but related sub-topics: Archaeological Remains; Historic Buildings; and Historic Landscapes. For each sub-topic, guidance is provided with regard to the assessment of value (of the resource) and also impact types and impact magnitude. An overall significance of effect for each identified asset is reached by combining value and impact magnitude within a matrix. The results for each cultural heritage sub-topic are then described to provide a statement on the significant effects for the Scheme. The process is explained in more detail below within paragraphs 6.3.12 to 6.3.24 and Table 6.2 to Table 6.6.

## Value criteria

6.3.12 The 'value' of a structure, area, site or landscape reflects its significance as a heritage asset and, therefore, its sensitivity to change. For the purposes of this assessment, and in accordance with the terminology of DMRB, the term 'value' is used in preference to 'significance' within this chapter.

6.3.13 NPSNN (para 5.122) defines significance (i.e. 'value' in DMRB terms) as follows: "The sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting." In paras 5.123-25 NPSNN goes on to state that designated assets are those that have been recognised as being of higher importance and worthy of protection. However, it should not be assumed that all non-designated assets are of a lower significance as they may not have been the subject of any previous investigation or assessment and further research may indicate that they merit designation/statutory protection.

6.3.14 The assessment of the value (or significance) of a heritage asset includes a consideration of its archaeological, historic, architectural and artistic interests and the extent to which that significance relates to different elements of the asset and to what extent the setting of a heritage asset adds to or detracts from its significance.

6.3.15 The assessment includes, where appropriate, assessment of any evidence for the potential reduction of value (or significance) due to former changes in condition, such as the truncation or the erosion of archaeological deposits, alterations to buildings, or severance or removal of historic landscape features etc.

6.3.16 DMRB Volume 11.3.2, Annex 5 Archaeological Remains, Annex 6 Historic Buildings and Annex 7 Historic Landscape (Ref 6.21) set out guidance on the criteria used for establishing the value of heritage assets comprising historic buildings, archaeological remains and historic landscape features. The criteria have been adapted and combined and each heritage asset has been assigned a value utilising Table 6.2.

6.3.17 Within the present assessment, all assets which contribute to the OUV of the WHS have been assigned a Very High value.

## Table 6.2: Criteria for determining the value of heritage assets

| Value | Description |
|---|---|
| Very High | Assets inscribed as being of universal international importance, such as World Heritage Sites (including nominated sites).<br>Assets of acknowledged international importance.<br>Assets that contribute significantly to acknowledged international research objectives.<br>Buildings of recognised international importance.<br>Historic landscapes of international value, whether designated or not.<br>Extremely well preserved historic landscapes with exceptional coherence, time-depth or other critical factor(s). |
| High | Scheduled Monuments with extant remains, or sites and remains of comparable quality.<br>Assets that contribute significantly to acknowledged national research objectives.<br>Grade I and Grade II* Listed Buildings.<br>Other listed buildings that can be shown to have exceptional qualities in their fabric or historical association not adequately reflected in their listing grade, including non-designated structures of clear national importance.<br>Conservation areas containing very important buildings.<br>Designated and non-designated historic landscapes of outstanding interest of high quality and importance, and of demonstrable national value. |
| Medium | Designated or non-designated assets that contribute to regional research objectives.<br>Grade II Listed Buildings.<br>Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historic association.<br>Conservation areas containing important buildings.<br>Historic Townscape or built-up areas with historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).<br>Designated special historic landscapes and non-designated landscapes that would justify special historic landscape designation, landscapes of regional value. |
| Low | Sites of low importance.<br>Assets compromised by poor preservation and/ or poor survival of contextual associations.<br>Locally listed buildings.<br>Historic (unlisted) buildings of modest quality in their fabric or historical association.<br>Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures).<br>Non-designated historic landscapes.<br>Historic landscapes with importance to local interest groups. |
| Negligible | Assets with very little or no surviving archaeological interest.<br>Buildings of no architectural or historical note; buildings of an intrusive character.<br>Landscapes with little or no significant historical interest. |
| Unknown | Assets the importance of which has not been ascertained. |

*Source: DMRB Volume 11.3.2 Annexes 5, 6 and 7.*

## Magnitude of impact

6.3.18 Impacts may arise during construction or operation and can be temporary or permanent, and direct or indirect. Impacts can occur to the physical fabric of the asset or affect its setting. Impacts upon fabric would be adverse; those upon setting may be either beneficial or adverse.

6.3.19 For impacts on archaeological remains, HA208/07 gives the following table of factors to be used in the assessment of magnitude of impact (refer to Table 6.3).

**Table 6.3: Factors in the assessment of magnitude of impact: archaeological remains**

| Impact magnitude | Factors |
|---|---|
| Major | Change to most or all key archaeological materials, such that the resource is totally altered.<br>Comprehensive changes to setting. |
| Moderate | Changes to many key archaeological materials, such that the resource is clearly modified.<br>Considerable changes to setting that affect the character of the asset. |
| Minor | Changes to key archaeological materials, such that the asset is slightly altered.<br>Slight changes to setting. |
| Negligible | Very minor changes to archaeological materials, or setting. |
| No change | No change. |

*Source: DMRB 11.3.2 Annex 5 Table 5.3.*

6.3.20 For impacts on historic buildings, HA208/07 gives the following table of factors to be used in the assessment of magnitude of impacts (refer to Table 6.4).

**Table 6.4: Factors in the assessment of magnitude of impact: historic buildings**

| Impact magnitude | Factors |
|---|---|
| Major | Change to key historic building elements, such that the resource is totally altered.<br>Comprehensive changes to setting. |
| Moderate | Changes to many key historic building elements, such that the resource is significantly modified.<br>Changes to the setting of an historic building, such that it is significantly modified. |
| Minor | Change to key historic building elements, such that the asset is slightly different.<br>Change to setting of an historic building, such that it is noticeably changed. |

| Impact magnitude | Factors |
|---|---|
| Negligible | Slight changes to historic building elements or setting that hardly affect it. |
| No change | No change to fabric or setting. |

*Source: DMRB 11.3.2 Annex 6 Table 6.3.*

6.3.21 HA208/07 (Ref 6.22) explains that historic landscapes cannot be destroyed, but that impacts on them can change their character (Annex 7, para. 7.12.1). Impacts should be assessed using evaluated historic landscape character units, not the elements/ parcels/ components that contribute towards that character. There may be impacts resulting from changes within the settings of identified units, especially with regard to designated historic landscapes.

6.3.22 For impacts on the historic landscape, HA208/07 gives the following table of factors to be used in the assessment of magnitude of impacts (refer to Table 6.5).

**Table 6.5: Factors in the assessment of magnitude of impact: historic landscape**

| Impact magnitude | Factors |
|---|---|
| Major | Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit. |
| Moderate | Changes to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character. |
| Minor | Changes to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited changes to historic landscape character. |
| Negligible | Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character. |
| No change | No change to elements, parcels or components; no visual or audible changes; no changes arising from amenity or community factors. |

*Source: DMRB 11.3.2 Annex 7 Table 7.3.*

## Significance of effect

6.3.23 An assessment of the level of significant effect, having taken into consideration any embedded and additional mitigation, is determined by cross-referencing between the value of the asset (Table 6.2) and the magnitude of impact given in

Table 6.3, Table 6.4 and Table 6.5. The resultant level of effect set out in Table 6.6 can be adverse or beneficial. The matrix is a guide to decision-making only, allowing for the application of professional judgement. Where the Significance of Effects matrix presented in Table 6.6 allows for two levels of significance (e.g Slight/Moderate, Large/Very large) professional judgement has been used on a case by case basis to determine the appropriate level of significance.

**Table 6.6: Significance of effect matrix**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Value** | **Very High** | Neutral | Slight | Moderate/Large | Large/Very Large | Very Large |
| | **High** | Neutral | Slight | Moderate/Slight | Moderate/Large | Large/Very Large |
| | **Medium** | Neutral | Neutral/Slight | Slight | Moderate | Moderate/Large |
| | **Low** | Neutral | Neutral/Slight | Neutral/Slight | Slight | Slight/Moderate |
| | **Negligible** | Neutral | Neutral | Neutral/Slight | Neutral/Slight | Slight |
| | | **No change** | **Negligible** | **Minor** | **Moderate** | **Major** |
| | | **Magnitude of impact** | | | | |

*Source: DMRB 11.3.2 Table 5.1.*

6.3.24 The ES reports on the significant effects in accordance with EIA regulations. Convention and professional judgement has resulted in the determination that only Moderate, Large and Very Large effects are considered to be significant. A precautionary approach has been adopted, such that all Slight Adverse effects have been reviewed to confirm that these are not significant.

## Assessment of the setting of heritage assets

6.3.25 The assessment of the setting of heritage assets has been undertaken in accordance with principles set out in the NPPF 2018 (Ref 6.2) and advice provided in NPSNN and Historic England's good practice advice guide GPA3: The Setting of Heritage Assets, 2nd edition (Ref 6.23).

6.3.26 The second edition of GPA3 (published December 2017) supersedes both the original 2015 edition of GPA3 and also the 2011 English Heritage document *Seeing the History in the View: A Method for assessing Heritage Significance within Views.* GPA3 addresses the complexities associated with decision-making associated with the setting of heritage assets. The document describes the key terms of curtilage, character and context, and considers the extent of setting, emphasising that this should be considered on an asset-by-asset basis. It also highlights the importance of views to the understanding of setting, and indicates the types of views that could contribute to the significance (or value) of a heritage asset.

6.3.27 This assessment adopts the stepped approach advocated by GPA3, as follows:

a) Step 1: Identify which heritage assets and their settings are affected;

b) Step 2: Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;

c) Step 3: Assess the impacts of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it;

d) Step 4: Explore ways to maximise enhancement and avoid or minimise harm; and

e) Step 5: Make and document the decision and monitor outcomes.

6.3.28 Steps 1 to 3 have been undertaken within this assessment and are reported in Appendix 6.9. Steps 4 and 5 have been taken into account when developing the Scheme design and formulating embedded mitigation and the Environmental Master Plan.

### Assessment of harm to designated heritage assets

6.3.29 The NPSNN requires the Secretary of State to consider whether the impacts of the Scheme on a designated heritage asset amounts to substantial or less than substantial harm to its significance. The assessment of harm is detailed in the NPSNN Accordance Table submitted with the DCO application (Application Document 7.1).

### Scoping

6.3.30 An overview of the Inspectorate's Scoping Opinion in relation to cultural heritage is presented in Table 6.7. Where assessment has been undertaken in accordance with the Scoping Opinion point, a response and the relevant ES section is provided; where an alternative approach has been agreed with the relevant stakeholders, an explanation is provided. The Scoping Opinion as received is provided in Appendix 4.1.

## Table 6.7: Scoping Opinion and response

| Scoping Opinion | Where addressed within the ES |
|---|---|
| **Planning Inspectorate** | |
| The Scoping Report states that as well as a detailed assessment of impacts, a separate Heritage Impact Assessment (HIA) Scoping Report in accordance with ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties will be prepared to address scope of works on the HIA on the Outstanding Universal Value (OUV) of the Stonehenge, Avebury and Associated Sites WHS. This assessment is to be provided as an appendix to the ES. The ES should include a detailed assessment of the likely impacts to cultural heritage features including those of international significance. The ES should integrate with the HIA avoiding duplication and overreliance on the standalone appendix (though a standalone HIA technical appendix should also be provided as it is being prepared in accordance with the specific ICOMOS guidance). The ES should explain the relationship between the ES assessment and the HIA methodology and its findings. | Within this ES chapter, the EIA and HIA have been integrated where practicable, given their different focus and methodologies.<br>Sections 6.3.1-6.3.3; Appendix 6.1 (HIA). |
| The HIA and ES assessments should also be framed in the context of the Stonehenge, Avebury and Associated Sites WHS Management Plan 2015. | The HIA and ES assessments have considered the Stonehenge, Avebury and Associated Sites WHS Management Plan 2015, as explained in Section 6.2.6; Appendix 6.1 (HIA). |
| The study area for cultural heritage assets will extend 500m from the proposed DCO boundary. The Zone of Theoretical Visibility (ZTV) will be used to guide identification of sites, up to 2km beyond the DCO site boundary. The relationships between study areas defined for the purposes of the ES and HIA to consider OUV should be explained as it is unclear whether the study areas defined in section 6.2.5 applies to both the ICOMOS and DMRB assessments. Given that the DCO boundary extends outside of the WHS, the HIA should demonstrate how it has considered the effects of the Proposed Development beyond the WHS boundaries as appropriate. | The study area for the EIA is described in Sections 6.5.1- 6.5.3.<br>The study area for the HIA is described in Section 6.5.4 and in Appendix 6.1. |
| Paragraph 6.2.5 states that a flexible approach will be taken to the identification of high-value assets. The Inspectorate requires that assets of lower value than ‘high’, but whose setting may be affected by the Proposed Development, are also given due regard as part of the assessment. | Due regard to assets of medium and low value has been given throughout the assessment. See Table 6.11 and Appendices 6.8 and 6.9. |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| The Inspectorate expects that undesignated heritage assets will be relevant to the OUV of the WHS. These should be reflected and their value appropriately assessed within the ES to determine if there is a likely significant effect. | Value (significance) criteria have been applied as appropriate, with due reference to any asset's contribution to OUV. All assets contributing to the OUV of the WHS are assigned a Very High value. See Section 6.3.17 and Table 6.2. |
| The ES should describe in detail both inbuilt mitigation and any specific measures designed to address significant effects. The Inspectorate will expect to see details of the proposed archaeological investigation mitigation strategy investigation and agreement as to the scope and intended outcomes of these mitigation works with the Heritage Monitoring and Advisory Group (HMAG). Appropriate cross referencing must be made between specific impacts on heritage features identified in the ES and the accompanying mitigation strategies along with clear presentation of the effects and residual effects such that the reliance being placed on the mitigation can be understood. | The heritage approach to mitigation is described in Section 6.8 of the ES. The Archaeological Mitigation Strategy is presented in Appendix 6.11, Outline Archaeological Mitigation Strategy. The need for archaeological mitigation measures is indicated in Tables 6.11 and 6.12 and in Appendix 6.8. |
| The assessment of known and potential buried archaeological resources as well as historic landscape character should explain how value is determined. The ES should explain how this determination relates to each asset and to what extent setting influences value. | The process for the determination of the value of heritage assets, including buried archaeology, is set out in the methodology. In this regard Table 6.2 is particularly relevant. For archaeological remains see Appendix 6.2 and for Historic Landscape see Appendix 6.6. See Appendix 6.9, Cultural Heritage Setting Assessment for the extent to which setting influences value. |
| The value attributed to a heritage asset should be explained in the context of relevant legislation and policy. The National Planning Policy Framework (NPPF) and NPSNN state that Scheduled Monuments and Grade I and II* Listed Buildings are heritage assets of the highest significance. The ES assessment methodology should take this into account in establishing the value of assets and should not be limited by the approach set out in DMRB. In particular the Inspectorate considers that the value criteria presented in Table 6.5 of the Scoping Report should be amended to better reflect the value of assets such as the OUV. | The approach to valuing assets is set out in Sections 6.3.12-6.3.17. The tables follow DMRB Volume 11 Section 3 Part 2, although the NPPF and NPSNN approach has been taken into account and it is acknowledged that the WHS, scheduled monuments and Grade I and II* Listed Buildings are of the highest significance – and of National importance (High value); however, DMRB allows a distinction for internationally important cultural heritage assets to be of Very High value. All those assets that contribute to the OUV of the WHS are therefore assessed as of Very High value in the ES and HIA. |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| The Scoping Report explains the likely impacts of setting upon heritage assets. The scope, methodology and findings of the baseline setting assessment should be reported in the ES. This should also be integrated with the setting assessment in the HIA for the OUV. | The scope, methodology and findings of the ES setting assessment are described in Appendix 6.9. This is incorporated into the HIA (Appendix 6.1). |
| Reference is made to "Separate Archaeological Evaluation Strategy and appropriate Written Schemes of Investigation (WSIs)". The Inspectorate expects that an Overarching WSI is prepared to set out the area-specific WSIs as part of the overall archaeological evaluation strategy. The Inspectorate expects the Applicant to engage with and reference the Wiltshire Archaeology Service alongside HMAG in respect of agreement of archaeological evaluation strategies. | An AESR and OWSI have been prepared in consultation with HMAG and WCAS, see Sections 6.6.16 (field work) and 6.3.31-6.3.34 (consultation). |
| The Scoping Report indicates that trial trenching and geophysical surveys necessary to the assessment need expanding and/or revisiting. The ES should be based on up to date and relevant information.<br>Limitations to the assessment should be avoided where possible. If they are unavoidable the assessment should explain the assumptions that have been made to assess likely significant effects including any worst case assumptions relating to the presence, value and sensitivity of features in the survey area. | The scope, methodology and findings of the baseline assessment, which includes up-to-date and relevant information and survey data limitations, are described in Sections 6.6.16 (field work) and 6.4 (assumptions and limitations). |
| Paragraph 6.1.49 of the Scoping Report makes reference to "unique assemblages" of lichen at Stonehenge "that add to the character of the WHS". On this basis, the ES should fully assess the potential impacts from construction dust on all sensitive receptors, including the lichens found at the Stonehenge monument and the effect to the character of the WHS. The matter should also be addressed as part of the archaeology and cultural heritage assessment. | The assessment of effects during the construction phase and identification of appropriate mitigation measures has been undertaken in collaboration with the Biodiversity and Air Quality teams. See Section 6.10.5; HIA, Section 9.2 (Impact and effect of the Scheme on OUV, integrity and authenticity).<br>Biodiversity Chapter (ES Chapter 8, Appendix 8.2A Stonehenge lichen report).<br>Standard mitigation measures are presented in Appendix 5.4 to manage potential dust and NOx effects associated with the assemblage of lichen at Stonehenge. |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| **Historic England** | |
| We note that a HIA scoping report compliant with the 2011 ICOMOS guidance is in preparation, to set out the extent of work required to assess the impacts of the scheme upon the Outstanding Universal Value (OUV) of the Stonehenge component of the Stonehenge, Avebury and Associated Sites World Heritage Site (the WHS). We want to emphasise the need for the OUV HIA to be fully integrated into the ES Cultural Heritage chapter - that is, for the links between the two pieces of assessment to be clarified at this stage. With the WHS being identified by NPPF as one of the most important types of designated heritage assets, it is important that the effects of development upon it are clearly set out in the main ES and not just relegated to an appendix to it | The results of the HIA are fully integrated with this Chapter. |
| The Scoping Report should in our view set out the relevant international policy and guidance governing WHSs in addition to the national and local planning context - that is: the UK's ratification of the 1972 World Heritage Convention; the relevant Operational Guidelines for the management of Cultural World Heritage Properties; and the International Council for Monuments and Sites (ICOMOS) guidance for Heritage Impact Assessment | See Appendix 6.1 Annex 1 for a list of international conventions and guidance with reference to undertaking the HIA and ES. |
| The Scoping Report should acknowledge that some of the undesignated heritage assets will be relevant to the OUV of the WHS and that in addition some may be of national importance in their own right | Agreed and acknowledged in Section 6.3.12-6.3.17. |
| The potential impact of the Scheme upon dark skies should also be assessed. Within and adjacent to the WHS the preservation (or improvement) of dark skies contributes directly to the OUV of the WHS via Attribute 4 of the 2013 Statement of Outstanding Universal Value (SOUV): The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy. | The potential impact of the Scheme upon dark skies has been assessed in the HIA (Appendix 6.1), Section 9.2 (Impact and effect of the Scheme on OUV, integrity and authenticity). Wherever possible in the design new lighting has been minimised through design. |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| NPPF clearly states that WHS, scheduled monuments and Grade I and II* Listed Buildings are heritage assets of the highest significance. The table should be revised to reflect this showing these assets as having equal Very High importance. | The tables follow DMRB Volume 11 Section 3 Part 2, although the NPPF and NPSNN approach has been taken into account, and it is acknowledged that the WHS, Scheduled Monuments and Grade I and II* Listed Buildings are of the highest significance – and of National importance (High value); however, DMRB allows a distinction for internationally important cultural heritage assets to be of Very High value. All those assets that contribute to the OUV of the WHS are therefore assessed as of Very High value in the EIA and HIA. The approach to assessing the value of assets is set out in Section 3 and Table 6.2. |
| The applicant should reference the Overarching Written Scheme of Investigation (OWSI) which will inform individual Site Specific WSIs together with the Archaeological Evaluation Strategy. | An Archaeological Evaluation Strategy has been written for the archaeological evaluations alongside an Overarching Written Scheme of Investigation (OWSI) which both inform individual Site Specific WSIs, see Section 6.6.16 (field work). |
| **The National Trust** | |
| The scoping report implies (by omission) that the existing A303 west of the junction with Stonehenge Road, Amesbury will remain as a tarmacked surface (and actually also as a road). This would mean that this section of road would remain as a negative impact on the OUV of the WHS, not least impacting negatively on the Stonehenge Avenue itself and preventing the reunification of the Stonehenge Avenue at this point. It contradicts 2.4.14 which states that, 'Details are yet to be agreed with the various stakeholders but it is anticipated that the existing A303 between Longbarrow Junction and the eastern portal would be converted to a "greenway" open to Non-Motorised Users (NMUs) only. Agricultural and statutory utility access would need to be maintained but vehicular access for this could be gate controlled. The exception would be a 300m length southwest of the Stones between two "byways open to all traffic" (BOATs) where public vehicular access may need to be maintained.' | The design for the A303 NMU route is confirmed within Chapter 2, Section 2.3. This has been agreed in discussion with the Heritage Monitoring Advisory Group (HMAG) (which includes the National Trust). |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| The design as currently proposed is a tunnel exceeding 2.9km in order to prevent avoid impacts to the scheduled monument known as Wilsford G1 round barrow (NHLE 1010832). | Acknowledged and accepted in Chapter 2, Section 2.3. |
| The study area should also include the redundant portions of the A360 that will be given over to use by NMUs. | The study area includes the redundant portions of the A360 that would be given over to use by NMUs. See Section 6.5.1. |
| The Scheme should be designed to minimise adverse impacts but maximise positive impacts on the OUV of the WHS. | The Scheme has been designed in close consultation with HMAG in order to minimise adverse impacts but maximise positive impacts on the OUV of the WHS. See Section 6.8. |
| It should be noted here that a significant proportion of the non-designated assets (i.e. the Neolithic and Early Bronze Age sites and monuments within the WHS that are not scheduled monuments) are in fact attributes of OUV of the World Heritage Site. | It is acknowledged that non-designated cultural heritage assets (i.e. the Neolithic and Early Bronze Age sites and monuments within the WHS that are not scheduled monuments) form elements of the WHS of Very High value that express Attributes of the OUV of the WHS. See Appendices 6.1, 6.3 and 6.9. |
| **Wiltshire Council** | |
| The Avebury part of the WHS should be included within the HIA and should be cross referenced here. | The HIA, ES Appendix 6.1, includes consideration of the whole WHS, including the Avebury component of it. |
| The Stonehenge, Avebury and Associated Sites WHS Management Plan 2015, (endorsed by UNESCO, UK Government), which is a significant material consideration in making land use decisions which have potential impact on the WHS, should be mentioned here. Delivering objectives of this plan should be a golden thread running throughout the EIA. | The WHS management plan is specifically considered as a relevant plan and guidance, as referenced in Section 6.2.6. |
| 1.44 Table 1 – The proposed plans should include the WHS boundary. | The WHS boundary is shown on the heritage chapter plans, where relevant. |
| 4.1.2 – This should include international advisors and consultees e.g. ICOMOS and World Heritage Centre. | Engagement with ICOMOS has been undertaken. See Section 6.3.34 and the HIA (Appendix 6.1). |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| Section 5 Approach to Assessment – ICOMOS HIA guidance should be referred to, along with a statement of how the HIA is going to be integrated with the EIA. | The EIA and HIA have been integrated where practicable, given their different focus and methodologies. This is set out in ES Section 6.3 of this chapter and the HIA (Appendix 6.1). |
| 5.6.2 b – This should include OUV as well as cultural heritage. | The EIA considers the potential for impact on cultural heritage throughout this Chapter, and the potential for impacts on OUV throughout the HIA (Appendix 6.1). |
| 6.2.11 – This should read: "*the church of St Leonards St Mary and St Melor, Amesbury…and Buildings 455 and 456 (Five Aircraft Hangars), Durrington Camp Larkhill*". | Noted. Reference amended. See Section 6.6, Baseline Conditions and Appendices 6.4 and 6.5. |
| 6.2.12 – This should read: *"(such as several Grade II and II* listed buildings situated in Larkhill)*". | See Section 6.6, Baseline Conditions, and Figure 6.5, which indicates the designation of each listed building. Further information on heritage assets is provided in Appendices 6.4 and 6.5. |
| 6.2.14 – Please note the Amesbury Conservation Area is just Amesbury and not Amesbury Town Centre. | Noted. Reference amended. See Section 6.6, Baseline Conditions and Appendices 6.4 and 6.5. |
| 6.2.19 – Impact on attributes of OUV should be included here. | The impacts on attributes of OUV are set out in the HIA (Appendix 6.1). |
| 6.2.21 – Mitigation measures should be considered for built as well as archaeological assets, and therefore Wiltshire Council Conservation Officers should be engaged, where appropriate. This is as per 6.2.46. | The approach to mitigation, of both built heritage as well as archaeology, is set out in Section 6.8, Design, Mitigation, and Enhancement Measures and Appendix 6.11, Outline Archaeological Mitigation Strategy. Wiltshire Council Archaeology Service and Wiltshire Council Conservation Officers have been engaged with throughout the design process. |
| 6.2.25 – This should make reference to the separate setting assessment which is being undertaken as part of the HIA for the OUV. | The impacts on attributes of OUV are set out in the HIA (Appendix 6.1). |

| Scoping Opinion | Where addressed within the ES |
|---|---|
| 6.2.27 – Upstanding archaeology should be mentioned here, not just that archaeology which is buried. | Where it exists within the study area, upstanding archaeology has been included in the scope of the cultural heritage assessment and is described in Section 6.6, Baseline Conditions. |
| 6.2.29 – The list of values is not believed to be complete. | The approach to assessing heritage value is in line with DMRB guidance, although the NPPF and NPSNN approach has been taking into account. All assets which contribute to the OUV of the World Heritage Site have been assigned a Very High value, as described in Section 6.3, Assessment Methodology. |
| 6.2.5 Study Area – As there is a need to define the significance and extent of heritage assets prior to setting the boundary of the study area, we are concerned with this approach. The study area for the HIA will need to take in the whole of the WHS and its setting and believe that this should be mentioned here. | The HIA study area comprises the whole of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS and its setting, as set out in Appendix 6.1, section 5.9. |
| 6.2.51 – It is believed that this list is incomplete and should be same as that contained within the archaeological evaluation strategy. | Archaeological evaluation was carried out in accordance with the Archaeological Evaluation Strategy, the Overarching Written Scheme of Investigation and Site Specific Written Schemes of Investigation (SSWSIs), as developed with and agreed by HMAG. |
| 6.2.52 – Please note that HMAG only acts within the WHS. Outside of the WHS, it is the Wiltshire Archaeology Service. | This Chapter recognises that HMAG acts within the WHS only. |
| 5.6.2 and 6.2.19 – It is noted that no lighting assessment has been included here but it is thought that it should be. | A lighting assessment and assessment of dark skies is included as part of the Landscape and Visual Impact Assessment (LVIA), as set out in Chapter 7. The cultural heritage assessment and HIA has been developed in parallel with the Landscape and Visual Chapter. |

## Consultation

6.3.31 Stakeholders for the Scheme include statutory consultees, land managers, land owners, heritage interest groups, academics and local communities. In addition to the statutory consultation process, provision has been made for ongoing engagement with statutory and formal consultees to steer the development of the Scheme design in terms of heritage considerations. Stakeholder comments are addressed in the Consultation Report. Design changes made in response to stakeholder key concerns are outlined in Table 6.9.

6.3.32 A Heritage Monitoring and Advisory Group (HMAG) has been convened to advise Highways England. The HMAG comprises a number of historic environment professionals who have an ongoing statutory or formal advisory role in the WHS. HMAG was set up partially in response to an UNESCO/ICOMOS recommendation from its 2015 Advisory Mission on the A303 Stonehenge project. The Group comprises Historic England, Wiltshire Council (Archaeology Service), English Heritage and the National Trust and is tasked with providing independent heritage advice to Highways England on the project. HMAG's role ranges from setting out and monitoring archaeological requirements and standards of work within the WHS, to advising on the heritage impact assessments undertaken to inform route choice and mitigation measures for inclusion in the project proposals to be taken forward for planning consent and construction. The group has a Terms of Reference agreed between the organisations represented on HMAG and Highways England. HMAG members have been consulted throughout the development of the Scheme design and have inputted to design meetings including those associated with the design of the tunnel portals, approach cuttings, junction designs, bridge and viaduct designs, lighting and signage, the design of NMU routes, landscaping and fencing. Regular monthly HMAG meetings have also allowed the review of heritage documentation and review of the progress of the archaeological evaluations undertaken to support the Scheme.

6.3.33 HMAG has been augmented by a Scientific Committee of additional specialists and experts. Its membership comprises recognised, leading, independent experts who have provided additional advice at their quarterly meetings and made a positive contribution to the development of the Scheme design and the archaeological evaluation strategy.

6.3.34 The UNESCO World Heritage Centre (WHC) and the International Council on Monuments and Sites (ICOMOS, a global non-governmental organization responsible for supporting UNESCO in the implementation of the World Heritage Convention) are also stakeholders in relation to the impact of the Scheme on the OUV of the WHS. The development of the Scheme has benefited from three UNESCO/ICOMOS Advisory Missions invited by the UK Government, in October 2015, January 2017 and March 2018. The timing of the third Advisory Mission allowed the advice provided to inform the development of the Scheme design prior to the formal submission of the DCO application.

## 6.4 Assessment assumptions and limitations

6.4.1 The information gathered to date is considered sufficient to provide the basis for an EIA. However, the following limitations and assumptions apply:

a) Whilst primary source material has been consulted where practicable, given the volume of past scholarship relating to the Stonehenge landscape, the need to rely on secondary syntheses has been inevitable – particularly, for example, in relation to historic archaeological investigations;

b) The correctness and completeness of the NHLE and HER databases is assumed. Nevertheless, it is noted that certain scheduled areas, plotted from historic aerial photographs, do not precisely correspond to the area occupied by those features as surveyed by geophysics. In these instances, the geophysical survey data is assumed to be the accurate data source;

c) The NHLE data used for this assessment was that available to download on 9/5/2018. The HER data used was provided on 15/3/2018. Any subsequent changes to these datasets have not been captured by this assessment;

d) This assessment recognises the differing attention paid by previous field investigations to the current assessment area. Specifically, there has been far more intensive study of Stonehenge and the northern part of the WHS, with comparatively little work in the WHS to the south of the A303, and in areas to the east and west of the WHS boundaries. This is reflected in the desk-based baseline, with a sparser distribution map of sites in the less investigated areas. The field work undertaken as part of this assessment addresses this data imbalance within the footprint of the Scheme;

e) Access for walkover surveys has been reasonably comprehensive, with most sites directly visited and the majority of others observed from adjacent rights of way. The principal exceptions have been Vespasian's Camp, the barrow group southwest of Rollestone Corner, and certain monuments north of the Packway (Larkhill Causewayed Enclosure; Larkhill Camp Long Barrow; Knighton Long Barrow). The scheduled and listed milestones directly on the present A303 have not been viewed for health and safety reasons, being situated beside live carriageways. In no case is this deemed to have affected the ability to understand the physical character of the asset(s) in question or to correctly assess the impacts of the Scheme;

f) Further archaeological evaluation, to augment previous archaeological evaluations undertaken for former iterations of the Scheme alignment, situated along the mainline of the Scheme for the proposed Winterbourne Stoke bypass, River Till viaduct and embankments is in progress (field work due for completion in Autumn 2018). Notwithstanding these

supplementary surveys, the full Scheme boundary has been covered by non-intrusive archaeological geophysical survey and this and the results of historic surveys allow a robust assessment of likely significant impacts;

g) No new LiDAR survey was commissioned to supplement the existing Environment Agency LiDAR data and aerial photograph mosaic (the latter updated by the Stonehenge WHS element of Historic England's National Mapping Programme in 2015-16). The existing datasets, combined with the results of intensive field work programmes, provide a high level of confidence about the archaeological baseline within the footprint of the Scheme. Given that any survey flights would have coincided with the field work programme, it was also considered that any LiDAR data generated at that time would have been greatly compromised by the large number of open trenches within the study area; and

h) Geophysical survey data was kindly released to the project from the Stonehenge Hidden Landscapes Project team. The data provided only covered the Scheme boundary and a limited buffer, but this is adequate for the purposes of this assessment.

i) It is assumed that ground settlement will be minimal at the surface from the boring of the twin bored tunnel and any changes to heritage assets on the surface would be negligible and imperceptible to the eye.

j) It is assumed that vertical and lateral displacement from the excavation of deep cuttings or the retained cut will be minimal and any changes to heritage assets on the surface would be negligible and imperceptible to the eye.

k) It is assumed that all peat deposits and the vast majority of alluvium deposits have been removed within the footprint of the existing Countess Roundabout and its approach roads and replaced with road construction fill. Further geotechnical investigations are proposed to confirm this assumption in relation to embankment and bridge construction.

## 6.5 Study area

### EIA study area

6.5.1 Two study areas have been adopted for this assessment (Figure 6.1):

a) '500m study area'. This is the principal area of data-gathering, comprising a corridor extending 500m from the Scheme boundary. As such, it focuses on the land that would be subject to physical alteration, plus its immediate environs. A full suite of desk-based data has been gathered for this area, relating to both designated and non-designated assets, supported by targeted archaeological field work within the Scheme footprint.

b) A flexible approach has been taken to the identification of high-value assets on which there may be an impact upon setting, up to 2km beyond

the Scheme boundary. This has been guided by the Scheme's Zone of Theoretical Visibility (ZTV) established by the Landscape and Visual Impact Assessment, but also considers physical and historical connectivity between heritage assets, together with the potential impacts of the Scheme, including changes to noise levels, air quality and traffic volume and flow. For ease of reference, this is referred to as the '2km study area'.

6.5.2 The 500m study area includes sections of the current A303 within the WHS and outside the WHS which would be de-trunked and/or decommissioned, or downgraded as part of the Scheme.

6.5.3 The purpose of the study areas was for data capture, encompassing all heritage assets, both designated and non-designated, including archaeological sites and monuments, historic buildings, conservation areas and registered parks and gardens, together with the relevant historic landscape characterisation. All of the captured data have been reviewed, with those assets potentially affected by the Scheme being taken forward into the impact assessment. The assets captured within the study areas are listed in Appendix 6.3 (archaeology), Appendix 6.5 (historic buildings) and Appendix 6.6 (historic landscape).

### HIA study area

6.5.4 The HIA considers and assesses the impact of the Scheme on Attributes of the OUV of the WHS, including the setting and relationships between the monuments within the visual envelope of the WHS. The HIA study area comprises the whole of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS and its setting (see Appendix 6.1, Section 5.9).

## 6.6 Baseline conditions

6.6.1 The present assessment draws from, and integrates with, an extensive archaeological baseline. As described below, this information has been generated over many centuries, beginning with antiquarian works in the early 17th century, and coming up to academic and development-led investigations in the present day. These studies provide the context in which the field work undertaken for the present assessment needs to be understood.

### Investigations of the Stonehenge landscape

6.6.2 The following is a summary of archaeological investigations of Stonehenge and the surrounding landscape, beginning with antiquarian studies and coming up to the present day. A fuller narrative of this subject, with detailed bibliographic references, can be found in Appendix 6.10.

*17th to 19th centuries*

6.6.3 Records of physical investigations of Stonehenge begin in the early 17th century. The first known intervention dates to 1620, undertaken by the 1st Duke of Buckingham at the behest of King James I. Measured surveys of the stones followed, most notably by Inigo Jones (1633-52) and John Aubrey (1666). The Lincolnshire antiquarian William Stukeley worked in Avebury and Stonehenge in

1721-24, surveying, measuring and drawing monuments. However, the best and most reliable survey of the 17th and 18th century was that of John Wood in 1747, which was not rivalled until the investigations of William Flinders Petrie in 1874-77.

6.6.4 Interest in Stonehenge was accompanied by survey and investigation of the monuments in the surrounding landscape. The Duke of Buckingham examined a number of round barrows on King Barrow Ridge during the 1620s, while William Stukeley made a wide-ranging study of the landscape and its monuments between 1721 and 1724, providing the first descriptions of key elements including the Avenue, Greater Cursus and Vespasian's Camp. Stukeley's work included the excavation of twelve round barrows and a long barrow, and judging by later accounts there was a substantial amount of other unreported digging that took place during the 17th century.

6.6.5 A major series of works were undertaken in the first decade of the 19th century by William Cunnington. Working mainly for Sir Richard Colt Hoare, Cunnington excavated approximately two hundred round barrows in the area of Stonehenge, together with an almost comparable number across Salisbury Plain, as well as identifying numerous others throughout the landscape. His discovery of a richly furnished Wessex 1 burial within the Wilsford 5 barrow, containing a skeleton with a large number of grave goods, was particularly spectacular. Within his published account, Hoare commented that many of the barrows showed signs of previous disturbance. Further large-scale investigations took place in the mid-19th century (1850–73), when John Thurnam excavated numerous long barrows, oval barrows, and round barrows in the vicinity of Stonehenge in an effort to recover human skulls for craniometry.

6.6.6 By the time of William Long's summary of the state of knowledge, published in 1876 as Stonehenge and its Barrows, a broad appreciation of Stonehenge and the surrounding monuments had therefore been gained.

*The 20th century (to 1989)*

6.6.7 The Stonehenge monument continued to be the subject of archaeological works during the 20th century, under the ownership of the Antrobus family and subsequently of the Crown. Key works included:

a) Excavation in 1901 in advance of restoration work under the direction of William Gowland;

b) In advance of further restoration work, excavation was carried out in 1919 by William Hawley assisted by Robert Newall. Hawley also investigated the surrounding ditch, the Slaughter Stone and the holes identified in Aubrey's 1666 plan. Hawley continued to excavate at Stonehenge from 1921-26, clearing the southeast half of the interior. Two more rings of holes were identified (the 'Y' and 'Z' holes);

c) In 1923, H.H. Thomas of the Geological Survey identified the provenance of the bluestones to a deposit of igneous rock in the Preseli Mountains in Pembrokeshire;

d) In 1923, an inspection of aerial photographs by O.G.S. Crawford taken in the vicinity of Stonehenge revealed the full extent of the Avenue; and

e) Richard Atkinson, Stuart Piggott and J.F.S. Stone produced a report on Hawley's work, as well as carrying out further excavation in advance of restoration. The fieldwork took place during the years 1950-54, 1956, 1958-59 and 1964.

6.6.8 In the surrounding landscape, numerous barrows were excavated during the post-War period after heavy damage by ploughing. Among these were: G51–54 on Wilsford Down and Normanton Down in 1958; Wilsford G2–5 in 1959; twelve barrows in Amesbury and Winterbourne Stoke between 1959 and 1961; Wilsford cum Lake 1, 33 and 33a in 1960; Amesbury 51 in 1960; and Amesbury G70 and G71 in 1961. Wilsford 33a, a pond barrow, was excavated between 1960 and 1962, revealing the Wilsford Shaft.

6.6.9 Archaeological investigations also began to respond to development. Excavations were undertaken by Faith and Lance Vatcher in advance of extensions to the Stonehenge car park in 1966 and 1979, the creation of an underpass and associated works in 1967, and the laying of pipe-trenches and cables in 1968. These uncovered Mesolithic post-holes and an early tree pit in the western end of the car park, along with the Palisade Ditch north and west of Stonehenge. Excavations were also carried out by Mike Pitts along the south side of the A344 at Stonehenge in advance of cable-laying and pipe-trenching. In 1979 he discovered a pit for an unknown stone close to the Heel Stone, while geophysical survey also identified pits along the course of the Avenue. In 1980, Pitts again excavated beside the A344 where he discovered a stone floor and a prehistoric artefact assemblage.

6.6.10 Road improvements around Amesbury in the late 1960s also provided opportunities for archaeological investigations. Works included the construction of dual carriageway along the A303 in the eastern part of the Stonehenge landscape, the building of a bypass to the north of Amesbury, and the construction of a roundabout and the modification of road alignments at Winterbourne Stoke crossroads. All revealed important finds and structures.

6.6.11 The same period also saw the advent of broad-ranging investigative surveys of the landscape. In 1979 the Royal Commission on the Historical Monuments of England (RCHME) published aerial data under the title of *Stonehenge and its environs,* detailing the prehistoric monuments to be found in the vicinity of the stone circle. The subsequent Stonehenge Environs Project, undertaken by Wessex Archaeology during the 1980s, involved systematic field walking over available cultivated land (approximately 750ha), sample excavations at fifteen prehistoric sites, and the sampling of dry valley fills.

*1990 to the present*

6.6.12 A substantial number of investigations have been undertaken in recent decades, arising from both commercial and academic contexts. Those that fall within the 500m study area (and thus provide the context for the field work specifically undertaken to inform this assessment) are detailed in Appendix 6.10. A selective list of the more significant investigations across the broader landscape around Stonehenge is as follows.

**Non-intrusive surveys**

a) GSB Prospection. Geophysical survey carried out in advance of proposed road improvements to the A303 between Amesbury and Berwick Down during the early 1990s, followed by a second phase from 1999 to 2003;

b) National Trust. In advance of conservation management, geophysical survey carried out over six barrows and one possible barrow;

c) The Stonehenge Hidden Landscapes Project (2010-16). A collaborative project between Birmingham University and the Ludwig Boltzmann Institute for Archaeological Prospection, applying advanced geophysical techniques to a large area of the WHS;

d) English Heritage. In 2001, as part of the National Mapping Programme, evidence for archaeological sites was plotted from both historic aerial photographs and newly-available LIDAR surveys;

e) English Heritage. Geophysical surveys were conducted by in Diamonds Field, Wilsford Down, Druid's Lodge Estate, Wilsford cum Lake, West Amesbury, Normanton Down and Stonehenge as part of the Stonehenge World Heritage Site (SWHS) Southern Landscape Project; and

f) Ghent University and the University of Birmingham. From 2012 to 2015, a series of high-resolution electromagnetic induction (EMI) surveys were undertaken within the core area of the Stonehenge part of the World Heritage Site.

**Archaeological evaluation**

a) In the early 1990s, three areas were investigated through evaluation trenching on sections of the A303 between Amesbury and Berwick Down due for improvement, which established the sequencing and construction phases of several earthworks and barrows;

b) In the early 2000s, evaluation of sections of the A303 due for improvement revealed archaeological features and deposits of prehistoric, Romano-British and Post-medieval date; and

c) Again in relation to proposed road improvements for the A303, archaeological features of various periods were recorded in 24 evaluation trenches in areas designated as 1, 2, 3 and 4 (in 2003).

### Excavations

a) Stonehenge Riverside Project. Excavations in 2007 concentrated on the entrances to Durrington Walls, the ridge south of Woodhenge, the Cuckoo Stone, at the west end of the Greater Cursus, and within the relict river channel of the River Avon adjacent to Durrington Walls. Investigations in the following year (2008) involved the retrieval of cremation bone from Aubrey Hole 7, as well as field work at the bend in the Avenue, the Avenue towards the River Avon, the sarson-dressing area just north of Stonehenge, the Greater Cursus, Amesbury 42 Long Barrow, the Avenue's so-called 'Northern Branch', and the Stonehenge Palisade;

b) SPACES (Strumble-Preseli Ancient Communities and Environmental Study). In 2008 excavation was carried out within the stone circle at Stonehenge to date the construction of the Double Bluestone Circle;

c) Stonehenge Environmental Improvements Project. Excavation during the removal of the A344 road adjacent to Stonehenge revealed short lengths of the Avenue ditches, and a part of the outer edge of the ditch that encircles the Heel Stone;

d) Blick Mead. Excavation uncovered preserved Mesolithic deposits suggesting a possible Mesolithic settlement a short distance north east of the Iron Age fort of Vespasian's Camp; and

e) Stonehenge Southern WHS Survey (Historic England). Excavations on three separate sites to the south of the A303, one in Druids Lodge and the other two in West Amesbury.

## Field work undertaken for the present assessment

6.6.13 A comprehensive programme of archaeological field work has been undertaken to inform the assessment, both inside and outside the WHS. The scope of the field work programme within the WHS has been developed in consultation with HMAG and the Scientific Committee to reflect approaches employed by current academic research projects in the WHS. Outside the WHS, a similarly detailed approach combining detailed geophysical survey, sampling of artefacts in the plough zone and targeted trial trenching has been employed to ensure a consistent approach across the Scheme.

6.6.14 Intrusive field work undertaken for this project has been undertaken only where it was necessary to inform the design process. All field work has been designed to have the minimum impact possible and all archaeological works on the Scheme, including those located outside of the WHS, have been conducted with full consideration of the Research Framework for the Stonehenge, Avebury and Associated Sites WHS (2016) and, where appropriate, the South West Archaeological Research Framework (Ref 6.24; Ref 6.25). The comprehensive programme of archaeological fieldwork has included detailed geophysical survey across the area defined by the Scheme boundary, surface artefact collection procedures including test pitting with accompanying sieving and

sieving samples of the topsoil from intrusive trial trenching, as well as extensive trial trenching of the Scheme main line footprint and land take for landscaping and excavated material deposition.

6.6.15 The majority of the land within the Scheme boundary has been evaluated by recent detailed archaeological geophysical surveys, either as part of academic projects or in support of the Scheme. This provides a robust baseline against which to assess the impact of the Scheme. Additional evaluation fieldwork has been completed for sections of the Scheme within and adjacent to the WHS (eastern portal and approaches, western portal and approaches, new Longbarrow Junction and approaches, and the Rollestone Corner improvement). Much of the Winterbourne Stoke bypass alignment was archaeologically evaluated for previous A303 improvement schemes (see Appendix 6.10); further fieldwork to supplement and confirm the results of this previous fieldwork outside the WHS is underway and will be completed in the Autumn of 2018. The eastern section of the Scheme beyond the WHS has limited land take outside the existing highway boundary; archaeological evaluation fieldwork at Countess East and Amesbury Road is also underway to supplement and confirm the results of previous fieldwork, to be completed in the Autumn of 2018.

6.6.16 A variety of evaluation techniques were employed, including geophysical survey, plough zone artefact collection (field walking, hand sieved test pits and sieving of topsoil excavated in trial trenches), trial trenching and geoarchaeological investigations. Where site specific evaluation techniques were employed these are outlined in the summary below. Detailed specifications for each of the techniques are given in the project's Archaeological Evaluation Strategy Report (AESR, 2017; Ref 6.26), Overarching Written Scheme of Investigation (OWSI; Ref 6.27) and Site Specific Written Scheme of Investigation (SSWSI) for each area. The results of the evaluations completed to date are summarised below.

6.6.17 Full reports for the evaluation programme will be made available as these are completed.

*Eastern Portal*

6.6.18 Evaluation of the proposed eastern portal and approaches on the north side of the existing A303 Amesbury Bypass, east of King Barrow Ridge and to the immediate north of Vespasian's Camp, was undertaken in several stages. There are a number of Early Bronze Age round barrows in the area – the eastern portal and approaches evaluation area lies to the east of the Avenue and the associated Avenue Barrows and the round barrow cemetery on King Barrow Ridge, and there are other barrows and cropmarks of ring ditches to the north associated with the Countess Farm barrows.

6.6.19 Geophysical survey in 2017 identified a possible ring ditch and linear anomalies likely to be associated with former field boundaries. Comparison with geophysical survey data collected by the Stonehenge Hidden Landscapes

Project confirmed the form of two chalk combes within which the proposed eastern portal location would be placed, one extending approximately east-west and a second feeding into this from the north.

6.6.20 The eastern portal location was subject to trial trench evaluation in 2017. Twenty seven trial trenches were positioned to investigate possible archaeological anomalies identified by geophysical survey. These revealed only a small (0.7 m wide x 0.4 m deep), undated north south aligned ditch.

6.6.21 Further evaluation in early 2018 investigated the eastern approach cutting and a 30m buffer adjacent to this. This evaluation comprised surface artefact collection (field walking), hand dug sieved test pits, and trial trenching. Twelve trenches were positioned to sample archaeological anomalies identified through ground penetrating radar (GPR) and geophysical gradiometer survey (including a potential ring ditch feature) and to test areas which had produced no discernible geophysical anomalies (or 'blank' areas). A geoarchaeological survey consisting of two transects of boreholes was positioned to sample the colluvium (unconsolidated sediments deposited at the base of hillslopes) within the dry valley or combe.

6.6.22 The field walking and test pitting of the area revealed an even background scatter of worked and burnt flint across the area, with a small number of slightly higher concentrations which may be the remains of activity areas now dispersed within the plough zone. A later Neolithic or Early Bronze Age concentration of worked flint derived from *in situ* knapping was recovered in one trench within a stony horizon filling a hollow in the top of the natural chalk.

6.6.23 The geoarchaeological borehole survey showed the presence of a buried soil layer which was subsequently exposed in section. The soil layer is well preserved and extended across the length of the trench and was cut by a pair of parallel ditches of Romano-British date and subsequently sealed by a colluvial sequence. The ditches may be associated with field systems developed in the vicinity of Vespasian's Camp. Optically Stimulated Luminescence (OSL) dating (a technique used to date geological deposits) of the stratigraphic sequence here returned a date of between AD 1500-1600 for the Upper colluvium, AD 840 – 1050 for the Lower colluvium and 260 BC-AD 130 for the buried soil. Other features uncovered during the evaluation included an undated ditch, a small number of features of Post-medieval/modern date, and a small number of natural features, including tree throws. No evidence for the ring ditch was located even though a trial trench was positioned on top of the geophysical anomaly.

6.6.24 The results from the eastern portal evaluation are indicative of the preservation of localised areas of archaeological interest. These may include soil sequences of palaeoenvironmental interest preserved beneath colluvium. The occurrence of several small concentrations of flint in the topsoil and preserved in layers beneath the plough zone also suggest that localised activity was occurring within the site from at least the Mesolithic period onwards, but that there is no

substantial evidence for extensive and prolonged activity foci/ settlement or burial monuments within the footprint of the Scheme at this location.

*Western portal and approaches*

6.6.25 The western portal and approach cutting pass through an area where surveys indicate that there is limited archaeological survival within the footprint of the Scheme, although there are substantial groups of known monuments surrounding the site to the northwest, southwest, south, southeast and east. The Winterbourne Stoke Crossroads barrow cemetery lies to the northwest of the approach cutting; to the east and southeast is the Normanton Down barrow group (including the Wilsford G1 bowl barrow which lies approximately 25m east of the proposed western tunnel portal location); to the southwest lies a further group of monuments known as the Diamond group, whilst a number of discrete monuments lie to the south including the Wilsford Shaft. South of the western end of western approach cutting evaluation area (close to the A360) is a scheduled late prehistoric linear boundary (Wessex linear).

6.6.26 Recent investigations carried out for the Scheme have included three phases of geophysical survey carried out in 2016-17. These included: Area SW1, between the existing A303 and Byway 12, north and west of Normanton Gorse; an area west of Area SW1, land at Diamond Fields, subject to geophysical survey by Historic England, and multi-channel GPR survey. The latter survey technique has confirmed the results of the magnetic surveys undertaken within SW1 and allowed additional examination of magnetic anomalies; these include a small 'hengiform' monument approximately 4m in diameter, located southeast of Winterbourne Stoke Copse, north of the proposed western approach cutting outside the Scheme construction footprint.

6.6.27 Excavation of hand-sieved test pits and machine excavated trial trenches has recovered material evidence from the Early Bronze Age, Romano-British and later periods and a small number of archaeological features, largely dating to the Beaker Period (Early Bronze Age). These scattered features include a crouched burial and a number of small pits which have produced small quantities of Beaker pottery, both fineware and coarseware.

6.6.28 Concentrations of worked and burnt flint show no clear correlation with archaeological features revealed by subsequent trial trenching.

6.6.29 The single crouched Beaker burial was located within the central area of the site, north of the proposed approach cutting and outside the Scheme construction footprint. The burial is situated on the northern side of a shallow east-west coombe/ dry valley and may be associated with the barrow cemetery to the northwest (Winterbourne Stoke Crossroads Barrows (AG12)). There is no evidence for any dense burial groups, flat grave cemeteries, burial monuments/ other monuments of Neolithic or Early Bronze Age date within the Scheme construction footprint for the western portal or the approach cutting.

6.6.30 Within the western section of the site and the footprint of the approach cutting, several Early Bronze Age pits were recorded along with a geological sinkhole.

6.6.31 The archaeological evaluation of the western portal and approach cutting has confirmed the results of geophysical survey and previous fieldwork. The only ceremonial or funerary monument identified is a small hengiform monument observed in geophysical surveys; this lies outside of the footprint of the works for the approach cutting and would not be affected by the Scheme. Funerary evidence comprises a single isolated Beaker crouched burial. Again, this was situated outside the footprint of the approach cutting. Evidence for settlement activity is confined to artefactual material in the plough zone and several isolated Early Bronze Age pits. Although some concentrations of worked flint material in the plough zone are apparent within the evaluation area, these do not appear to correlate to surviving features below the surface of the agricultural fields and cutting into the underlying chalk, suggesting that if they did once exist they have since been ploughed out.

*Longbarrow junction*

6.6.32 The proposed new Longbarrow Junction, A303 cutting and the realigned A360 north and south approach roads lie to the west of, and outside, the WHS boundary. The Winterbourne Stoke Crossroads barrow cemetery, including its Neolithic long barrow and the associated round barrows, are located to the northeast of the proposed Longbarrow Junction, whilst the Diamond group is located to the southeast. Both monument groups lie outside the Scheme footprint for the construction of the new junction. Late Bronze Age settlement evidence is focused around the existing Longbarrow Roundabout along with a partly scheduled later prehistoric land boundary (Wessex linear) and field systems.

6.6.33 Archaeological evaluations to support the Scheme undertaken in 2017 and 2018 employed a range of techniques including geophysical survey, plough zone surface artefact collection (field walking and sieving of topsoil from the archaeological trial trenches), trial trenching and geoarchaeological investigations. The geophysical surveys, within the full extent of the Scheme boundary, corresponded well with previous aerial photographic assessment and revealed the extent of field systems, linear boundaries, enclosures and monuments (such as barrow groups and isolated barrows) in the area.

### North of the A303

6.6.34 Field walking revealed worked and burnt flint that was concentrated in an area of the realigned A360 north that suggests a concentration of Late Neolithic flint knapping debris (including working flakes, cores and unfinished arrowheads). A number of scattered dated and undated features from the trial trenching, within the same area, may indicate some Late Neolithic activity in the vicinity.

6.6.35 North of the A303, 55 trial trenches were positioned to sample archaeological anomalies identified through geophysical survey and to test areas which had produced a ‘blank’ geophysical result.

6.6.36 Sixteen of the 55 trenches contained archaeological features and evidence for Late Neolithic, Beaker and Bronze Age activity. These features, including ditches and scattered pits and post-holes are situated along the realigned A360 north approach road, north of the Wessex linear boundary. A single discrete cremation burial, contained within an Early Bronze Age Collared Urn (located in a trench towards the northern end of the approach road and outside its footprint), may have an association with the Winterbourne Stoke Crossroads barrow group to the east and southeast.

6.6.37 In the western part of the site, sections of two later prehistoric long-distance land divisions (Wessex linears) were targeted, but no dating evidence was retrieved. These features are known to continue to the southeast of the existing Longbarrow Roundabout, where a section of one of them is designated as a scheduled monument.

6.6.38 A sinkhole, initially located through the geophysical survey in the eastern part of site, was also investigated. The sinkhole was window-sampled for geoarchaeological analysis and samples suitable for OSL sampling were taken. It was found to contain buried loess (wind blown silt) deposits of geoarchaeological interest.

### South of the A303

6.6.39 Field walking has not yet been possible in this area due to the extent of crop growth. It is anticipated that this exercise would take place prior to construction to supplement and confirm the results of the evaluation work already undertaken and inform subsequent archaeological mitigation works. In the meantime, sieving of a sample of topsoil from the trial trenches has allowed the artefactual content of the topsoil to be taken into account.

6.6.40 The evaluation trenches (87 in total) were positioned to sample archaeological anomalies identified by the geophysical surveys and to test areas which had produced a ‘blank’ geophysical result. Ground penetrating radar (GPR) was also conducted on a linear feature (to the west of a C-shaped enclosure; see below), following on from the trial trenching, to test the extent and depth of the feature and to aid in its interpretation.

6.6.41 Of the 87 trial trenches, 33 contained archaeological features that revealed evidence for activity dating from the Late Neolithic to the Iron Age.

6.6.42 The main focus for activity was a C-shaped enclosure, situated in the position of the southern dumbbell for the proposed Longbarrow Junction. This had been revealed by geophysical survey and from previous aerial photographic assessment. The C-shaped enclosure contained the remains of a Late Bronze Age vessel in the backfill of its southern arm. On its western side, trenching revealed a number of post-holes which may form the remains of a post-built structure, one of which contained a single sherd of later prehistoric pottery.

6.6.43 A short length of a linear ditch like feature was situated to the west of the C-shaped enclosure. This may have formed a possible blocking ditch to close

off the approach to the enclosure from the west. The ditch's backfill was investigated and contained a complete 'saucepan pot' vessel, initially thought to date from the Middle Iron Age, but now thought to date from the Late Bronze Age.

6.6.44 At the southern end of the realigned A360 south approach road, close to the A360, the geophysical survey and trial trenching revealed two sides of a possible rectangular enclosure, dated to the Early Bronze Age by a single sherd of grog-tempered ware.

6.6.45 A Wessex linear ditch, dated to the Late Bronze Age, was also investigated in several trenches.

6.6.46 No evidence for a continuation of the concentrated settlement evidence, dated to the Late Bronze Age and located at the existing Longbarrow Roundabout, was found to extend into the Longbarrow South area. However, a 'stockade ditch' did continue into the site with a second paired parallel ditch located adjacent (in a trench just to the southwest of the current roundabout). Scattered pits dated to the Early Bronze Age (Beaker period) were also identified, both within the northern and southeast parts of the evaluation area, and attest to a low amount of activity during this period in the evaluation area.

6.6.47 Overall, the evaluation of the new Longbarrow Junction area has confirmed apparently discrete areas of activity including possible Late Neolithic and associated flint scatters along the realigned A360 north, scattered Early Bronze Age pits, a Late Bronze Age C-shaped enclosure and associated activity at the southern dumbbell for the proposed Longbarrow Junction, and a possible Early Bronze Age enclosure at the southern end of the realigned A360 south, along with scattered Early Bronze Age pits. The survival of parts of extensive later prehistoric land divisions (Wessex linears) has also been confirmed.

*Rollestone Corner*

6.6.48 The archaeological evaluation for this small junction improvement has included land both within and outside the WHS boundary. The junction is situated amidst a relatively dense concentration of scheduled and non-designated Early Bronze Age round barrows including the Rollestone barrows to the south and the Net Down barrows to the northwest. The barrows are predominantly located along a ridge coinciding approximately with the line of the Packway, and are clustered together to form distinct groups, both within and beyond the WHS boundary.

6.6.49 Archaeological evaluation outside the WHS boundary comprised geophysical survey, field walking and trial trenching, whilst within the northwest corner of the WHS hand sieved test pits were also excavated.

6.6.50 The geophysical survey noted the possible remnants of field systems, of probable late prehistoric or Romano-British date, in the locality. Field walking and test-pitting did not identify any significant concentrations of material; the worked flint assemblage being typical of collections from the plough zone in the

area, with a preponderance of heavily patinated, large fragments of debitage. There were no cores or retouched tools recovered.

6.6.51 A total of 11 trenches were excavated. Six trenches were located on land to the west of the B3086, outside the WHS boundary, and five trenches on land to the east of the B3086 in the northwest corner of the WHS. The investigation revealed a number of tree-throws, two of which contained quantities of burnt and/or worked flint (including Neolithic material) and tiny fragments of prehistoric pottery.

6.6.52 Overall the archaeological evaluations at Rollestone Corner have revealed very low levels of prehistoric activity in this part of the WHS and adjacent to the WHS boundary.

## Current baseline

6.6.53 The baseline reports and gazetteers for archaeological remains, historic buildings and historic landscape are presented in Appendices 6.2-6.6, as follows:

Appendix 6.2 Archaeology baseline report;

Appendix 6.3 Gazetteer of archaeological assets;

Appendix 6.4 Historic buildings baseline report;

Appendix 6.5 Gazetteer of historic buildings; and

Appendix 6.6 Historic landscape baseline report and gazetteer.

6.6.54 Each baseline report sets out the value of each asset and the contribution its setting makes to that value (where relevant).

6.6.55 As detailed in Section 6.3.6, the baseline for this assessment draws on a complex array of sources, as well as generating new information about known and newly-discovered archaeological sites through its own field work programme. These datasets partially overlap, each using a proprietary numbering system for the assets they include. In order to simplify this situation and to aid comprehension, the present assessment adopts the following approach.

*500m study area*

6.6.56 A single baseline has been collated from all sources. Each asset has been assigned a project-specific unique identity number (UID). These UIDs have been created as a means of simplifying the raw baseline data; duplicate references to the same asset are combined (for example those recorded on both the NHLE and WSHER), while clusters of contemporary, geographically-proximate sites are also grouped. To enable cross-referencing to the originating dataset, the NHLE and WSHER identification codes for each asset are listed

within the gazetteer for archaeology and historic buildings contained in Appendices 6.3 and 6.5 respectively. Asset numbering is as follows:

a) UID 1000-5038: archaeological baseline;

b) UID 6000-6122: historic buildings baseline.

6.6.57 The UID numbering for the archaeological baseline reflects the division of the Scheme into five sections, as follows:

a) UID 1000+ Western Scheme origin to western limit of Winterbourne Stoke bypass (chainage 0-1800);

b) UID 2000+ Winterbourne Stoke Bypass, Longbarrow Junction, Western portal (chainage 1800-7400);

c) UID 3000+ Tunnel (chainage 7400-10375);

d) UID 4000+ Eastern portal, Countess Junction, Eastern Scheme origin (chainage 10375-12572);

e) UID 5000+ Rollestone Corner.

*Assets beyond the 500m study area but within the 2km study area*

6.6.58 These designated assets have not been assigned a project-specific UID. This was not practical, given the large numbers of assets present within the 2km study area. Throughout this report these are referred to by their NHLE entry number.

*Asset groups*

6.6.59 For the purposes of the EIA baseline assessment and assessment of impacts on the setting of heritage assets, a series of 39 ‘asset groups’ have been defined. These have been determined on the basis of location (e.g. proximity and topography), period, and interrelationships (e.g. inter-visibility and grouping). The use of groupings, to reflect the disposition and significance of monuments within the WHS and wider landscape, is an established approach shared by the Heritage Impact Assessment and was endorsed in the 2015 Joint World Heritage Centre/ ICOMOS Advisory Mission report.

6.6.60 The definition of asset groups was guided by previous assessment work related to developments within the WHS, including:

a) Environmental Statements and/ or HIAs for the Stonehenge Environmental Improvements Project and the new Stonehenge Visitor Centre and associated works;

b) Assessments undertaken at the option selection stage for the A303 Scheme; and

c) Outline Assessments undertaken in relation to the A303 improvement by Historic England and the National Trust.

6.6.61 Further asset groups were defined outside the boundaries of the WHS. These had not been defined by any previous work.

6.6.62 Site visits and ZTV modelling indicated that the Scheme would have no impact (either positive or negative) on a number of monument groups inside the WHS boundary, but on its southern edge, and following consultation with HMAG these were omitted from the assessment baseline. These groups comprise:

a) Rox Hill Barrow Cemetery;

b) Wilsford Barrow Cemetery;

c) Lake Down Barrow Cemetery; and

d) Lake House Barrow Cemetery.

6.6.63 Both designated and non-designated assets have been considered when defining groupings. The identification of asset groups takes account of sites and monuments with no surface expression, including ploughed-down earthworks.

6.6.64 Some groups extend over considerable areas, and it is recognised that the impacts of the Scheme may not occur uniformly across a given group. In order that any differential impacts upon the component elements can be drawn out, the most extensive groups have therefore been subdivided. These comprise:

a) AG13 Diamond Group;

b) AG19 Normanton Down Barrows;

c) AG26 Old and New King Barrows; and

d) AG31 Countess Farm Barrows.

6.6.65 A few asset groups, for example Yarnbury Camp, take in only a single asset (in this case NHLE 1005689), but the majority incorporate multiple assets in a given locality which combine to form a coherent unit. Some, for example the barrow cemetery on Normanton Down, are extremely extensive, taking in a complex grouping of both designated and non-designated assets. The asset groups, and the methodology underpinning the rationale behind each, are detailed in Appendix 6.7 and shown on Figure 6.6.

6.6.66 The use of UIDs and the larger asset groups greatly simplifies the presentation of the assessment, as well as avoiding a great deal of repetition and duplication. Nevertheless, in order to satisfy the requirements of NPSNN, the assessment outcomes are presented on an asset-by-asset basis, both within this chapter (significant effects) and Appendix 6.8 (non-significant effects).

*Numerical distribution*

6.6.67 The numerical distribution of known assets within or intersecting the 500m and 2km study areas is given in Table 6.8. These assets are shown on Figure 6.2 to Figure 6.11.

**Table 6.8: Heritage baseline – numerical summary**

| Asset type | 500m study area | 2km study area* | Total |
|---|---|---|---|
| Scheduled Monument | 114 | 141 | 255 |
| Listed Building Grade I | 4 | 2 | 6 |
| Listed Building Grade II* | 8 | 6 | 14 |
| Listed Building Grade II | 75 | 134 | 209 |
| Listed Building Grade total | 87 | 142 | 229 |
| Conservation Areas | 3 | 5 | 8 |
| Non-designated assets (HER) | 1142 | n/a** | n/a** |

** This column lists assets beyond the 500m study area but within the 2km study area.*

*** HER data have only been gathered for assets within, or intersecting, the 500m study area.*

*Stonehenge, Avebury and Associated Sites World Heritage Site*

6.6.68 The Stonehenge, Avebury and Associated Sites WHS comprises two separate elements, one focussed on Avebury and the second on Stonehenge. The Scheme passes through the Stonehenge element of the WHS between Longbarrow Crossroads, Winterbourne Stoke and Countess Roundabout, Amesbury.

6.6.69 The Stonehenge, Avebury and Associated Sites WHS, described in detail in the HIA (Appendix 6.1), is internationally important for its complexes of outstanding prehistoric monuments (Ref 6.28). Attributes of OUV are ultimately derived from the 2008 Statement of Significance (Ref 6.29) and the nomination and evaluation documentation of 1985/6. The 2015 Management Plan (Ref 6.30) explains the seven Attributes of OUV for the entirety of the WHS in more detail. The attributes are as follows:

a) Stonehenge itself as a globally famous and iconic monument.

b) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

c) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

d) The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.

e) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.

f) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

g) The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.

*Scheduled monuments*

6.6.70 The scheduled monuments within the 500m and 2km study areas span prehistory to the Post-medieval era. There is a strong numerical bias towards monuments and features of Neolithic and/or Bronze Age date, particularly within the WHS. These range in character from the globally-iconic centrepiece of Stonehenge, to the funerary and ritual monuments in the surrounding landscape, to field systems. Iron Age sites, including the hillforts of Yarnbury Camp and Vespasian's Camp, are also present. There is only one scheduled site of specifically Roman date within the study areas, this being the settlement on Winterbourne Stoke Down (NHLE 1015222). However, there was continuity of occupation at Yarnbury Camp, and Roman elements are included within the multi-period field systems to the west of the WHS. Scheduled Medieval sites are absent from the study areas. The most recent scheduled monument is the guidepost on the former Stapleton Road, now a green lane south of the A303, which dates to 1750.

6.6.71 Of the 255 scheduled monuments within the study areas, 167 fall either entirely or partially within the WHS boundary.

*Listed buildings*

6.6.72 Listed buildings comprise those within 1km of the Scheme boundary. In keeping with the other aspects of this assessment, an original search area of 2km was adopted (i.e. the 2km study area). However, because impacts were determined as being limited to a smaller envelope, it has been possible to reduce the baseline accordingly. The same considerations led to a reduction of the baseline study area for registered parks and gardens and conservation areas, discussed in the two sub-sections below (for details refer to Appendix 6.9).

6.6.73 The listed buildings within the study areas span the Medieval to Modern periods. Grade I and Grade II* listed buildings include, but are not limited to: the Church of St Peter, Winterbourne Stoke; the Manor House, Winterbourne Stoke; West Amesbury House; Amesbury Abbey (listed at Grade I, with other Grade II* listed buildings within the Abbey grounds); the Church of St Mary and St Mellor, Amesbury; and the Church of St Andrew, Rollestone.

6.6.74 Many of the Grade II listed buildings within the 500m study area are associated with historic villages such as Winterbourne Stoke and Rollestone, or are situated in the town of Amesbury. There are also a number of listed milestones on modern roads that had their origins as historic turnpikes.

*Registered parks and gardens*

6.6.75 There is one registered park and garden within 1km of the Scheme boundary: Amesbury Abbey (Grade II*).

*Conservation areas*

6.6.76 Within 1km of the Scheme boundary there are three conservation areas: Amesbury; West Amesbury; and Winterbourne Stoke. Five more are within the 2km study area: Berwick St James; Bulford; Durrington; Lake; and Wilsford.

*Non-designated assets*

6.6.77 The WSHER contains over 1,800 individual records within or intersecting the 500m study area, some of which are duplicates of designated assets contained within the NHLE.

6.6.78 A minority of these heritage assets are non-designated historic buildings, but most are archaeological in character, including upstanding monuments and buried archaeological remains. They include settlements, barrows, field systems, hillforts and water meadows, and date from the Mesolithic period through to the modern era.

*Historic landscape characterisation*

6.6.79 The 500m study area contains, or intersects with, 176 character areas, as defined within the Wiltshire and Swindon Historic Landscape Characterisation project (WSHLC). There is a dominance of character areas defined as Downland and Amalgamated Fields, while also present is a lesser proportion of Water Meadows, Plantation and Secondary Woodland, Military Installations, and various categories of built or urban environments.

## Scheme narrative

6.6.80 The following paragraphs describe the cultural heritage resource in the vicinity of the Scheme. The focus is upon high value assets within the 500m study area (see Appendix 6.3) but, where relevant, mention is made of assets that lie at a greater distance. The description runs from west to east along the Scheme carriageway, before discussing heritage assets elsewhere within the Scheme boundary, for example the junction at Rollestone Corner and the area assigned for deposition of excavated material in the east of Parsonage Down.

6.6.81 Within this narrative, designated assets within the 500m study area are referred to by their project-specific UID and their NHLE number. Non-designated assets within the 500m study area are referred to only by their UID. Assets beyond the 500m study area are referred to by their NHLE number (if designated) or WSHER number (non-designated). Where it aids the narrative, reference is also made to the broader asset groups used in the EIA setting assessment and HIA.

*Western Scheme origin to western limit of Winterbourne Stoke bypass (chainage 0-1800)*

6.6.82 From its western origin, the Scheme coincides with extensive relict field systems extending westwards from the western part of the WHS (UID 1004.01). These field systems have been identified from aerial photography, LiDAR (airborne laser survey) and geophysical survey; some parts survive as faint earthworks but others have been ploughed out. These field systems are thought to have been laid out around 1500 BC, although they were likely to have been used over a sustained period of time and there are indications that many underwent subsequent reorganisations in the Iron Age, Roman and Medieval periods.

6.6.83 The Iron Age hillfort at Yarnbury Camp (UID 1000/NHLE 1005689/Asset Group 01) stands immediately to the northwest of the western origin of the Scheme, situated on the summit of a prominent hill, a local high point in the landscape. Some 500m further to the north is the Parsonage Down Camp earthwork enclosure and its associated field system (NHLE 1009646). Occupying an extensive area, this is also considered to be of Iron Age or Roman date; the field system is well-preserved and of particular importance because of its proximity to Yarnbury Camp. Between these two sites is a scheduled Bronze Age round barrow (NHLE 1005614), while another barrow stands in isolation to the south of the A303 on Steeple Langford Cow Down (NHLE 1004725). The existence of these barrows and enclosures, along with other non-designated examples set within the ancient field systems described above, reflects a former prehistoric landscape that extended beyond the WHS boundary.

6.6.84 South of the Scheme on a former turnpike road now extant only as a green lane, is a scheduled guidepost dating to 1750 (UID 6001/NHLE 1005621). This is one of several such markers or milestones near to the Scheme, all belonging to the turnpike era. Only this example is scheduled; four others within the 500m study area are listed at Grade II, while some non-designated examples are also present.

*Winterbourne Stoke Bypass, Longbarrow Junction, Western portal (chainage 1800-7400)*

6.6.85 Proceeding eastwards, the Scheme crosses an area containing a very large number of possible pits identified by geophysical survey, suspected to be of Bronze Age date (UID 1008). The northern edge of an Early and Middle Iron Age to Roman period enclosed settlement (UID 2033) lies within the Scheme boundary, at Scotland Lodge, to the south of the new road alignment, a few hundred metres to the east, within clear view of the contemporary Yarnbury Camp.

6.6.86 North of the proposed carriageway alignment, Parsonage Down is occupied by an extensive field system that is likely to date to the later prehistoric (Middle Bronze Age to Iron Age) and Roman periods (UID 1004.01). Multi-period settlement over the same time span also appears to be evidenced by a number of enclosures and linear features (e.g. UIDs 2036; 2039) and by a profusion of

pit-like features across the eastern parts of Parsonage Down (UID 2038). Extensive geophysical surveys in this area have augmented the previous aerial photographic interpretations; planned intrusive archaeological evaluations will confirm the interpretation of these features.

6.6.87 The settlement and field system appears to overlie an older funerary and ceremonial landscape, evidenced by a group of potential barrows identified from aerial photographs (UID 2030). An upstanding barrow is also present beyond the Scheme boundary, some 700m west of these features (NHLE 1004741).

6.6.88 South of the proposed carriageway alignment, the village of Winterbourne Stoke is likely to be of Saxon origin. It may have been larger during the Medieval period, as earthworks of deserted settlement plots are in evidence around the margins of the present village. The core of the village, to the south of the existing A303, is a conservation area in which a number of listed buildings are present, including the listed Manor House and the Church of St Peter (Grade II*; NHLE 1130971; 1130975).

6.6.89 To the north, at distances of between 400m and 800m from the proposed carriageway alignment, are three extensive scheduled areas: Winterbourne Stoke West round barrow cemetery, the Coniger enclosure and section of linear boundary earthwork (UID 2000/NHLE 1015019/Asset Group AG03); Winterbourne Stoke East round barrow cemetery and earthwork enclosure on Fore Down (NHLE 1015020/Asset Group 04); and the Romano-British settlement on Winterbourne Stoke Down (NHLE 1015222/Asset Group 07). The latter lies within an extensive rectilinear field system that is also of likely Roman date (UID 2038).

6.6.90 The Till valley floor includes faint earthwork traces of a water management system or water meadows of probable Post-medieval date (UID 2050). Little archaeology is known on the flanks of the Till valley, although chalk combes to the west and east have potential to contain deposits of colluvium (hillwash sediments) that can contain or seal archaeological remains.

6.6.91 Approaching Longbarrow Junction, on the west side of the present A360, there is a complex, dense array of linear and curvilinear features that has been detected by geophysical survey. This includes a potential small enclosure or possible barrow (UID 2072), and what appears to be a much larger rectilinear enclosure (UID 2078). The character of these features has yet to be established, but significant discoveries were made at this location in 1967, prior to the construction of the present A303/A360 roundabout. Here, excavation revealed an enclosure, four circular features thought to be Late Bronze Age huts and a number of pits. An archaeological watching brief along a cable route to the west of the roundabout and south of the A303 identified a number of ditches, a pit, post-holes and stake-holes (UID 2001).

6.6.92 Around Oatlands Hill, southwest of the proposed junction, further archaeological features have been identified. Collectively these features may represent a field system and settlement of Bronze Age to Roman date, and include:

a) two potential barrows (UID 2069 and MWI7153);

b) an incomplete oval or elongated C-shaped enclosure or possible barrow identified from aerial photographs and geophysical survey (UID 2072);

c) a linear ditch or boundary of possible Bronze Age date visible as a cropmark on aerial photographs (UID 2068);

d) a cluster of suspected prehistoric pits (main groups UID 2143 and MWI74878); and

e) a boundary ditch and a probable trackway (UID 2073).

6.6.93 The western boundary of the WHS is delimited by the present A360. Immediately adjacent to the roundabout on its northeast side is the Winterbourne Stoke Crossroads barrow cemetery (Asset Group 08). Comprising some twenty-five individual monuments, it is arranged in two groups and aligned on the prominent Neolithic long barrow with another cluster of barrows to the northwest. The group is of particular importance since it incorporates examples of all the main barrow forms: long, bowl, bell, saucer, pond and disc (UIDs 2003/NHLE 1011047; 2004/1011842; 2005/1011843; 2006/1011841; 2007/1012368).

6.6.94 To the south and east of Longbarrow Roundabout, within the WHS boundary, are a number of other significant monument groups. The extensive Diamond Group (Asset Group 13) comprises three outlying bowl barrows, a nucleated group of seven bowl barrows and a pond barrow, three long barrows, a henge monument and hengiform feature. An outlying bowl barrow on the southwest side of the crossroads is also included in this group (UID 2002/NHLE 1011045). Only the scheduled long barrow still survives as an upstanding earthwork (UID 2012/NHLE 1010830).

6.6.95 A scheduled linear boundary bisects the Diamond Group, extending for some 3km, on a southeast to northwest alignment, from the Diamond copse to the southeast across Winterbourne Stoke Down to the northwest (UID 2014). South of the modern A303, the boundary feature survives as an upstanding earthwork (scheduled as NHLE 1010837). The boundary is an example of a ‘Wessex linear ditch’, a characteristic feature of the Salisbury Plain area, many of which appear to have been established in the Late Bronze Age (c.1200-700 BC), although they are often not closely dated and may have been maintained and elaborated over prolonged periods; indeed, southeast of Longbarrow Roundabout the feature marks the boundary between the parishes of Winterbourne Stoke and Wilsford-cum-Lake.

6.6.96 Other scheduled round barrows are present to the south of the present A303, including two bowl barrows (UID 2015/NHLE 1010831; UID 2017/NHLE 1013812) on Wilsford Down. Also identified here is the Wilsford Shaft, a ploughed-out pond barrow that, on excavation, was found to contain a vertical shaft containing votive objects (UID 2016/NHLE 1010833). Further to the

southeast, the North Kite Enclosure and Lake Barrow cemetery lie at 830m and greater from the proposed carriageway alignment (Asset Group 16).

6.6.97 Also between Longbarrow Roundabout and Stonehenge, four Grade II listed milestones are present. One stands on the A360, 100m south of Longbarrow Roundabout (UID 6027/NHLE 1130972); two are on the A303 (UID 6031/NHLE 1130999; UID 6040/1131085); and one is opposite Stonehenge on the former A344 (UID 6039NHLE 1131086).

*Tunnel (chainage 7400-10375)*

6.6.98 The western portal would be located approximately 1.15km within the WHS boundary, the tunnelled section of the Scheme passing through the heart of the WHS.

6.6.99 To the south of the tunnel alignment, the Normanton Down barrow cemetery (Asset Group 19) dominates the southerly approach to Stonehenge . This extensive group spans over 1.5km north to south and a similar distance east to west. Scheduled monuments include 43 bowl barrows, seven disc barrows, four bell barrows, one pond barrow, one saucer barrow as well as a linear boundary and three long barrows. Non-designated assets include a long mortuary enclosure to the southwest and some further possible barrows identified from aerial photographs and geophysical survey. At least one of the barrows has been identified as a possible earlier henge. The majority of the barrows within this group survive as extant and prominent earthworks. Particularly prominent is the ‘Sun Barrow’, so named for its position on the solstitial alignment of Stonehenge (midwinter sunset) (UID 3000/NHLE 1012370). While some other monuments within the group have been truncated or levelled by modern agricultural activity, geophysical survey indicates that surrounding ditches and satellite features survive as below-ground archaeological remains. Byways AMES 11 and 12, both byways open to all traffic (BOAT), pass through the Normanton Down barrow cemetery; vehicular use of the byways has an adverse impact on the setting of the monuments within the cemetery and in some cases directly impacts the fabric of the monuments.

6.6.100 An outlier of the Normanton Down barrow cemetery, a bowl barrow known as Wilsford G1 (UID 2018/NHLE 1010832), now levelled by ploughing, lies above the tunnel alignment, 25m east of the western portal. The barrow was completely excavated in 1960, revealing two ring ditches, two phases to construction of the mound and a total of 13 inhumation burials. Investigations in 2002, in connection with previous proposals to improve the A303, revealed two further burials situated outside the barrow ditches to the north and northeast, indicating a possible associated ‘flat’ cemetery (i.e. burials without barrow mounds).

6.6.101 To the north of the tunnel alignment, the Stonehenge Down barrow cemetery is a cluster of nine barrows, all reduced to some extent by ploughing (UIDs 3005-3008/NHLE 1012383-87; Asset Group 21). Stonehenge itself stands approximately 150m from the present A303 at its closest point, and

approximately 200m north of the tunnel alignment (UID 3010.01/NHLE 1010140). Byway AMES 12 passes within 250m of the Stonehenge monument to the west and the presence of vehicles parking on the BOAT adversely affects the setting of the monument.

6.6.102 North of Stonehenge, the Greater Cursus runs parallel to the existing A303 at a distance of approximately 1km (NHLE 1009132; Asset Group 23), together with its associated long barrows and the Cursus Barrows (Asset Group 18). The Avenue (UID 3010.02/NHLE 1010140) and the King Barrows (UID 3018/NHLE 1012381; Asset Group 26) lie to the east.

6.6.103 Other barrows immediately north of the present A303 include UID 3014/NHLE 1008947; UID 3018/1012420; and UID 3020/NHLE 1012129. Monuments to the south include a barrow cemetery north of Luxenborough Plantation (NHLE UID 3012/NHLE 1012372; included with other monuments to the south within Asset Group 24), and the Coneybury Henge (UID 3019/NHLE 1012376) and King Barrow (NHLE 1012375), included within Asset Group 29. Recent excavations at West Amesbury Farm have also identified a group of Neolithic pits on the southern end of King Barrow Ridge, close to Coneybury Hill (UID 3072).

*Eastern portal, Countess Junction, Eastern Scheme origin (chainage 10375-12572)*

6.6.104 The tunnel section of the Scheme passes beneath the Avenue before emerging at Countess West. To the west of the eastern portal location, is a dispersed group of barrows that appear to relate to the Avenue (Asset Group 30), situated both to the north and south of the current A303. To the northeast of the eastern portal is another broad grouping of scheduled barrows which mainly lack surface expression (the Countess Farm Barrows; Asset Group 31). More recent landscape elements are also present, within what was formerly part of the extended Amesbury Abbey Park. Remnants of the former parkland survive as a series of small groups of trees to the north of the A303, commonly known as the Nile Clumps. Although popularly believed to commemorate the 1798 Battle of the Nile or the 1805 Battle of Trafalgar, the evidence suggests they pre-date both these conflicts and that some have been replanted in recent decades.

6.6.105 As the proposed carriageway alignment re-joins the existing Amesbury Bypass it passes immediately to the north of the Iron Age hillfort known as Vespasian's Camp. This is a large ramparted enclosure of 15 hectares, which incorporates several earlier barrows within its defences. The site is now entirely within mature woodland (UID 4012/ NHLE 1012126/Asset Group 32). Adjacent to Vespasian's Camp, south of the existing A303 within the WHS, is the Mesolithic site at Blick Mead (UID 4032). Situated on a spring line, archaeological excavations at this site have yielded large lithic assemblages, along with faunal remains and palaeoenvironmental material. This has been interpreted as evidence for a sustained or repeated large-scale presence at the site for a span of almost 3000 years, from the 9th-7th millennia BC, possibly continuing into the 5th millennium BC. Mesolithic lithics have also been recovered, incorporated in

later colluvium deposits, on the northern edge of the Avon floodplain west of Countess Farm (UID 4036).

6.6.106 Both Vespasian's Camp and Blick Mead fall within the Grade II* Amesbury Abbey Park (NHLE 1000469), which occupies all of the land immediately south of the Scheme for the kilometre leading up to the existing Countess Roundabout. The abbey was a Benedictine foundation of 979 AD, dissolved in 1177, with elements being incorporated into a subsequent priory. After the Dissolution, the priory manor was replaced by a new house, around which an extensive park developed, including modifications to Vespasian's Camp, and taking in land further to the north and west. The current house at the centre of the park is Grade I listed (NHLE 1131079), while several other structures are listed at Grade II*. The park is included within the Amesbury conservation area, which extends into the town's built-up core to the southeast, incorporating a substantial number of listed buildings including the Grade I-listed church of St Mary and St Melor (NHLE 1182066). To the west, the West Amesbury Conservation Area is focused on a cluster of listed buildings, including the Grade I listed West Amesbury House (NHLE 1318515).

6.6.107 The current WHS eastern boundary follows the line of the River Avon, skirts the west side of Countess Roundabout and follows the A345 north to Durrington Walls. Immediately to the northwest of Countess Roundabout is a cluster of Grade II listed buildings at Countess Farm, comprising the main farmhouse and a series of barns and granaries (UID 6067-6071; NHLE 1131055-7; 1318487-8). To the south, within Amesbury Abbey Park, another group of listed buildings is present, including several Grade II* listed buildings: Diana's House (UID 6062; NHLE 1131053); Gate Piers to Lord's Walk with flanking estate boundary walls (UID 6064; NHLE 1182498); and Kent House (UID 6065; NHLE 1131093).

6.6.108 To the east of Countess Roundabout, the Scheme boundary includes land at Countess East. Amesbury Countess was formerly a separate settlement, distinct from the centre of Amesbury and West Amesbury, on the north bank of the River Avon. At Countess East, investigations have confirmed the existence of Early to Middle Saxon settlement remains above the floodplain (UID 4039), as well as the presence of Neolithic flintwork (UID 4040-41) and a stone-built Roman building of uncertain function (UID 4042). A water meadow system is also present within the corridor of the River Avon (UID 4034).

6.6.109 Further east, around the area now occupied by Solstice Park, a number of late prehistoric monuments are present, including the scheduled Earl’s Farm Down and New Barn Down barrow cemeteries (Asset Group 35). Within this widely-dispersed group, some of the monuments in closest proximity to the Scheme include barrows (UID 4060/NHLE 1009872, UID 4059/NHLE 1009566 and UID 4063/NHLE 1009871). Seven ploughed down barrows, amongst the barrow groups on New Barn Down to the north of the A303 and on Earl’s Farm Down, were investigated in advance of the construction of Solstice Park. Also present, bisected by the present A303, is a scheduled monument that incorporates parts of two linear boundary features (alternatively interpreted as trackways) of probable late Prehistoric or Roman date, and numerous undated incised

trackways, possibly of Medieval or later origin. The scheduling covers sections of these features which are better preserved as earthworks (UID 4069.01/NHLE 1009613), with non-designated continuations of these features to the south, northwest and southeast (UIDs 4069.02-04).

*Rollestone Corner*

6.6.110 From Longbarrow Junction, proceeding north on the A360/B3086, the route of the present A360 passes to the west of the Lesser Cursus (NHLE 1010901; Asset Group 15) and the Lesser Cursus barrow cemetery (Asset Group 11, including within the 500m study area UIDs 2014/NHLE 1008951, 2015/1010893 and 2016/1008952). A further series of barrows is present along a ridge to the north of Greenland Farm, straddling the A360. Combined as Asset Group 10, the Rollestone Barrows include 17 separate scheduled areas; the pair of monuments scheduled as NHLE 1010891 (UID 5006) is bisected by the A360.

6.6.111 Northwest of Rollestone Corner and the junction with the Packway are the non-designated Net Down barrow cemetery (Asset Group 6; UIDs 5012-20) and areas of relict prehistoric and Medieval field systems. The Neolithic causewayed enclosure of Robin's Hood's Ball (NHLE 1009593) and associated barrows, including a long barrow and a number of round barrows, lies beyond the northern boundary of the WHS, approximately 1.2km to the north of the Scheme boundary (Asset Group 14). Eastwards from Rollestone Corner, the Packway currently impinges on a round barrow cemetery (UID 5010/NHLE 1009124) while south of the Packway further ceremonial monuments within the WHS include a tightly-clustered group of barrows, including a bell barrow and three disc barrows (NHLE 1012170), the Durrington Down barrow cemetery (NHLE 1008943/ Asset Group 20), a long barrow in Larkhill Camp (NHLE 1012167; Asset Group 38), a barrow cemetery south of Fargo Road (NHLE 1009062) and a further barrow cemetery in Larkhill Camp (NHLE 1009068).

### Future baseline

*Construction Year Baseline (2021)*

6.6.112 No changes to the current baseline are predicted by 2021.

*Opening Year Baseline (2026)*

6.6.113 No changes to the current baseline are predicted by 2026.

## 6.7 Potential impacts

6.7.1 Mitigation measures incorporated in the design and construction of the Scheme are set out in 6.8 below. Prior to implementation of the mitigation, the Scheme has the potential to affect cultural heritage (positively or negatively), both during construction and once in operation.

6.7.2 For the purposes of the cultural heritage assessment, the construction phase is defined as the temporary activities involved in building the Scheme, and the subsequent permanent presence of the Scheme once constructed. The

operational phase comprises the situation when the Scheme is being used by traffic.

6.7.3 As listed below, physical impacts upon assets would only occur during the construction phase; impacts upon assets' setting would arise during both the construction and operation phases. Impacts upon setting may be either positive or negative.

### Construction

6.7.4 Construction of the Scheme has potential for benefits to cultural heritage. These include:

a) removal of highway and associated infrastructure from the WHS; and

b) removal of existing physical severance caused by the current A303.

6.7.5 Construction of the Scheme also has the potential for adverse impacts upon cultural heritage, including:

a) partial or total removal of heritage assets, including archaeological remains, within the Scheme footprint;

b) compaction of archaeological deposits by construction traffic and structures;

c) temporary impacts upon the settings of heritage assets, including those that convey the attributes of OUV; and

d) permanent impacts upon the setting of heritage assets, including those that convey the attributes of OUV; and

e) Changes to key views and sight lines, including solstitial alignments.

### Operation

6.7.6 Operation of the Scheme has the potential to result in both positive and negative impacts on the setting of heritage assets, including:

a) Changes to the settings of monuments, including those that convey the attributes of OUV; and

b) Changes to key views and sight lines, including solstitial alignments.

## 6.8 Design, mitigation and enhancement measures

### Construction

*Embedded mitigation*

6.8.1 Where possible, proportionate measures to avoid or minimise direct impacts on heritage assets have been embedded within the Scheme. The final Scheme

design, as presented within this ES, is the product of an iterative design development process. These iterations have included changes made in response to cultural heritage concerns; the key design developments are summarized in Table 6.9.

6.8.2 The tunnel through the central part of the WHS removes the alternative option of a surface road at this location (i.e. widening of the existing A303). Boring of the tunnel avoids the ground disturbance that attends a cut-and-cover option. These are both embedded mitigation measures for heritage reasons.

6.8.3 Throughout the design process, avoidance of heritage assets by refinement of the Scheme alignment has been undertaken. These changes have been made to take account of heritage assets which were already known, and also buried archaeology which has been newly-discovered during the field work undertaken for this project.

6.8.4 Measures to avoid or minimise potential physical impacts arising from construction activities include:

a) Construction compound locations would be situated outside the WHS. They avoid designated heritage assets and, where possible, are sited so as to avoid non-designated assets. Exclusion areas, to protect particular archaeological features, are defined for both the main compound at Longbarrow and the eastern compound at Countess;

b) The layouts of the construction compounds have also been designed to reduce temporary impacts on the settings of heritage assets and to minimise visibility in views from, and including, the WHS. This includes the concealing of compound buildings behind existing hedges which would be retained or earthwork bunds;

c) Compounds, temporary road diversions and haul roads would be built under a ‘no dig’ solution, wherever possible, with topsoil retained in situ and geotextile laid before road stone and the temporary road surface. This approach would also be implemented for PMAs and NMUs where agreed with HMAG and WCAS.

6.8.5 Measures to minimise the physical impact of the Scheme itself, and to conserve or enhance the permanent setting of heritage assets, have also been embedded in the design:

a) The Scheme design has been developed to reduce the land-take within the WHS:

i. The western portal approach road would be in a retained cutting;

ii. Land-take at and around Blick Mead would be avoided, all Scheme elements (including temporary haul roads) avoiding the known extent of this asset;

iii. Maintenance and safety crossovers for tunnel safety and maintenance would be situated outside the WHS, at the new Longbarrow Junction and at Countess Roundabout;

iv. Re-use of part of the existing dual carriageway between the eastern portal and Countess Roundabout.

b) The Scheme design has been developed to reduce the visual intrusion of new highway sections within the WHS:

i. The western portal approach road would be in a retained cutting, with grassed upper slopes and flanking chalk grassland (between the A360 and the portal) created to blend the Scheme into the surrounding landscape. Highway safety fencing would be located towards the foot of the grassed slopes so as to screen it from within the WHS;

ii. Dry valleys or combes would be used to conceal the road, both within the WHS as well as outside the WHS, (e.g. the main carriageway between the River Till and Longbarrow Junction);

iii. The roundabouts and approach roads to the redesigned Longbarrow Junction would be concealed in false cutting, while Green Bridge Three includes bunds which screen this crossing from the WHS;

iv. Re-use of part of the existing dual carriageway between the eastern portal and Countess Roundabout would minimise impacts on the setting of the scheduled Vespasian's Camp and the Grade II* registered park and garden at Amesbury Abbey.

c) The locations of the tunnel portals have been developed to avoid key heritage assets:

i. A sensitive, low key design is adopted for the tunnel portals themselves, in order to minimise the visibility of these new structures within the WHS;

ii. The location of the western portal has been moved westwards to avoid impacting the scheduled Wilsford G1 barrow (UID 2018/ NHLE 1010832). The proposed additional length of canopy up to 200m long would reduce the visibility of the portal in views from monument groups such as the Winterbourne Stoke Crossroads barrows, the Diamond group and the Normanton Down barrows;

iii. The eastern portal location would be concealed within the landscape at the head of a deep dry valley (combe) and by a short length of canopy, thus concealing the portal in views from the Avenue, King Barrow Ridge and the Countess Farm barrows.

d) The green bridges are designed to reduce their visual impact and to maintain or enhance landscape connectivity. Green Bridge Four has been relocated eastwards from its original position, and substantially lengthened, reconnecting the landscape containing the Diamond Group and Winterbourne Stoke Crossroads barrows in consultation with HMAG, thus allowing the physical and topographic landscape connection between the groups to be maintained. To further assist integration of Green Bridge Four, chalk grassland and intermittent scrub habitat would be created to tie in along the western approach, with the finished ground level of the bridge replicating existing ground levels as far as practicable;

e) Lighting is designed for minimal impact, utilizing downlights with lower light spill to reduce impacts on the surrounding landscape and 'dark skies'. Longbarrow Junction, Countess Flyover and Rollestone Corner would not be lit; tunnel portal lighting would be downlit and hooded to avoid light spill; lighting changes at Countess Roundabout would reduce light-spill; lighting under Green Bridge Four would only occur during the day time and would be dimmer controlled at dusk and dawn to avoid sudden bursts of light emitting into the landscape at these specific times of the day;

f) Road signage would be designed for minimal impact. For example, no signs would be visible above the cutting approaches within the WHS, and signage would employ reflective surfaces rather than being lit;

g) The redundant A303, west of the existing A303/A360 Longbarrow Junction roundabout, as well as the existing A303/ A360 roundabout, will be broken out, lighting columns removed, and replaced with chalk grassland habitat and intermittent scrub.

h) Where the decommissioned A303 is converted to a restricted byway, it would be reduced in width and comprise a bound surface that is suitably coloured so as to sympathetically integrate into the WHS. The remaining width of the former road would be converted to chalk grassland. The byway would not include hard edging, raised kerbs, surface markings, signage, lighting, benches, litter bins or other such street furniture. The stretch of the existing A303 to the east of the current junction with Stonehenge Road would not form part of the restricted byway and would only be required for occasional maintenance and agricultural access. Here, the existing surface would be broken up and a grassed surface treatment provided;

i) The need to protect heritage assets and their settings has also been taken into account in the development of the Environmental Masterplan, including landscape and ecological mitigation proposals as set out in Chapters 7 and 8 respectively.

j) The choice of the bound surface colour would be established and agreed between Highways England and Stakeholders The colour choice would be informed by an initial selection of surface finishes, which would then be

tested in the WHS, via field trials during different weather conditions and from close, mid and long distance views, so as to ensure a colour tone which can adapt to seasonal variation and is visually acceptable from locations within and outside of the WHS.

k) The establishment and positive management of the chalk grassland habitat is set out in the Outline Landscape and Ecology Management Plan (OLEMP) presented in Appendix 8.26.

6.8.6 In respect of archaeological remains within the footprint of the Scheme, a programme of archaeological fieldwork and recording would be implemented. This would be proportionate to the level of impact and the value of the assets affected.

6.8.7 Archaeological fieldwork would include archaeological excavations, recording, reporting, publication, and dissemination to local communities, the wider general public and academics. An Outline Archaeological Mitigation Strategy ('OAMS') (see Appendix 6.11) has been prepared as the basis for extensive consultation with members of HMAG (within the WHS) and WCAS (outside the WHS) to develop a final Detailed Archaeological Mitigation Strategy ('DAMS').

**Table 6.9: Design changes to the Scheme in response to cultural heritage concerns**

| Issue | Response |
|---|---|
| Private Means of Access (PMA) track at Scotland Lodge had potential impact upon two non-designated barrows. | PMA track re-aligned. |
| Potential visual impacts upon the WHS arising from the proposed Longbarrow Junction. | Longbarrow Junction moved 600m to the west of the A360 and the WHS so as to conceal it in the existing landform / landscape, behind Oatlands Hill. |
| Northern slip road for the A360 from the new Longbarrow Junction potentially impacted on the site of a non-designated barrow. | Slip road realigned slightly to the west to avoid the potential non-designated barrow location. |
| Potential for light pollution and sky glow to affect the WHS. | No lighting provided at the new Longbarrow Junction and Rollestone Corner to avoid light pollution and sky glow on the WHS. Dimmer control for lights under Green Bridge Four (lit only during daylight hours) at dusk and dawn. Signage and bollards not to be lit. Countess Roundabout to be updated with directional LEDS to minimise light spill and sky glow. |
| Potential engineered earthworks within or on the edge of the western part of the WHS. | Green Bridge Four would connect the existing landform with no raised bunds. |
| Land-take from the western part of the WHS. | Junction slips for the Longbarrow Junction designed to start outside the WHS to limit land-take from the WHS.<br>Land take for the western portal approach road within the WHS limited as far as possible by the use of a retained cut. |

| Issue | Response |
|---|---|
| Visual impact of traffic on approach road to western portal.<br>Visual impact of western portal.<br>Use of chalk grassland to the north and south of the western portal approach road. | Western approach within the WHS designed to be approximately 7 – 10m deep retained cut to remove moving vehicles in views from the majority of monuments and monument groups that contribute to the OUV in this part of the WHS. Upper 2.5m of the retained cut would be grassed slopes in order to blend into the surrounding landscape.<br>Western Portal entrance further concealed by the use of a canopy.<br>Chalk grassland mitigation beyond the retained cutting to soften views of the cutting in key views from heritage assets and landscape viewpoints. The visual presence of the retained cutting is also lessened by Green Bridge Four and the combination of chalk grassland across and around the bridge would visually aid the integration of this structure within the landscape. |
| Potential impact of western portal on scheduled barrow UID 2018/NHLE 1010832 (Wilsford G1) and possible associated archaeology. | Western Portal position optimised at the head of a dry valley, avoiding impact upon the scheduled barrow UID 2018/NHLE 1010832 (Wilsford G1). |
| Visual impact of eastern portal. | Eastern Portal optimised in the base and at the head of a dry valley and its entrance concealed by the use of a short stretch of canopy. |
| Land-take for eastern portal approach. | Land-take minimised as far as possible by utilising the existing A303 and the use of a retained cut. |
| Potential impact on Blick Mead and River Avon | Alignment optimised past Blick Mead, to avoid land-take and to keep the road at existing grade. Ground water modelling indicates no impact on Blick Mead or River Avon (refer to the tiered assessment for Blick Mead presented in Appendix 11.4 Annex 3). |
| Visual impact of present A303, once decommissioned. | NMU route designed to minimise impacts for the current A303 between the A360 and Stonehenge Road. From Stonehenge Road eastwards, the existing A303 would be returned to chalk grassland to improve the setting of many monuments and remove severance and improve access for the Avenue.<br>Restricted byway proposed for the A360 as it passes to the west of Winterbourne Stoke Crossroads barrow group. Longbarrow roundabout removed and returned to chalk grassland. These measures would provide a better setting for the Winterbourne Stoke Crossroads barrow group. |

| Issue | Response |
|---|---|
| New PMA access track crossing the Avenue. | PMA east of Stonehenge Road and crossing the Avenue to have suitable reinforced grassed surface to maintain landscape connectivity. |
| Adverse impact of vehicles on the new link between Byways AMES11 and AMES12 on the adjacent Normanton Down Barrow Group and on the tranquillity of the WHS at this location. | Removal of the previously proposed link between Byways 11 and 12 in the Stonehenge WHS. This contributes to the Scheme objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration of the WHS Management Plan. |
| Modifying the layout of Rollestone crossroads to alter the traffic flow priorities and accommodate long vehicles. | The new layout is more compact than that previously proposed, minimising land take. Although this change means that the junction would be located just inside the northwest corner of the WHS, surveys did not identify any archaeological remains that contribute to the OUV of the WHS in the Scheme footprint, and the revised Scheme design would minimise highway infrastructure. |

*Archaeological fieldwork, recording and protection measures*

6.8.8 It is envisaged that the majority of the archaeological fieldwork and recording works would be completed during the preliminary works stage, prior to the appointment of the Main Contractor.

6.8.9 Some areas may still remain to be archaeologically investigated at construction stage, such as the positions for tunnel movement monitoring stations and areas of the compound that require topsoil removal (e.g. the concrete batching plant) as their positioning would be the subject of detailed design.

6.8.10 Prior to the start of construction, the Main Contractor would prepare a Scheme-wide Heritage Management Plan (HMP) indicating how the historic environment is to be protected in a consistent and integrated manner, coordinated with all other relevant environmental topics. The requirements for what the plan would include are as set out in the OEMP (Appendix 2.2).

6.8.11 The plan would also set out procedures for the protection of heritage assets and archaeological sites during construction including buffer zones, protective membranes and fill materials, protective fencing and appropriate signage, security measures, control of light spillage, noise and dust etc.

*Enhancement measures*

6.8.12 The Scheme is environmentally-led in terms of its design, with a specific emphasis on heritage. The embedded design has made reference to all measures built into the Scheme to minimize impacts and to enhance the setting of heritage assets, such as the removal of the current A303 into a tunnel across the central part of the WHS, the greening of the current A303 and parts of the

A360 and their downgrading to an NMU route and the planting of large areas of chalk grassland. The tunnelled element of the Scheme, in combination with the decommissioning of the current A303, creates the opportunity to reconnect the northern and southern parts of the WHS and the many monuments and monument groups that contribute to the OUV of the WHS that are currently severed and separated by the road. This includes the reconnection of the severed route of the Avenue where it is crossed by the current A303.

### Operation

*Embedded mitigation*

6.8.13 The tunnel and the cuttings remove or reduce the sight and sound of traffic from the WHS.

*Cultural Heritage Asset Management Plans*

6.8.14 Cultural Heritage Asset Management Plans would be produced every four years (as a requirement that is placed on Highways England in their role as a Government body, to undertake regular checks on the heritage assets within their ownership, in order to fulfil their obligations towards the historic environment). This is specifically for designated heritage assets that are situated within Highways England owned land associated with the Scheme, to ensure the long term survival, condition and maintenance of features such as listed milestones.

## 6.9 Assessment of effects

### Existing effects of the A303

6.9.1 The existing A303 has a major adverse impact on the OUV of the WHS (see Appendix 6.1, Section 9). It adversely affects the settings of many of the monuments within the WHS, including Stonehenge itself, and the interrelationships between monuments. These settings and interrelationships are attributes of the OUV of the WHS alongside other aspects such as their relationship to the skies and astronomy and their influence on architects, artists, historians, archaeologists and others. The A303 also restricts and severs access, and impacts the quality of the visitor experience, such that the vast majority of visitors are able to appreciate only part of the WHS.

### Construction effects: temporary

6.9.2 The impacts on heritage assets are discussed below in narrative form and summarised in Table 6.10. Non-significant effects are detailed in Appendix 6.8.

6.9.3 By definition, loss of archaeological remains is a permanent physical impact and irreversible and therefore no temporary physical impacts are identified for the Scheme.

6.9.4 All temporary impacts derive from non-physical impacts of the Scheme. These comprise changes to the setting of heritage assets arising from views of project

infrastructure (principally compounds (including, for example the presence of the slurry treatment plant (STP) within the tunnelling compound), and haul roads) and from construction plant and traffic. Impacts from associated construction noise are also identified. These impacts are transitory and of varying duration. All will have ceased by the end of the construction phase, leaving the permanent impacts upon monument settings as described in Appendix 6.9.

*Main civils compound (Longbarrow)*

6.9.5 The main compound would occupy ground on the northwest side of the realigned A360 north. Whilst the compound would be a new element in the landscape it would not be particularly conspicuous. It comprises single storey buildings painted to blend with the landscape and would be screened by 2m high topsoil bunds on all sides planted with grass. The chalk stockpile associated with the compound would be beyond its western end, i.e. furthest from the monuments around Longbarrow Junction.

6.9.6 The presence of the compound would negatively alter the visual setting of cultural heritage assets in the vicinity of Longbarrow, introducing a new built element into westerly views. This applies to the more westerly elements of the Winterbourne Stoke Crossroads barrows (Asset Group 12), especially those at the present A303/A360 junction and those to the north that are immediately adjacent to the A360. Barrows to the north/northeast on Winterbourne Stoke Down would also be affected, though to a somewhat lesser extent due to their greater separation from the compound. The compound would also be visible from the location of the Diamond Group (Asset Group 13). There may be very limited views of the compound from assets on Fore Down (barrows within Asset Groups 04 and 08, and the Roman settlement defined as Asset Group 07).

6.9.7 In all cases the compound's presence would represent only a negligible change, the effect for assets of High or Very High value being Slight adverse. The dominant elements in the setting of the affected assets are the present A303 and A360; these would continue to intervene between the monuments and the compound, until replaced by the realigned A360. The vegetation along the A360 also screens outward views from the monuments towards the west. In addition, the baseline setting quality of the Diamond group is already poor: only the long barrow is upstanding, while the general environment of the group is heavily compromised by the pig farm and the existing A303 and A360. As such their setting is not greatly sensitive to additional visual change – also relevant in relation to the general construction activities discussed below.

*Eastern and western satellite compounds*

6.9.8 Both these compounds are small and comprise single storey buildings and limited materials storage. No temporary impacts are predicted to arise from the presence of either compound.

*Slurry Treatment Plant (STP)*

6.9.9 The STP comprises a main building 20m high, together with workshops, excavated material storage and slurry storage ponds. The STP would operate 24 hours a day during the construction phase and would be lit. The site is located in a dry valley and on the western side of a retained hedge: as such, its visibility would be minimised but distant views of the main building would be available from Longbarrow Crossroads, 1km away. At night, the ambient lighting would also be apparent in what is presently a dark, agricultural landscape. The operation of the STP would slightly raise background noise levels, though in the locations of the affected monuments traffic noise would remain dominant, rendering this increase imperceptible.

6.9.10 The presence of the STP would adversely affect the visual setting of cultural heritage assets in the vicinity of Longbarrow, specifically the westerly elements of the Winterbourne Stoke Crossroads barrows. This would represent a negligible change, the effect for assets of Very High value being Slight adverse. Oatlands Hill would block views of the STP from the Diamond Group. The 20m high main building within the STP would adversely alter the setting of the Hill Farm Cottages to the south.

*Construction*

6.9.11 Construction activity around the Scheme's western limits would not have an impact on any heritage assets, for example Yarnbury Camp (Asset Group 01).

6.9.12 Construction noise associated with the embankment and viaduct across the River Till would be apparent from Asset Groups 03 and 04 (Winterbourne Stoke West and East barrow cemeteries) and Asset Group 05 (Romano-British settlement). However, the fundamental aspects of their setting would remain unaffected – the function and landscape position of each remaining legible and with no key sightlines interrupted (above all the inter-visibility across the Till valley between AG03 and AG04). There would be no change to their significance and therefore a Neutral effect. Due to the intervening presence of the A303 and the screening provided by topography, no impact is predicted on the Winterbourne Stoke Conservation Area or its component elements.

6.9.13 The principal temporary impacts of the Scheme would occur between the new Longbarrow Junction and the western portal. This area would be an active, dynamic construction site, and heritage assets in this locality would experience views of, and noise from, the building of the new road and the cutting approach to the western portal. Haul roads and construction traffic would be apparent; vehicles would initially be at surface level but would utilise the approach cutting once this has been created, reducing their visibility. Cranes would be present, including for the installation of bridges and the assembly of the Tunnel Boring Machine (TBM). These cranes would be of crawler type, as opposed to tall static cranes. Moveable piling rigs would also be present for long periods of time for the construction of the retained cut, the bridges, the canopy and the western portal retaining walls. Construction would also require traffic management measures on the existing A303 and A360.

6.9.14 The Winterbourne Stoke Crossroads barrows (Asset Group 12) would experience a negative change to setting, although that setting would continue to be dominated by traffic on the existing highways, with construction occurring behind that screen. Impacts vary according to each monument's proximity to the Scheme and the presence of screening trees, but the effect from temporary construction activities is considered to be Large adverse across the group as a whole.

6.9.15 Construction activity would be closer to the Diamond Group (AG13) than the existing highways. As noted above for the main compound, however, most of the barrows in the Diamond Group are not upstanding and have a heavily compromised setting. A Moderate adverse effect is predicted for all of the components of this group, except for the upstanding long barrow NHLE 1010830, for which the effect would be Large adverse.

6.9.16 The barrows of the Normanton Down group would be subject to views of construction, and also audible impacts, with a consequent temporary adverse change to their setting. The northern sub-group (AG19A) is the most affected: The monuments here are on the alignment of the proposed tunnel and would have longitudinal westward views along the cutting approach (resulting in a Large adverse effect). Various discrete assets not assigned to asset groups close to the western portal and its approach cutting would be similarly affected. These include the barrows scheduled as NHLE 1010831 (upstanding), 1010832 (levelled), 1010833 (little surface expression) and 1013812 (levelled) (also resulting in Large adverse effects). The impact of construction diminishes with distance, such that the central (AG19B) and southwest (AG19C) sub-groups of the Normanton Down Barrow group are assessed as resulting in a Moderate adverse effect and the southeast group (AG19D) a Slight adverse effect. The impact is entirely negated for those monuments in AG19B subsumed within Normanton Gorse.

6.9.17 More distant monuments within the North Kite group (AG16) would experience very limited change arising from construction activity, in part because of screening by topography, and also simply because of the increased separating distance – although cranes or piling rigs may be visible.

6.9.18 Monuments in the central part of the WHS, including Stonehenge, would be unaffected by construction activities beyond the western and eastern portals. For those monuments close to the existing A303, the activities involved in its decommissioning and conversion to a restricted byway would be apparent. However, at any given location this process would be extremely brief and undertaken once the current heavy traffic has been removed from the existing A303 into the constructed tunnel, and as a result it is not considered as a factor in this assessment.

6.9.19 Construction of the eastern portal and its approach road would be apparent from some monument groups, for example in vicinity of the King Barrows (AG26), the Avenue Barrows (AG30), The Avenue (AG27), the Coneybury group (AG29), the Countess Farm Barrows (AG31) and Vespasian's Camp

(AG32). Impacts here are fairly limited, either because of the separating distance, the dominating presence of the existing A303, the low baseline quality of the setting, intervening topography or vegetation, or a combination of these factors. A Slight adverse effect is assessed for all of these assets, derived from a Negligible impact on Very High value assets.

6.9.20 While there would be considerable activity around Countess, both in terms of construction activity and traffic movement, relatively few heritage assets are present and the majority of these are within Amesbury Abbey Park and are well screened. The assets affected here are historic buildings located on the A345 immediately to the north and south of Countess Roundabout and the Amesbury Abbey RPG and Conservation Area at the point where they share a boundary to the south of the present A303 and the west of Countess Road. To the east of Countess, construction activity is largely confined to minor works within the existing carriageway and does not affect the setting of any heritage assets. The only newly-constructed element would be the link between Allington track and Amesbury Road, but the process of its creation is not considered to impact upon the setting of any element of the Earl's Farm Down/ New Barn Down Barrows (AG35).

*Parsonage Down*

6.9.21 The deposition of excavated material, and the consequent re-profiling of the area east of Parsonage Down, would involve considerable vehicle movement, both in terms of delivery of excavated material to the site and the operation of earth-moving plant. Despite the scale of these works, there are relatively few heritage assets within the vicinity. In terms of asset groups defined for this assessment, because of its topographical position on east-facing slopes above the River Till, the Winterbourne Stoke West Barrows and Coniger Enclosure would not be affected (AG03). The ridge followed by the B3083 also blocks westerly views from the Winterbourne Stoke East barrow cemetery on the opposite side of the Till (AG04). To the south, the Scotland Lodge group (AG02) comprises archaeological remains without surface expression; this setting would not be affected by the construction process. One discrete asset would have its setting temporarily affected: the scheduled Melsomes Field Barrow (NHLE 1004741). This occupies an elevated position to the west of Parsonage Down from which construction activity would be clearly visible and audible at distances of 600m and greater. This is assessed as a Moderate adverse effect. The setting of Foredown House would undergo change during the construction of the River Till Viaduct and its west and east embankments – all of which would require cranes and tall lifting equipment.

*Rollestone Corner*

6.9.22 Construction works around Rollestone Corner would be of relatively minor scale. The A360 and the Packway would continue to dominate the settings of monuments in this locality, for example the Net Down Barrow Cemetery (AG06) and Rollestone Barrows (AG10). No temporary impacts are predicted at this location.

## Table 6.10: Summary of significant effects – construction (temporary)

| Asset | Asset Value / Contribution of setting to asset significance | Impact description | Impact Magnitude | Effect |
|---|---|---|---|---|
| AG 12<br>Winterbourne Stoke Crossroads Barrows | Very High<br>High contribution | Construction compound; STP; construction of main carriageway and realigned A360; haul roads and construction traffic/plant.<br>Visual and aural impact. | Moderate | Large adverse |
| AG13<br>Diamond Group | Very High<br>Low to moderate contribution | Construction compound; construction of main carriageway and realigned A360; haul roads and construction traffic/plant.<br>Visual and aural impact. | Minor and Moderate | Moderate and Large adverse |
| AG19<br>Normanton Down Barrows | Very High<br>High contribution | Construction of main carriageway, realigned A360 and western portal; haul roads and construction traffic/plant.<br>Visual and aural impact. | AG19A North: Moderate<br>AG19B Central: Minor<br>AG19C Southwest: Minor | AG19A: Large adverse<br>AG19B: Moderate adverse<br>AG19C: Moderate adverse |
| NHLE 1010831 (Scheduled Monument)<br>Bowl barrow 400m west of Normanton Gorse | Very High<br>Moderate contribution | Construction of main carriageway and western portal; haul roads and construction traffic/plant.<br>Visual and aural impact. | Moderate | Large adverse |
| NHLE 1010832 (Scheduled Monument)<br>Bowl barrow south of the A303 and north west of Normanton Gorse | Very High<br>Moderate contribution | Construction of main carriageway and western portal; haul roads and construction traffic/plant.<br>Visual and aural impact. | Moderate | Large adverse |

| Asset | Asset Value / Contribution of setting to asset significance | Impact description | Impact Magnitude | Effect |
|---|---|---|---|---|
| NHLE 1010833 (Scheduled Monument)<br>Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' | Very High<br>Moderate contribution | Construction of main carriageway and western portal; haul roads and construction traffic/plant.<br>Visual and aural impact. | Moderate | Large adverse |
| NHLE 1013812 (Scheduled Monument)<br>Bowl barrow 350m southwest of Normanton Gorse | Very High<br>Moderate contribution | Construction of main carriageway and western portal; haul roads and construction traffic/plant.<br>Visual and aural impact. | Moderate | Large adverse |
| NHLE 1004741(Scheduled Monument)<br>Melsomes Field barrow | High<br>Moderate contribution | Excavated material deposition and landscape re-profiling, area east of Parsonage Down. | Moderate | Moderate adverse |

## Construction effects: permanent

6.9.23 The assessed permanent Scheme construction significant effects are detailed in Table 6.11. The detail of the setting assessment is set out in Appendix 6.9.

*Significant effects*

6.9.24 Permanent significant adverse impacts for archaeological features are limited to eleven non-designated assets, four on Parsonage Down (UID 2025; 2029; 2036; 2038), two under the mainline west of the River Till (UID 2041; 2043), and five at the proposed Longbarrow Junction (UID 2065; 2068; 2072; 2073, 2144).

6.9.25 The archaeological evaluations that have been undertaken in support of the Scheme to date (at the Eastern Portal and approaches, Western Portal and approaches, Longbarrow Junction, Rollestone Corner, archaeological geophysical surveys to support the Scheme, previous trial trenching along the Winterbourne Stoke Bypass alignment) indicate that the archaeological remains encountered so far, within the Scheme footprint, are of Low to Medium value. Where these archaeological remains are removed by the construction of the Scheme then it would result in a Major negative impact and a range of effects would result from Slight adverse to Moderate adverse.

6.9.26 The presence of the new Countess flyover would alter the setting of the grade II-listed stables and barn at Countess Farm (UID 6068 / NHLE 1131055). The impact is assessed as resulting in a moderate adverse effect.

6.9.27 A substantial number of significant beneficial effects are assessed. These apply to 72 scheduled monuments (65 contained within 12 asset groups, plus seven discrete assets), together with two non-designated assets. All are within the WHS and all are considered as having Very High value. The asset groups subject to significant positive changes to setting are:

a) Winterbourne Stoke Crossroads Barrows (AG12);

b) Barrow west of Stonehenge (AG17);

c) Cursus Barrows (AG18);

d) Normanton Down Barrows (AG19);

e) Stonehenge barrows (AG21);

f) Stonehenge (AG22);

g) Greater Cursus (AG23);

h) Stonehenge Bottom/ Luxenborough Barrows (AG24);

i) Old and New King Barrows (AG26);

j) The Avenue (AG27);

k) Coneybury Henge and Associated Monuments (AG29); and

l) The Avenue Barrows (AG30).

6.9.28 All the monuments within these groups contribute to the OUV of the WHS. The resulting effects for those monuments within the tunnelled section, including Stonehenge itself, would be Large beneficial. Eastwards from the eastern portal there are no impacts upon scheduled monuments that result in significant effects.

6.9.29 One character area, defined by the Wiltshire and Swindon Historic Landscape Characterisation as HWI2885, Winterbourne to Shrewton Water Meadows, would be impacted by the construction of the proposed viaduct and embankments that will carry the main carriageway across the River Till valley. These are anomalous to the existing historic character and are of sufficient scale for this to constitute a significant change. The resulting significance of effect for HWI2885, Winterbourne to Shrewton Water Meadows is assessed as Moderate adverse (derived from a Moderate negative impact upon a Medium value asset).

*Non-significant effects*

6.9.30 Construction of the Scheme would result in adverse physical impacts on a limited number of known archaeological features. All are non-designated assets. These impacts are assessed as resulting in non-significant effects and include:

a) Between the Scheme's western origin and northeast of Winterbourne Stoke, the infilled ditches of field systems likely to be of Mid- / Late Bronze Age, Iron Age, Roman or later date. These have been observed on aerial photographs, the system as a whole occupying large areas of the landscape to the west of the WHS, and extending into the western parts of the WHS (UID 1004; 2053);

b) Main carriageway: rectilinear enclosures of unknown date on Winterbourne Stoke Hill (UID 2056);

c) Main carriageway: a number of pits of potentially prehistoric date on Parsonage Down and Berwick Down (UID 1008);

d) In the locality of the River Till viaduct and embankments: a possible droveway (UID 2045), earthworks associated with historic water meadows (UID 2046.02; 2050), ridge and furrow detected by geophysical survey (UID 2052) and a small part of an extensive Bronze Age to Iron Age ditch (UID 2048).

e) The deposition of material in the area east of Parsonage Down/High Down would impact upon a number of assets: part of a Bronze Age to Roman linear feature extending from Yarnbury to Parsonage Down (UID 1005);

and features related to a late prehistoric and/or Roman settlement at High Down (UID 2039).

f) In the locality of Longbarrow Junction and the realigned A360 the Scheme partially intersects with:

   i. a short section of a Bronze Age linear ditch (UID 2014.02);

   ii. a possible Roman ditch (UID 2074);

   iii. a possible settlement enclosure of unknown date (UID 2078);

   iv. linear and curvilinear features northwest of Winterbourne Stoke Crossroads identified by geophysical survey. Likely to be of archaeological interest but date and character unproven (UID 2076);

   v. parts of a Bronze Age to Roman co-axial field system that extends across Oatland Hill and Wilsford Down (UID 2089);

g) Within the western boundary of the WHS, on the approach to the western portal, possible prehistoric pits detected by geophysical survey (UID 2178; 2180);

h) In the locality of the eastern portal: medieval ridge and furrow (UID 3077.05); a relict garden feature related to Amesbury Abbey Park (3084.03); and a colluvium deposit with geoarchaeological potential; and

i) In the locality of the Amesbury cutting, two undated linear features (UID 4031; 4076).

6.9.31 In respect of archaeological assets, a number of non-significant effects are assessed, arising from changes to their setting. In terms of archaeological asset groups, beneficial effects are recorded for AG02 (Scotland Lodge), while adverse effects are recorded for AG05 (Winterbourne Stoke Hill Ring Ditches), AG13 (Diamond Group), AG19A (Normanton Down Barrows – North), AG31B and AG31C (Countess Farm Barrows southwest and southeast), and discrete scheduled barrows (NHLE 1009138, 1011048, 1010832 and 1010833).

6.9.32 In respect of historic buildings, a number of non-significant effects are assessed, arising from changes to their setting (both designated and non-designated assets). These include adverse effects for Foredown House (UID 6013); Grey Bridge (UID 6061); Diana's House (UID 6062); Estate Boundary Wall (UID 6063); Gate Piers to Lord's Walk, to Amesbury Abbey, with flanking Estate Boundary Walls (UID 6064); Kent House (UID 6065); Countess Farmhouse and front garden walls (UID 6067); Large Granary at Countess Farm (UID 6069); Large Barn at Countess Farm (UID 6071); and Millmead (UID 6113). Non-significant adverse effects were also assessed for Amesbury Conservation Area (UID 6052) and Amesbury Abbey RPG (UID 6053).

6.9.33 A number of character areas defined by the Wiltshire and Swindon Historic Landscape Characterisation are impacted by the Scheme cross-cutting the existing landscape pattern (mainly a 19th-century fieldscape), bringing minor landscape character change and in places creating a new element of severance. These impacts are assessed as resulting in non-significant effects.

## Table 6.11: Summary of significant effects – construction (permanent)

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| **Archaeological assets (identified by UID and corresponding NHLE and WSHER references)** | | | | | | |
| 2025<br>MWI74873 | Barrow, Parsonage Down<br>Putative Neolithic/Bronze Age barrow, identified by aerial photographs. | Medium | Winterbourne Stoke Cutting West<br>Feature (as mapped from aerial photographs) lies entirely beneath the main Scheme carriageway. It was not found by subsequent evaluation or geophysical survey, suggesting that either its location is not accurately mapped, or the site is correctly located but is heavily plough-damaged.<br>Permanent impact. | Archaeological investigation in advance of construction | Major | Moderate adverse |
| 2029<br>MWI7133; MWI6948 | Enclosures south of Parsonage Down<br>Two rectilinear enclosures of Bronze- to Iron Age date; associated ditch. | Medium | Winterbourne Stoke Cutting West<br>Partial intersection with the Scheme (in cutting at this location).<br>Permanent impact. | Archaeological investigation in advance of construction | Moderate | Moderate adverse |
| 2036<br>MWI74874 | Oval enclosure, Parsonage Down<br>Identified by geophysical survey. Date unknown. | Medium | East of Parsonage Down excavated material deposition area.<br>Depth of overlying tunnel excavated material exceeds 2m. Potential damage from compression by overlying excavated material.<br>Permanent impact | Archaeological investigation in advance of construction | Major | Moderate adverse |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| 2038<br>MWI74875 | Pits, Parsonage Down<br>Identified by geophysical survey. Date unknown. In the same location as UID 2036. | Medium | East of Parsonage Down excavated material deposition area, Winterbourne Stoke compound area. Depth of overlying tunnel excavated material exceeds 2m. Potential damage from compression by overlying excavated material.<br>Esso pipeline diversion (Option 5B) intersects with c. 10 possible pits (c. 10% of the number mapped).<br>Permanent impact | Archaeological investigation in advance of construction | Major | Moderate adverse |
| 2041<br>MWI7008 | Linear, N of Winterbourne Stoke<br>N-S aligned ditch that has yielded worked flints of Bronze- to Iron Age date. | Medium | River Till viaduct embankment west<br>The entire feature, as detected by geophysics, would be removed (Scheme at grade at this location).<br>Permanent impact. | Archaeological investigation in advance of construction | Major | Moderate adverse |
| 2043<br>MWI74876 | Possible barrow<br>Anomaly detected by historic geophysics but not found by a subsequent evaluation. Geophysics undertaken for the Scheme has not confirmed its existence. | Medium | River Till viaduct embankment west<br>Position as mapped coincides completely with the Scheme footprint (Scheme at grade at this location).<br>Permanent impact. | Archaeological investigation in advance of construction. | Major | Moderate adverse |
| 2065<br>MWI6932; MWI6933; MWI6934; MWI6944; MWI7002; MWI7004; MWI7005 | Pits, Oatlands Hill<br>Multiple anomalies detected by geophysics; excavated examples have been of Bronze to Iron Age date, including one yielding an assemblage of EBA date. | Medium | Longbarrow Junction: main carriageway; Dumbbell south; Green Bridge Three; Link to Winterbourne Stoke<br>Scheme intersects with a significant number of pits.<br>Permanent impact. | Archaeological investigation in advance of construction. | Moderate | Moderate adverse |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| 2068<br>MWI6407 | Boundary ditch NE of Oatlands Hill<br>Linear ditch or boundary of possible Bronze Age date, visible as a cropmark and/or on aerial photographs. Extends for approximately 2.1km. | Medium | Western approach to Longbarrow Junction; Dumbbell south; Link to Winterbourne Stoke; Realigned A360 south. Scheme intersects with 290m (approach to Longbarrow Junction) and 320m (other Scheme elements) of the feature.<br>Water pipeline and electrical cable diversions intersect <1% of this feature.<br>Permanent impact. | Archaeological investigation in advance of construction. | Moderate | Moderate adverse |
| 2072<br>MWI7210 | Enclosure, Oatlands Hill<br>Oval or C-shaped enclosure. | Medium | Longbarrow dumbbell south<br>Scheme intersects with this feature, as located by geophysics and trial trenching.<br>Permanent impact. | Archaeological investigation in advance of construction | Major | Moderate adverse |
| 2073<br>MWI7125 | Ditch, Oatlands Hill<br>Middle Bronze Age to Roman, sinuous feature approximately 750m long, mapped by NMP project. | Medium | Longbarrow Junction, Realigned A360 south. Scheme intersects with c. 175m of this feature.<br>Electrical diversion intersects with c. 15m of this extensive feature.<br>Permanent impact. | Archaeological investigation in advance of construction. | Moderate | Moderate adverse |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| 2143<br>MWI74878 | Possible Pits, Winterbourne Stoke (N of A303)<br>A record covering a very large number of possible, undated pits, dispersed over an extensive area N of the A303 and W of the A360. | Medium | Western approach to Longbarrow Junction; Dumbbell north; Realigned A360 north. Scheme intersects with numerous (although a minority) of these potential pits.<br>Water pipeline and electrical cable diversions intersect with a proportion of these potential features (<10%).<br>Permanent impact. | Archaeological investigation in advance of construction. | Moderate | Moderate adverse |
| **Listed Buildings (identified by UID and corresponding NHLE reference). For detailed assessment refer to Appendix 6.9.** | | | | | | |
| UID 6068<br>NHLE 1131055 | Stables and Barn at Countess Farm. | Medium | Grade separated junction at Countess Roundabout; eastern and western approaches to Countess Roundabout; removal of screening afforded by trees to the south and southwest of the asset<br>Permanent impact. | None | Moderate | Moderate adverse |
| **Asset groups (identified by NHLE and WSHER references). For detailed assessment refer to Appendix 6.9.** | | | | | | |
| **Asset Group 12 Winterbourne Stoke Crossroads Barrows** | | | | | | |
| NHLE 1011047 | Five bowl barrows and two saucer barrows forming a round barrow cemetery on Winterbourne Stoke Down. | Very High | Longbarrow Junction; realigned A360; cutting approach to western portal.<br>Positive influence upon setting. Greater physical separation between the monuments within the group and the A303 and A360 – reduced visual impact of roads and associated infrastructure. Restored | None | Minor | Moderate beneficial |
| NHLE 1011841 | Long barrow northeast of Winterbourne Stoke crossroads. | | | None | Moderate | Large beneficial |
| NHLE 1011842 | Bowl barrow immediately east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1011843 | Bowl barrow east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1012368 | Eighteen round barrows forming the greater part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012382 | Two bowl barrows forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| **AG17 Barrow west of Stonehenge** | | | | | | |
| NHLE 1012393 | Bowl barrow 450m south of the A344 on Stonehenge Down (levelled). | Very High | Tunnel / removal of present A303.<br>Positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| **AG18 Cursus Barrows (West)** | | | | | | |
| NHLE 1012397 | Bowl barrow south of The Cursus on the eastern edge of Fargo Plantation forming part of The Cursus round barrow cemetery. | Very High | Main carriageway<br>Positive influence upon setting. Applies to upstanding monuments within the group, excluding those within the Fargo Plantation (or whose views of the Scheme are blocked by the plantation).<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1012398 | Bell barrow situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012399 | Bowl barrow located south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012400 | Two bowl barrows situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1012401 | A bowl barrow and three bell barrows forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012586 | A twin bell barrow and a bell barrow forming the eastern part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| **AG19 Normanton Down Barrows** | | | | | | |
| AG19B Normanton Down barrow group – central | | | | | | |
| NHLE 1009614 | Long barrow and 18 round barrows, forming the greater part of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1009615 | Disc barrow forming part of the Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1009616 | Bowl barrow forming part of the Normanton Down round barrow cemetery (levelled). | | | None | Moderate | Large beneficial |
| NHLE 1009618 | Bowl barrow known as `Bush Barrow' and two disc barrows southeast of Normanton Gorse forming part of Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1010330 | Bowl barrow forming part of Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| **AG19C Normanton Down barrow group – south western** | | | | | | |
| NHLE 1009619 | Bowl barrow 120m south of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; | None | Moderate | Large beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1009620 | Three bowl barrows 150m south of Normanton Down round barrow cemetery. | | tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1009621 | Long barrow 350m south west of the Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1009622 | Bowl barrow south of Normanton Gorse on the southern edge of Normanton Down. | | | None | Moderate | Large beneficial |
| NHLE 1009623 | Bowl barrow 400m south of Normanton Gorse. | | | None | Moderate | Large beneficial |
| **AG19D Normanton Down barrow group – south eastern** | | | | | | |
| NHLE 1009624 | Two round barrows 300m south of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1009625 | Bowl barrow 700m north of Springbottom Farm. | | | None | Minor | Moderate beneficial |
| NHLE 1010871 | Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings. | | | None | Minor | Moderate beneficial |
| NHLE 1010872 | Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings. | | | None | Minor | Moderate beneficial |
| NHLE 1010880 | Six bowl barrows forming the greater part of a round barrow cemetery on Wilsford Down. | | | None | Minor | Moderate beneficial |
| NHLE 1010885 | Bowl barrow 450m north of Springbottom Farm. | | | None | Minor | Moderate beneficial |
| **AG21 Stonehenge Barrows** | | | | | | |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1012383 | Five bowl barrows forming the greater part of a round barrow cemetery 200m southwest of Stonehenge on Stonehenge Down. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012384 | Bowl barrow 230m west of Stonehenge forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| NHLE 1012385 | Disc barrow 220m southwest of Stonehenge forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| NHLE 1012386 | Bell barrow 100m east of Stonehenge immediately south of the A344. | | | | | |
| NHLE 1012387 | Bowl barrow 300m WSW of Stonehenge, forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| **AG22 Stonehenge** | | | | | | |
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| **AG23 Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow** | | | | | | |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1009132 | The Cursus, two round barrows situated within its western end, and a long barrow situated at its eastern end. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Large beneficial |
| **AG24 Stonehenge Bottom/ Luxenborough Barrows** | | | | | | |
| NHLE 1008947 | Bowl barrow 300m southwest of New King Barrows. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012371 | Bowl barrow 650m SSE of Stonehenge. | | | None | Moderate | Large beneficial |
| NHLE 1012372 | Three bowl barrows 150m south of the A303, north of Luxenborough Plantation. | | | None | Minor | Large beneficial |
| NHLE 1012373 | Bowl barrow on the northeastern edge of Luxenborough Plantation. | | | None | Minor | Large beneficial |
| NHLE 1012374 | Bowl barrow on the eastern edge of Luxenborough Plantation. | | | None | Minor | Large beneficial |
| NHLE 1012391 | Three bowl barrows on the southern edge of Luxenborough Plantation. | | | None | Minor | Large beneficial |
| NHLE 1012392 | Bowl barrow on Coneybury Hill, 130m NNE of Luxenborough Plantation (levelled). | | | None | Minor | Large beneficial |
| NHLE 1012587 | Bowl barrow within Luxenborough Plantation. | | | None | Minor | Large beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| **AG26 Old and New King Barrows** | | | | | | |
| **AG26A King Barrows – Old King Barrows, north** | | | | | | |
| NHLE 1009147 | Bowl barrow 200m southwest of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1009148 | Bowl barrow 300m southwest of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1009149 | Bowl barrow 150m NNE of Seven Barrow Cottages forming part of a round barrow cemetery known as Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012367 | Bowl barrow 120m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012378 | Bowl barrow 200m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012379 | Three bowl barrows 350m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012380 | Bowl barrow 475m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| **AG26B King Barrows – New King Barrows, south** | | | | | | |
| NHLE 1012381 | Two bowl barrows and four bell barrows forming the greater part of a round barrow cemetery known as the New King Barrows. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012420 | Bowl barrow forming part of a round barrow cemetery known as the New King Barrows. | | | None | Moderate | Large beneficial |
| **AG27 The Avenue** | | | | | | |
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |
| **AG29 Coneybury Henge and Associated Monuments** | | | | | | |
| NHLE 1012375 | King Barrow and another bowl barrow on Coneybury Hill. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Large beneficial |
| NHLE 1012376 | Henge monument 400m south of Stonehenge Cottages. | | | | | Large beneficial |
| NHLE 1012390 | Bowl barrow on Coneybury Hill, 450m south of the A303. | | | | | Large beneficial |
| **AG30 The Avenue Barrows** | | | | | | |
| NHLE 1009146 | Two bowl barrows 70m northeast of the Avenue on Countess Farm. | Very High | Tunnel (removal of present A303 surface road) | None | Minor | Moderate beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue. | | Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1010331 | A bell barrow and two bowl barrows east of The Avenue on Countess Farm. | | | None | Minor | Moderate beneficial |
| NHLE 1012127 | Bowl barrow 320m west of Vespasian's Camp. | | | None | Minor | Moderate beneficial |
| NHLE 1012129 | Bowl barrow 150m east of Stonehenge Cottages on A303. | | | None | Moderate | Large beneficial |
| NHLE 1012130 | Bowl barrow 70m south of A303. | | | None | Minor | Moderate beneficial |
| NHLE 1012131 | Bowl barrow 50m south of A303. | | | None | Minor | Moderate beneficial |
| NHLE 1012132 | Three bowl barrows 220m west of Vespasian's Camp. | | | None | Minor | Moderate beneficial |
| MWI12478 | Long Barrow NW of Amesbury (cropmark). | | | None | Minor | Moderate beneficial |
| MWI12654 | Round barrow NW of Amesbury (cropmark). | | | None | Minor | Moderate beneficial |
| **Discrete assets** | | | | | | |
| NHLE 1008946; 1008948; 1012388; 1012389 | Bowl barrows west and north of King Barrow Ridge. | Very High | Tunnel (removal of present A303 surface road)<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Moderate | Large beneficial |

| Asset | Name and Description | Asset Value | Impact description<br>Scheme element<br>Description of impact<br>Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1011708 | Bowl barrow 100m southeast of the Diamond. | Very High | Cutting approach to western portal.<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1011709 | Bowl barrow 450m east of the Diamond. | Very High | Cutting approach to western portal.<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1012394 | Four bowl barrows 140m north of the A303 on Stonehenge Down. | Very High | Cutting approach to western portal.<br>Positive influence upon setting. Reduced visual impact of roads and associated infrastructure. Restored or enhanced sightlines with other monument groups.<br>Permanent impact. | None | Minor | Moderate beneficial |
| **Historic Landscape Character Areas** | | | | | | |
| HWI2885 | Winterbourne to Shrewton Water Meadows. | Medium | River Till viaduct and embankments.<br>Negative influence upon character.<br>Permanent impact. | None | Moderate | Moderate adverse |

## Operational effects

6.9.34 Significant effects for the operation of the Scheme are listed in Table 6.12. These derive from changes (both positive and negative) to the setting of heritage assets, including scheduled monuments (for detail see Appendix 6.9). These largely mirror the effects assessed for the permanent presence of the road, as detailed above in the assessment of the construction phase – the setting of the same assets being improved by the removal of the sight and sound of traffic.

6.9.35 Non-significant effects are listed in Appendix 6.8. In respect of scheduled monuments, there are comparatively few: because of the Very High value of many of the assets concerned.

6.9.36 Non-significant effects are assessed for several asset groups. These arise from changes to the visual and aural impacts of traffic. Beneficial effects are assessed for AG02 (Scotland Lodge), AG19A (Normanton Down Barrows – north), AG20 (Durrington Down Barrows), AG25 (Packway Barrows), AG33 (Durrington Walls and Woodhenge) and discrete barrow NHLE 1011048. Adverse effects are assessed for AG03 (Winterbourne Stoke West barrows and the Coniger Enclosure), AG04 (Winterbourne Stoke East Barrows and Enclosure), AG05 (Winterbourne Stoke Hill Ring Ditches), AG13 (Diamond Group) and AG31B and C (Countess Farm Barrows southwest and southeast).

6.9.37 There is a greater number of non-significant effects assessed for listed buildings as a result of changes to their setting. The Winterbourne Stoke Conservation Area would be subject to a beneficial change, together with the grade II* manor house and other grade II listed structures within its boundary. Along the course of the Scheme, the setting of a number of grade II listed milestones would be improved, as would a series of boundary markers that once delineated the Stonehenge Aerodrome. In these cases, the milestones/markers would retain their context, but would be more readily maintained, accessed and viewed from the adjacent NMU route (converted from the existing A303 and A360). Around Countess, there would be adverse impacts on the setting of several listed buildings including, to the south of the junction, Diana's House (grade II*) and other nearby grade II listed structures. North of the junction, the setting of four elements of Countess Farm would also be impacted.

## Table 6.12: Summary of significant effects – operation (permanent)

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| **Asset groups (identified by NHLE and WSHER references). For detailed assessment refer to Appendix 6.9.** | | | | | | |
| **Asset Group 12 Winterbourne Stoke Crossroads Barrows** | | | | | | |
| NHLE 1011047 | Five bowl barrows and two saucer barrows forming a round barrow cemetery on Winterbourne Stoke Down. | Very High | Longbarrow Junction; realigned A360; cutting approach to western portal. Reduced impact of traffic: positive influence upon setting. Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1011841 | Long barrow northeast of Winterbourne Stoke crossroads. | | | None | Moderate | Large beneficial |
| NHLE 1011842 | Bowl barrow immediately east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1011843 | Bowl barrow east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012368 | Eighteen round barrows forming the greater part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012382 | Two bowl barrows forming part of the Winterbourne Stoke crossroads round barrow cemetery. | | | None | Minor | Moderate beneficial |
| **AG17 Barrow west of Stonehenge** | | | | | | |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1012393 | Bowl barrow 450m south of the A344 on Stonehenge Down. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| **AG18 Cursus Barrows (West)** | | | | | | |
| NHLE 1012397 | Bowl barrow south of The Cursus on the eastern edge of Fargo Plantation forming part of The Cursus round barrow cemetery. | Very High | Main carriageway<br>Reduced impact of traffic: positive influence upon setting. Applies to upstanding monuments within the group, excluding those within the Fargo Plantation (or whose views of the Scheme are blocked by the plantation).<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1012398 | Bell barrow situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012399 | Bowl barrow located south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012400 | Two bowl barrows situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012401 | A bowl barrow and three bell barrows forming part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012586 | A twin bell barrow and a bell barrow forming the eastern part of The Cursus round barrow cemetery. | | | None | Minor | Moderate beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| **AG19 Normanton Down Barrows** | | | | | | |
| **AG19B Normanton Down barrow group – central** | | | | | | |
| NHLE 1009614 | Long barrow and 18 round barrows, forming the greater part of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1009615 | Disc barrow forming part of the Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1009616 | Bowl barrow forming part of the Normanton Down round barrow cemetery (levelled). | | | None | Moderate | Large beneficial |
| NHLE 1009618 | Bowl barrow known as `Bush Barrow' and two disc barrows southeast of Normanton Gorse forming part of Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1010330 | Bowl barrow forming part of Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| **AG19C Normanton Down barrow group – south western** | | | | | | |
| NHLE 1009619 | Bowl barrow 120m south of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1009620 | Three bowl barrows 150m south of Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |
| NHLE 1009621 | Long barrow 350m southwest of the Normanton Down round barrow cemetery. | | | None | Moderate | Large beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1009622 | Bowl barrow south of Normanton Gorse on the southern edge of Normanton Down. | | | None | Moderate | Large beneficial |
| NHLE 1009623 | Bowl barrow 400m south of Normanton Gorse. | | | None | Moderate | Large beneficial |
| **AG19D Normanton Down barrow group – south eastern** | | | | | | |
| NHLE 1009624 | Two round barrows 300m south of Normanton Down round barrow cemetery. | Very High | Main carriageway; cutting approach to western portal; western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1009625 | Bowl barrow 700m north of Springbottom Farm. | | | None | Minor | Moderate beneficial |
| NHLE 1010871 | Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings on Wilsford Down. | | | None | Minor | Moderate beneficial |
| NHLE 1010872 | Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings on Wilsford Down. | | | None | Minor | Moderate beneficial |
| NHLE 1010880 | Six bowl barrows forming the greater part of a round barrow cemetery on Wilsford Down 350m north of Springbottom Farm buildings. | | | None | Minor | Moderate beneficial |
| NHLE 1010885 | Bowl barrow 450m north of Springbottom Farm. | | | None | Minor | Moderate beneficial |
| **AG21 Stonehenge Barrows** | | | | | | |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1012383 | Five bowl barrows forming the greater part of a round barrow cemetery 200m southwest of Stonehenge on Stonehenge Down. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012384 | Bowl barrow 230m west of Stonehenge forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| NHLE 1012385 | Disc barrow 220m southwest of Stonehenge forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| NHLE 1012386 | Bell barrow 100m east of Stonehenge immediately south of the A344. | | | | | |
| NHLE 1012387 | Bowl barrow 300m WSW of Stonehenge, forming part of a round barrow cemetery on Stonehenge Down. | | | | | |
| **AG22 Stonehenge** | | | | | | |
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| **AG23 Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow** | | | | | | |
| NHLE 1009132 | The Cursus, two round barrows situated within its western end, and a long barrow situated at its eastern end. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Large beneficial |
| **AG24 Stonehenge Bottom/ Luxenborough Barrows** | | | | | | |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1008947 | Bowl barrow 300m southwest of New King Barrows. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012371 | Bowl barrow 650m SSE of Stonehenge. | | | None | Moderate | Large beneficial |
| NHLE 1012372 | Three bowl barrows 150m south of the A303, north of Luxenborough Plantation. | | | None | Minor | Moderate beneficial |
| NHLE 1012373 | Bowl barrow on the north eastern edge of Luxenborough Plantation. | | | None | Minor | Moderate beneficial |
| NHLE 1012374 | Bowl barrow on the eastern edge of Luxenborough Plantation. | | | None | Minor | Moderate beneficial |
| NHLE 1012391 | Three bowl barrows on the southern edge of Luxenborough Plantation. | | | None | Minor | Moderate beneficial |
| NHLE 1012392 | Bowl barrow on Coneybury Hill, 130m NNE of Luxenborough Plantation (levelled). | | | None | Minor | Moderate beneficial |
| NHLE 1012587 | Bowl barrow within Luxenborough Plantation. | | | None | Minor | Moderate beneficial |
| **AG26 Old and New King Barrows** | | | | | | |
| **AG26A King Barrows – Old King Barrows, north** | | | | | | |
| NHLE 1009147 | Bowl barrow 200m southwest of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows. | Very High | Tunnel (removal of present A303 surface road)<br>Reduced impact of traffic: positive | None | Minor | Moderate beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1009148 | Bowl barrow 300m southwest of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows. | | influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1009149 | Bowl barrow 150m NNE of Seven Barrow Cottages forming part of a round barrow cemetery known as Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012367 | Bowl barrow 120m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012378 | Bowl barrow 200m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012379 | Three bowl barrows 350m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| NHLE 1012380 | Bowl barrow 475m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows. | | | None | Minor | Moderate beneficial |
| **AG26B King Barrows – New King Barrows, south** | | | | | | |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1012381 | Two bowl barrows and four bell barrows forming the greater part of a round barrow cemetery known as the New King Barrows. | Very High | Tunnel (removal of present A303 surface road)<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| NHLE 1012420 | Bowl barrow forming part of a round barrow cemetery known as the New King Barrows. | | | None | Moderate | Large beneficial |
| **AG27 The Avenue** | | | | | | |
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm. | Very High | Tunnel (removal of present A303 surface road)<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |
| **AG29 Coneybury Henge and Associated Monuments** | | | | | | |
| NHLE 1012375 | King Barrow and another bowl barrow on Coneybury Hill. | Very High | Tunnel (removal of present A303 surface road)<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Large beneficial |
| NHLE 1012376 | Henge monument 400m south of Stonehenge Cottages. | | | | | Large beneficial |
| NHLE 1012390 | Bowl barrow on Coneybury Hill, 450m south of the A303. | | | | | Large beneficial |
| **AG30 The Avenue Barrows** | | | | | | |
| NHLE 1009146 | Two bowl barrows 70m northeast of The Avenue on Countess Farm. | Very High | Tunnel (removal of present A303 surface road) | None | Minor | Moderate beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1010140 | Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm. | | Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1010331 | A bell barrow and two bowl barrows east of The Avenue on Countess Farm: part of a linear round barrow cemetery. | | | None | Minor | Moderate beneficial |
| NHLE 1012127 | Bowl barrow 320m west of Vespasian's Camp. | | | None | Minor | Moderate beneficial |
| NHLE 1012129 | Bowl barrow 150m east of Stonehenge Cottages on A303. | | | None | Minor | Moderate beneficial |
| NHLE 1012130 | Bowl barrow 70m south of A303. | | | None | Minor | Moderate beneficial |
| NHLE 1012131 | Bowl barrow 50m south of A303. | | | None | Minor | Moderate beneficial |
| NHLE 1012132 | Three bowl barrows 220m west of Vespasian's Camp. | | | None | Minor | Moderate beneficial |
| MWI12478 | Long Barrow NW of Amesbury (cropmark). | | | None | Minor | Moderate beneficial |
| MWI12654 | Round barrow NW of Amesbury (cropmark). | | | None | Minor | Moderate beneficial |
| **Discrete assets** | | | | | | |
| NHLE 1008946; 1008948; 1012388; 1012389 | Bowl barrows west and north of King Barrow Ridge. | Very High | Tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Moderate | Large beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1010831 | Bowl barrow 400m west of Normanton Gorse. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1010833 | Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1011708 | Bowl barrow 100m southeast of the Diamond. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1011709 | Bowl barrow 450m east of the Diamond. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |
| NHLE 1012394 | Four bowl barrows 140m north of the A303 on Stonehenge Down. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |

| Asset UID NHLE or WSHER (MWI) ref | Name | Asset Value | Impact description Scheme element Description of impact Permanent / temporary | Design and Mitigation Measures | Impact Magnitude (post-mitigation) | Residual Effect |
|---|---|---|---|---|---|---|
| NHLE 1013812 | Bowl barrow 350m southwest of Normanton Gorse. | Very High | Cutting approach to western portal; tunnel<br>Reduced impact of traffic: positive influence upon setting.<br>Permanent impact. | None | Minor | Moderate beneficial |

## 6.10 Monitoring

6.10.1 The archaeological mitigation works (including protection measures for heritage assets and preservation *in situ* of archaeological remains) would be undertaken during the preliminary works (the majority of the archaeological fieldwork and recording) and construction works stages. The archaeological mitigation works would be monitored to ensure compliance with the OEMP, the OAMS (see Appendix 6.11) and any subsequent revisions, and to ensure the works are undertaken to the appropriate standards.

6.10.2 The OEMP and OAMS set out appropriate measures to be undertaken during the preliminary works and construction stages to ensure that the mitigation measures embedded in the Scheme design are appropriately implemented.

## 6.11 HIA Summary

6.11.1 The A303 between Amesbury and Berwick Down currently passes through the Stonehenge element of the Stonehenge, Avebury and Associated Sites WHS. The Stonehenge part of the WHS includes more than 700 known archaeological features (including find spots), of which 415 are protected by scheduling within 175 scheduled areas. This extensive area (around 25km$^2$) captures the relationship between the monuments as well as their landscape setting.

6.11.2 The existing A303 passes within 165m of the Stonehenge monument – a globally recognisable icon of Britain which attracts 1.4 million visitors each year. The A303 separates the iconic stones from other prehistoric monuments and severely limits enjoyment of the wider site. The A303 currently has a major negative impact on the setting of Stonehenge, the integrity of the WHS and visitor access to some parts of the wider landscape. The harmful impacts of roads and traffic on the WHS include visual intrusion, noise and air pollution.

6.11.3 The HIA assesses potential Scheme impacts on: assets conveying Attributes of OUV; Attributes of OUV; and the overall OUV, integrity and authenticity of the WHS. It also considers impacts on the preservation and transmission of OUV related to tourism, changing patterns of access in the WHS, the public visibility of monuments, archaeoastronomical aspects and intangible cultural heritage. The HIA also considers the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan.

6.11.4 Beneficial elements of the Scheme include placing the road in a tunnel through the central part of the WHS, the reunification of the Avenue where it is truncated by the existing A303, the realignment of the A303 and A360 away from the Winterbourne Stoke Crossroads Barrows, the downgrading of the existing routes (the A303 and part of the A360) for NMU use and the improvement of junctions which would alleviate the impact of traffic congestion in the WHS. These aspects would reduce the current adverse impacts from the existing A303 and A360 on the WHS. However, the Scheme would introduce additional adverse impacts in some parts of the WHS landscape, changing the inter-relationships and the setting of some discrete heritage assets, asset groups and the landscape context.

6.11.5 The significance of effect of the Scheme on the overall OUV of the Stonehenge component of the Stonehenge, Avebury and Associated Sites World Heritage property, taking into account the beneficial and adverse changes on the attributes of the OUV, is assessed as Slight Beneficial. The Scheme is assessed to have a Slight Beneficial effect on the integrity and authenticity of the WHS as a whole. The HIA findings conclude that, as a whole, the overall effect of the Scheme's construction and operation on the WHS would be Slight Beneficial.

6.11.6 The OUV of the WHS would be sustained overall by the construction of the Scheme, which would create opportunities for greater public access, and appreciation and enjoyment of the WHS through increased connectivity of key monuments and monument groups north and south of the existing A303. The Scheme would enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context.

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