

M25 junction 10/A3 Wisley interchange TR010030

6.3 Environmental Statement Chapter 11: Cultural heritage

Regulation 5(2)(a)
Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

M25 junction 10/A3 Wisley interchange

The M25 junction 10/A3 Wisley interchange Development Consent Order 202[x]

6.3 ENVIRONMENTAL STATEMENT CHAPTER 11: CULTURAL HERITAGE

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Executive summary

The cultural heritage assessment of the Scheme has considered impacts on heritage assets that may occur during the construction and operation of the Scheme. This includes direct physical impacts, as well as indirect impacts to heritage assets and their settings.

During the construction phase, significant adverse effects are predicted on nine heritage assets relating to temporary setting impacts and permanent physical impacts on high and medium value assets. In addition, there would be one major adverse impact upon the Bell Barrow at Cockcrow Hill Scheduled Monument, an asset of high value, due to permanent physical and temporary setting impacts. This would result in a significant adverse effect.

One significant adverse effect is predicted during the operation of the Scheme due to permanent changes to the setting of the asset that affects its significance.

Significant impacts will be mitigated through measures set out in the construction environmental management plan (CEMP), which is secured by Requirement 3 of the Development Consent Order (DCO), including an archaeological programme of works, embedded design to avoid the Scheduled Monument at Cockcrow Hill, and design measures to reduce the visual and noise intrusions into the settings of heritage assets. The implementation of the CEMP commitments would reduce the impacts to heritage assets and lessen the significance of the effect, so that no residual significant effects are anticipated.

11. Cultural Heritage

11.1 Introduction

- 11.1.1 This chapter presents an assessment of the known and potential historic environment resource within the Scheme boundary and its wider study area. The assessment has been undertaken in accordance with guidance in Highway's England Design Manual for Roads and Bridges¹ (DMRB). This is the standard guidance for assessing cultural heritage significance and effects from road schemes.
- 11.1.2 The cultural heritage resource encompasses historic and designed landscapes, historic buildings and buried archaeology. The term 'cultural heritage' is used throughout the DMRB. The DMRB specifies that the term cultural heritage 'encompasses the sub-topics of Archaeological Remains, Historic Buildings and Historic Landscapes' and that 'a cultural heritage asset is an individual archaeological site or building, a monument or group of monuments, an historic building or group of buildings, an historic landscape etc., which, together with its setting, can be considered as a unit for assessment' (DMRB Volume 11, Section 3, Part 2, HA 208/07 Cultural Heritage, paragraphs 2.3 and 2.7). Contemporary guidance refers to the 'historic environment'. The terms are analogous. 'Cultural heritage' is used here as per the DMRB's guidance.
- 11.1.3 This chapter assesses both the construction and operational impacts and effects of the Scheme on the cultural heritage resource. The known cultural heritage resource, both designated and non-designated, has been identified within both the Scheme boundary and study area in order to allow for an assessment of the potential impacts of the Scheme and to help inform the potential for the survival of hitherto unidentified archaeological remains within the Scheme boundary. A gazetteer of all cultural heritage assets is appended in Appendix 11.1, together with figures (Figures 11.1 and 11.2) showing their locations within the study area. However, it should be noted that the Historic Environment Record (HER) upon which the gazetteer is based has not been updated in recent years and contains descriptions which are incorrect, notably the condition of features in Painshill Park. As such, the gazetteer provided in Appendix 11.1 does not accurately reflect the current state of all of the heritage assets discussed herein. However, the assessments have been made based on site visits, additional desk-based assessments including the Statements of Significance, and consultations with stakeholders, in addition to the baseline provided by the HER, to ensure impacts were assessed to reflect the current state of the historic environment.

11.2 Competent expert evidence

- 11.2.1 This cultural heritage chapter has been undertaken by the following individuals who have used their knowledge and professional judgement to undertake this assessment:
- an Associate Director (MSc, Cert. Architectural History) with 32 years of experience in archaeology, built heritage, planning and heritage consultancy;

¹ Highways England, 2008. Design Manual for Roads and Bridges. Volume 11: Environmental Assessment, Section 1, Part 1 HA 200/08. The Stationary Office: London

- a Senior Heritage Consultant (BA, MA), Associate member of the Chartered Institute for Archaeology, with nine years of experience in archaeology and archaeological consultancy;
- a Heritage Consultant (BA, MA, MPhil), Member of the Chartered Institute for Archaeology, with 21 years of experience in archaeology and archaeological consultancy; and
- a Heritage Consultant (MA, MSc), with five years of experience in built heritage consultancy.

11.3 Legislative and policy framework

11.3.1 The following legislation and policies govern the cultural heritage and have been consulted in preparing this chapter.

Table 11.1: Legislation, regulatory and policy framework for cultural heritage

Legislation / Regulation	Summary of Requirements
National	
Ancient Monuments and Archaeological Areas Act (1979)	<p>The Act provides protection to scheduled monuments or ancient monuments which, can comprise ‘any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it’. Monuments are defined in Section 61 as:</p> <p>‘(a) any building, structure or work, whether above or below the surface of the land, and any cave or excavation;</p> <p>(b) any site comprising the remains of any such building, structure or work or of any cave or excavation; and</p> <p>(c) any site comprising, or comprising the remains of, any vehicle, vessel, aircraft or other movable structure or part thereof which neither constitutes nor forms part of any work which is a monument within paragraph (a) above; and any machinery attached to a monument shall be regarded as part of the monument if it could not be detached without being dismantled.</p> <p>The Act requires any works within a scheduled monument to receive Scheduled Monument Consent.’ The Act also gives powers to the Secretary of State to designate ‘Areas of Archaeological Importance’.</p>
Planning (Listed Buildings and Conservation Areas) Act (1990)	<p>Provides protection to Listed Buildings and conservation areas of ‘special architectural or historic interest’. Section 66 of the Act states that ‘when considering whether to grant permission for development which affects a Listed Building or its setting, [decision makers] shall have special regard to the desirability of preserving the building or its setting’. Section 72 of the Act also addresses conservation areas, which decision makers must ‘pay special attention to the desirability of preserving or enhancing the character or appearance’.</p>
National Policy Statement for National Networks (NPSNN)	<p>Under the 2008 Planning Act, covering Nationally Significant Infrastructure Projects, policy with regard to assessment of the historic environment effects of nationally significant transport infrastructure is laid out in the NPSNN.</p> <p>Historic Environment Policy is laid out in paragraphs 5.120 to 5.142 of the NPSNN. The key aspects which should be addressed are as follows:</p>

Legislation / Regulation	Summary of Requirements
	<ul style="list-style-type: none"> the significance, setting and viability of the heritage assets likely to be affected by the proposed development should be considered; when considering the impact of a proposed development on the significance of a designated heritage asset great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be; and harm or loss affecting any designated heritage asset should require clear and convincing justification - substantial harm to or loss of a grade II Listed building or grade II Registered Park or Garden should be exceptional; substantial harm to or loss of designated assets of the highest significance should be wholly exceptional. <p>NPSNN embodies an underlying principle of balancing harm and benefit which places greater weight on the conservation of more important assets. Where less than substantial harm would occur, there is a need to ensure that harm is justified and minimised and that the wider public benefits of the proposals are appropriately articulated. The stronger the harm, the greater the justification must be in terms of public benefits.</p> <p>When identifying whether harm has previously affected the significance of a heritage asset, deliberate harm should be disregarded during the decision-making process. Both paragraph 5.138 of the NPSNN, as well as paragraph 014 (Reference ID: 18a-014-20140306) of the NPPG, note that evidence of deliberate neglect of, or damage to, a heritage asset which has been done to try to make permission easier to gain, cannot be used to justify further substantial harm caused by the Scheme.</p>
National Planning Policy Framework (NPPF)	<p>The NPPF (2018) specifies that heritage assets 'should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations' (Paragraph 184).</p> <p>The following paragraphs are of particular relevance to this chapter:</p> <ul style="list-style-type: none"> Paragraph 189: Applicants for planning permission should 'describe the significance of any heritage assets affected, including and contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.' Paragraph 192: 'In determining planning applications, local planning authorities should take account of: <ul style="list-style-type: none"> a. The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation; b. The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and c. The desirability of new development making a positive contribution to local character and distinctiveness.' Paragraph 193: 'When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is

Legislation / Regulation	Summary of Requirements
	<p>irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance'</p> <ul style="list-style-type: none"> Paragraph 194: Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) Substantial harm to or loss of: <ul style="list-style-type: none"> a) grade II listed buildings or grade II registered park or garden should be exceptional; b) assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.' <p>Footnote 63: 'non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets'</p> Paragraph 195: Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply: <ul style="list-style-type: none"> a. The nature of the heritage asset prevents all reasonable uses of the site; and b. No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and c. Conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and d. The harm or loss is outweighed by the benefit of bringing the site back into use' Paragraph 196: 'Where a development proposal 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, where appropriate, securing its optimum viable use.' Paragraph 197: 'The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that effect directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.' Paragraph 198: 'Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.' Paragraph 199: 'Local planning authorities should require developers to record and advance understanding of the significance of any heritages to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.'
National Planning Policy Guidance (NPPG)	The DCLG published NPPG online in 2014, to expand upon the NPPF. '18a: Conserving and Enhancing the Historic Environment' was published in April 2014. The Guidance notes that 'conservation is an active process of maintenance and managing change. It requires a

Legislation / Regulation	Summary of Requirements
	<p>flexible and thoughtful approach to get the best out of assets as diverse as Listed Buildings to as yet undiscovered, undesignated buried remains of archaeological interest’.</p> <p>The NPPF and the NPPG identify two categories of non-designated sites of archaeological interest:</p> <ul style="list-style-type: none"> • ‘Those that are demonstrably of equivalent significance to Scheduled Monuments and are therefore considered subject to the same policies as those for designated heritage assets’ (NPPG citing National Planning Policy ‘Framework Paragraph 139); and • ‘Other non-designated heritage assets of archaeological interest. By comparison this is a much larger category of lesser heritage significance, although still subject to the conservation objective. On occasion, the understanding of a site may change following assessment and evaluation prior to a planning decision and move it from this category to the first’ (NPPG). <p>The NPPG also clarifies how to assess if there is substantial harm: ‘Whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases... an important consideration would be whether the adverse impact seriously affects a key element of [an asset’s] significance’.</p> <p>It also states: ‘While the impact of total destruction is obvious, partial destruction is likely to have a considerable impact but, depending on the circumstances, it may still be less than substantial harm or conceivable not harmful at all, for example, when removing later inappropriate additions to historic buildings which harm their significance. Similarly, works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all. However, even minor works have the potential to cause substantial harm’.</p> <p>Where proposals result in less than substantial harm to a heritage asset, the level of harm must be weighed against the public benefits derived from the Scheme. The NPPG notes that public benefits ‘could be anything that delivers economic, social, or environmental progress’ as defined in the NPPF and that they ‘should be of a nature or scale to be of benefit to the public at large and should not just be a private benefit. However, benefits do not always have to be visible or accessible to the public in order to be genuine public benefits’.</p>
Local	
<p>Guildford Borough Local Plan (2003)</p>	<p>The western portion, to the west of Painshill Park, of the Scheme boundary is located within the local administrative area of Guildford Borough Council. The Guildford Borough Local Plan (2003) is in effect at present.</p> <p>The Council has completed consultation on the Proposed Submission Local Plan: Strategy and Sites (Guildford Borough Council, June 2017), and this document was submitted to the Secretary of State in December 2017. Paragraph 216 of the NPPF states that ‘from the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to:</p> <ul style="list-style-type: none"> • the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given); • the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and

Legislation / Regulation	Summary of Requirements
	<ul style="list-style-type: none"> the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).' <p>Whilst the emerging plan currently carries limited weight in decision making, the weight may increase during the examination process, and the new Local Plan will carry full weight at adoption. Therefore, this assessment takes into account the existing Local Plan (2003) as well as the Guildford Borough Submission Local Plan: Strategy and Sites (2017). However, until the adoption of the new Local Plan, the Guildford Borough Local Plan (2003) remains current.</p> <p>The existing Local Plan (2003) Policies HE4, HE6, HE10 and HE12 are relevant to this assessment. Policy HE11 Scheduled Ancient Monument and other Sites and Monuments of National Importance has now expired and the NPPF should be considered when assessing impacts upon archaeological remains.</p> <p>The Local Plan (2003) Policies which are relevant to this assessment state:</p> <p>Policy HE4: NEW DEVELOPMENT WHICH AFFECTS THE SETTING OF A LISTED BUILDING</p> <ul style="list-style-type: none"> Planning permission will not be granted for development that adversely affects the setting of a Listed Building by virtue of design, proximity or impact on significant views. <p>Policy HE6: LOCALLY LISTED BUILDINGS</p> <ul style="list-style-type: none"> In considering applications for development affecting buildings included on the local list the council will have regard to the effects of the development on the architectural or historic interest of the buildings and its setting. <p>Policy HE10: DEVELOPMENT WHICH AFFECTS THE SETTING OF A CONSERVATION AREA</p> <ul style="list-style-type: none"> The Borough Council will not grant permission for development which would harm the setting of a conservation area, or views into or out of that area. <p>Policy HE12: HISTORIC PARKS AND GARDENS</p> <ul style="list-style-type: none"> Planning permission will not be granted for development which would detract from the character or appearance of a park or garden of special historic interest, or its setting. Permission will not be granted for unsympathetic subdivision.
Guildford Borough Submission Local Plan: Strategy and Sites (2017)	<p>The revised Guildford Borough Submission Local Plan: Strategy and Sites (2017) includes the following policy on the historic environment:</p> <p>Policy D3:</p> <ol style="list-style-type: none"> The historic environment will be conserved and enhanced in a manner appropriate to its significance. Development of the highest design quality that will sustain and, where appropriate, enhance the special interest, character and significance of the borough's heritage assets and their settings and make a positive contribution to local character and distinctiveness will be supported. Heritage assets are an irreplaceable resource and works which would cause harm to the significance of a heritage asset, whether designated or non-designated, or its setting, will not be permitted without a clear justification to show that the public benefits of the proposal considerably outweigh any harm to the significance or special interest of the heritage asset in question.

Legislation / Regulation	Summary of Requirements
Elmbridge Local Plan	<p>The north-eastern portion of the Scheme boundary area, to the east of the western boundary of Painshill Park, is located within the administrative area of Elmbridge Borough Council. The Elmbridge Local Plan is made up of the Elmbridge Core Strategy (2011) and the Elmbridge Development Management Plan (2015). The Council published a Local Development Scheme in November 2017, setting out the adoption of a new Local Plan by December 2019. In the interim, the Elmbridge Core Strategy (2011) and the Elmbridge Development Management Plan (2015) continue to carry full weight until the adoption of the new Local Plan.</p> <p>The Core Strategy does not provide specific policy for the historic environment, though heritage assets are considered under Policy CS17 - Local Character, Density and Design. Policy DM12 - Heritage of the Development Management Plan deals specifically with the historic environment and states:</p> <ul style="list-style-type: none"> • Planning permission will be granted for developments that protect, conserve and enhance the Borough's historic environment. This includes the following heritage assets: • Listed Buildings and their settings; • Conservation Areas and their settings; • Parks and Gardens of Special Historic Interest and their settings; • Scheduled Monuments and their settings; • Areas of High Archaeological Potential and County Sites of Archaeological Importance (CSAIs); and • Locally Listed Buildings and other identified or potential assets (including non-designated locally significant assets identified in the local lists compiled by the Council). <p>Listed Buildings:</p> <ul style="list-style-type: none"> • The Council will encourage appropriate development to maintain and restore Listed Buildings, particularly those identified as being most at risk; • Development to, or within the curtilage or vicinity of, a Listed Building or structure should preserve or enhance its setting and any features of special architectural or historical interest which it possesses; • A change of use of part, or the whole, of a Listed Building will be approved provided that its setting, character and features of special architectural or historic interest would be preserved or enhanced. Consideration will also be given to the long-term preservation that might be secured through a more viable use; and • Development which would cause substantial harm to or loss of a Listed Building (including curtilage buildings), such as total or partial demolition, will be permitted only in exceptional circumstances. In such cases, consideration will be given to the asset's significance. Applicants will need to clearly demonstrate that either: <ul style="list-style-type: none"> – the nature of the Listed Building prevents all reasonable use of the site; – no viable use of the Listed Building can be found in the medium term through appropriate marketing that will enable its conservation;

Legislation / Regulation	Summary of Requirements
	<ul style="list-style-type: none"> – it can be demonstrated that charitable or public funding/ownership is not available to enable its conservation; and – any harm or loss is outweighed by the benefit of bringing the site back into use. <p>Conservation Areas:</p> <ul style="list-style-type: none"> • Proposals for all new development, including alterations and extensions to buildings, their re-use and the incorporation of energy efficiency and renewable energy technologies, must have a sensitive and appropriate response to context and good attention to detail; • Development within or affecting the setting of a conservation area, including views in or out, should preserve or enhance the character and appearance of the area, taking account of the streetscape, plot and frontage sizes, materials and relationships between existing buildings and spaces; • Open spaces, trees and other hard and soft landscape features important to the character or appearance of the area should be retained or be in keeping with the character of the area; and • Proposals to demolish buildings and/or structures will be assessed against their contribution to the significance of the conservation area as a heritage asset. Where substantial harm would be caused to a conservation area's significance, the proposal will be resisted unless exceptional circumstances, including substantial public benefits outweighing any harm to the conservation area, can be demonstrated. Where the harm would be less than substantial, it will be weighed against any public benefits of the proposal, including securing optimum viable use of the heritage asset and whether it would enhance or better reveal the significance of the conservation area. <p>Parks and Gardens of Special Historic Interest:</p> <ul style="list-style-type: none"> • Parks and Gardens identified as being of special historic interest, including landscape features and buildings, and their setting, will be protected and their sensitive restoration encouraged; and • Any proposed development within or conspicuous from a historic park or garden will be permitted provided that it does not detract from the asset. <p>Scheduled Monuments and County Sites of Archaeological Interest (CSAI):</p> <ul style="list-style-type: none"> • Development that adversely affects the physical survival, setting or overall heritage significance of any element of a Scheduled Monument or CSAI will be resisted; and • Any new development should be sensitive to these criteria and positively act to enhance the monument or CSAI overall and ensure its continued survival. <p>Areas of High Archaeological Potential:</p> <ul style="list-style-type: none"> • Proposals for development should take account of the likelihood of heritage assets with archaeological significance being present on the site, provide for positive measures to assess the significance of any such assets, and enhance understanding of their value. <p>Locally Listed Buildings and other non-designated heritage assets:</p> <ul style="list-style-type: none"> • The Council will seek to retain these, where possible, and will assess proposals which would directly or indirectly impact on them in the light of their significance and the degree of harm or loss, if any, which would be caused.

Table Source: Various

11.4 Study area

- 11.4.1 A 500m study area surrounding the Scheme has been applied and is shown in Figures 11.1 and 11.2. This distance was established by professional judgement of the competent experts and relevant guidance, in particular guidance in the DMRB Volume 11, Section 3, Part 2 HA 208/07, and with reference to the Zone of Visual Influence identified during Landscape and Visual Impact Assessment (LVIA, Chapter 9). A 500m study area, taken from the DCO boundary used to denote expected land-take, is considered sufficient to identify heritage assets that may be subject to physical impacts, as well as to characterise the known archaeology and provide an assessment of the potential for previously unknown archaeological remains. The heavily wooded surrounding areas reduce both visual and non-visual effects, limiting the ability of these to affect the significance of more distant assets through impacts to setting. As such, a 500m study area was considered sufficient for identifying potential impacts to setting as well. This is in keeping with guidance from Historic England on The Setting of Heritage Assets (2017) and was agreed with stakeholders during consultation on the PIER.

11.5 Assessment methodology

- 11.5.1 This chapter has been undertaken with reference to the following standards and guidance:
- DMRB Volume 11, Section 3, Part 2 HA 208/07. It should be noted that 'significance (for heritage policy)' is defined in the NPPF's NPPG as: 'The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.' In the DMRB, the term 'value' is used in place of 'heritage significance'. As the DMRB methodology has been used for this assessment, the term 'value' is used throughout the remainder of this chapter to refer to 'heritage significance', to avoid confusion with the term 'significance of effect';
 - Standards and guidance for archaeological evaluations and watching briefs: Chartered Institute for Archaeologists (CIfA) (2014);
 - Standards and guidance for archaeological desk-based assessment: Chartered Institute for Archaeologists (CIfA) (2014, revised 2017);
 - The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning: 3 (2nd Edition), Historic England (2017);
 - Managing Significance in Decision-Taking in the Historic Environment - Historic Environment Good Practice Advice in Planning: 2, Historic England (2015); and
 - Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment, English Heritage (2008), and Conservation Principles for the Sustainable Management of the Historic Environment Consultation Draft, Historic England (2017).

- 11.5.2 In addition to the standards and guidance identified above, conservation area appraisals and management plans for the conservation areas included within the study area have been referenced during the production of this chapter.
- 11.5.3 The historic environment comprises designated and non-designated heritage assets and other features or remains of historic interest as follows:
- World Heritage Sites;
 - Scheduled Monuments;
 - Listed Buildings;
 - Registered Parks and Gardens;
 - Conservation Areas;
 - Registered Battlefields;
 - Designated Wreck Sites;
 - Non-designated buildings and structures of historic interest, including those on local lists maintained by Guildford and Elmbridge BC;
 - Known archaeological sites and areas of archaeological potential; and
 - Findspots.
- 11.5.4 All designated features located within the study area have been scoped into this assessment. Non-designated buildings or structures within the study area, including Locally Listed Buildings, have also been scoped into this assessment. Likewise, known archaeological sites and areas of archaeological potential (partially identified from findspot data), included in the HER data within the study area boundary, have been scoped into this assessment.
- 11.5.5 The methodology for assessing effects on the historic environment and the assets set out below is determined through identifying an asset's value and assessing the degree of change that the Scheme would have on a heritage asset (the likely impact). This is in line with the guidance provided in DMRB HA 208/07, Annex 5.
- 11.5.6 Pursuant to NPSNN 5.127 heritage assets within the study area have been described and assessed through the Desk-Based Assessment appended to this chapter in Appendix 11.2.
- 11.5.7 The first stage of identifying the potential significant effects of the Scheme on cultural heritage includes the assessment of the value of heritage assets. Table 11.2 sets out the criteria for assessing the value of heritage assets, as identified in DMRB HA 208/07.

Table 11.2: Criteria for assessing the value of heritage assets

Value	Description	Example
Very High	Internationally important or significant heritage assets.	World Heritage Sites, or buildings or archaeological sites/remains recognised as being of international importance.
High	Nationally important heritage assets generally recognised through designation as being of	Grade I and II* Listed Buildings, Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Historic Battlefields, Conservation Areas with

Value	Description	Example
	exceptional interest and value.	notable concentrations of heritage assets and undesignated assets or archaeological sites/remains or landscapes of national or international importance.
Medium	Nationally or regionally important heritage assets recognised as being of special interest, generally designated.	Grade II Listed Buildings, Grade II Registered Parks and Gardens, Conservation Areas and undesignated assets of regional or national importance, including archaeological remains or landscapes, which relate to regional research objectives or can provide important information relating to particular historic events or trends that are of importance to the region.
Low	Assets that are of interest at a local level primarily for the contribution to the local historic environment.	Undesignated heritage assets such as locally Listed Buildings, undesignated archaeological sites, undesignated historic parks and gardens, landscapes of local interest etc. Can also include degraded designated assets that no longer warrant designation.
Negligible	Elements of the historic environment which are of insufficient significance to merit consideration in planning decisions and hence be classed as heritage assets.	Undesignated features with very limited or negligible historic interest. Can also include highly degraded designated assets that no longer warrant designation.
Unknown	The importance of an asset has not been ascertained.	

Table Source: DMRB Volume 11, Section 3, Part 2, HA 208/07, Annex 5, Table 5.1 and Annex 7, Table 7.1

- 11.5.8 The magnitude of impact is determined by identifying the scale of change that the proposed development would have on the value (or 'heritage significance') of a specific asset.
- 11.5.9 Table 11.3 identifies the criteria for establishing the magnitude of impacts on heritage assets. It also identifies which magnitudes of impact constitute 'substantial harm to, or loss of, an asset's significance'. An assessment of substantial harm (and therefore a presumption against development) is only applicable when there is considerable change to a key aspect of an asset's significance. This has been reflected in the assessment methodology below.

Table 11.3: Criteria for establishing the magnitude of impact on heritage assets

Magnitude of impact	Description of nature of impact
Major Adverse	Changes to most or all key elements such that the resource is totally altered, extreme visual effects, gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic character and value of the asset. Comprehensive changes to setting resulting in the removal of value, resulting in substantial harm.
Moderate Adverse	Changes to many key materials or elements, such that the resource is clearly modified. Considerable changes to setting that affect the value of the asset.

Magnitude of impact	Description of nature of impact
Minor Adverse	Changes to key materials or elements, such that the asset is slightly altered, 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 the value of the asset. Slight changes to setting affecting the significance of the asset.
Negligible	Very minor changes to setting or form of the asset.
No Change/Neutral	No appreciable change to an asset's heritage value.
Minor Beneficial	Limited improvement of an asset's heritage value as a result of changes to its physical form or setting.
Moderate Beneficial	Notable enhancement of an asset's heritage value as a result of changes to its physical form or setting.
Major Beneficial	Substantial enhancement of an asset's heritage value as a result of changes to its physical form or setting.

Table Source: DMRB Volume 11, Section 3, Part 2, HA 208/07, Annex 5-7

- 11.5.10 Table 4.1 in Chapter 4 shows how the significance of effect is determined. This assesses the value of the heritage asset against the magnitude of impact (change) to provide a measure of the 'significance of effect'.
- 11.5.11 The determination of what constitutes 'harm' in terms of the Infrastructure Planning (Environmental Impact Assessment) Regulations (2017) is assessed on an individual basis; moderate to very large adverse or beneficial effects are generally considered to be 'significant' in terms of these regulations.
- 11.5.12 This ES presents the baseline data and makes an assessment of the likely effects on heritage assets.

Consultation

- 11.5.13 Consultation was carried out on the Scoping Report with Cultural Heritage stakeholders including Historic England and the Archaeological Officers and Heritage Managers of the local planning authorities. Responses to the Scoping Report were received from Historic England, Surrey County Council, Elmbridge Borough Council, Guildford Borough Council, and the Surrey Gardens Trust, and have been addressed in this chapter.
- 11.5.14 Statutory consultation was carried out in February and March 2018, the outcomes of which can be found in the Consultation Report (TR010030/APP/5.1). Consultation meetings were held with Historic England in January 2018. Additional consultation with Historic England was undertaken in October 2018, in advance of the preparation of the Statement of Common Ground (SoCG). This meeting resulted in broad agreement by Historic England with the findings made in the assessment, including the level of impacts on the Painshill RPG, the Gothic Tower, and the other designated and non-designated built heritage assets within the RPG, along with their settings. In addition, Historic England agreed that, while there may be significant effects on the settings of designated heritage assets, none of these, in their opinion, rose to the level of Substantial Harm.
- 11.5.15 Consultation with Painshill Park Trust (PPT) has also been undertaken and included discussions on the Environmental Scoping Report and the draft

Statement of Significance for Painshill Park (Appendix 11.3). Responses on these documents have been considered in this chapter and in the final Statement of Significance.

11.6 Assumptions and limitations

11.6.1 This section identifies the assumptions made in and limitations to the assessment of the impacts to the historic environment. The limitations to this assessment include:

- No archaeological survey has been conducted across the Scheme. A Written Scheme of Investigation (WSI) for archaeological surveys will be included in the final Construction Environment Management Plan (CEMP) to ensure measures are taken to identify as-yet unknown archaeological remains that may be impacted by the Scheme;
- There is potential for as-yet unknown archaeological remains within the DCO boundary and these may be affected by construction and operation of the Scheme. These remains may range from low to high value, and impacts ranging from none to major adverse may occur. Further archaeological investigations and evaluations will be detailed in the Outline CEMP, and constitute a requirement of the DCO; and
- No intrusive archaeological investigations have been conducted on known archaeological remains to further characterise and assess their significance. As such, the identification of the value of these remains has been derived from the information provided by the Surrey HER and the professional judgement of the archaeologists preparing this assessment.

11.6.2 The following assumptions have been made in the preparation of this assessment:

- The baseline information received at the last Surrey HER request for information (September 2017) has not changed appreciably since that information was received.

11.7 Baseline conditions

11.7.1 Historic environment baseline data was collected from the following sources:

- Surrey Historic Environment Record (HER);
- Historic England's National Heritage List for England (NHLE); and
- Secondary sources which have primarily been discussed in the desk-based assessment DBA) in Appendix 11.2.

11.7.2 The Surrey HER and NHLE data was obtained in September 2017. A gazetteer of designated and non-designated heritage assets which are located within the Scheme boundary and study area, is presented in Appendix 11.1 and Figures 11.1 and 11.2. Heritage assets are referred to by their unique ID which, for designated assets, are their NHLE entry numbers, and for non-designated assets by their preferred Surrey HER ID (prefixed with "MSE").

11.7.3 In order to further understand and contextualise this data, the following additional documents have been produced:

- Statements of significance for both of Painshill and Wisley RHS Registered Parks and Gardens; and
- An archaeological desk-based assessment (DBA) to provide an evidence baseline of the known and potential heritage assets within the study area.

11.7.4 These reports form part of the evidence base for the EIA and are included in Appendix 11.2 and 11.3 of the ES.

Topographical and geological conditions

- 11.7.5 The desk-based assessment, undertaken to inform this project, has provided brief summaries of topographical and geological conditions, a precis of which is presented below.
- 11.7.6 The topography of the Scheme boundary is variable ranging generally between 25m AOD and 55m AOD. Areas of high ground exist to the south of junction 10 at Oakham Common and to the north of the junction around Foxwarren Park. Land to the east and west of the junction, in the region of Painshill Park and Wisley Common respectively, is lower lying.
- 11.7.7 Geological conditions aid in understanding the potential for archaeological remains, particularly for early prehistoric materials that are often associated with buried geology. An understanding of the study area's geology can also provide information on the potential for palaeoenvironmental remains preserved in damp and acidic soils such as peat.
- 11.7.8 The bedrock geology of the study area is dominated by the Bagshot Formation, a sedimentary bedrock composed of sands formed approximately 48 to 56 million years ago. This bedrock is indicative of a local environment dominated by shallow seas during the Palaeogene Period. At the junction between the A3 and the B2039, in the south west area of the Scheme boundary the British Geological Survey (BGS) records the presence of a thin strand of the London Clay Formation, composed of clay, silt and sand. This bedrock is the predominant bedrock to the south of the Scheme boundary. The London Clay Formation was formed approximately 56 million years ago and is also indicative of an area dominated by shallow seas.
- 11.7.9 The BGS does not record superficial deposits along the length of the Scheme boundary, although patches of the Lynch Hill Gravel Member, a deposit composed of sand and gravel formed up to 2 million years ago in the Quaternary Period are recorded along the line of the A3 and within the 500m study area. The deposit is indicative of a river setting.
- 11.7.10 The geology of the study area suggests some potential for early prehistoric remains associated with the sand and gravel deposits.

Known Heritage Assets

- 11.7.11 The study area contains fifty-five designated heritage assets. These comprise:
- Four scheduled monuments;
 - One Grade I Registered Park and Garden;
 - One Grade II* Registered Park and Garden;
 - One Grade I Listed Building;

- Five Grade II* Listed Buildings;
- Forty-One Grade II Listed Buildings; and
- Two Conservation Areas.

11.7.12 The local lists for Guildford and Elmbridge were consulted for information on non-statutorily designated and locally listed built heritage assets. The Guildford Borough Council local list does not include any Locally Listed Buildings within the study area. Elmbridge Borough Council includes the following Locally Listed Buildings within the study area:

- Hatchford Mausoleum, Hatchford Wood;
- Ice House, Hatchford Wood;
- The Black Swan Public House, Ockham Lane;
- The barn at Highfield Farm, Ockham Lane;
- Pointers Farm Cottage, Ockham Lane;
- 17 Portsmouth Road;
- 24-36 (even), 38, and 40 Portsmouth Road; and
- Forge, to the rear of 43 Portsmouth Road.

11.7.13 In addition to buildings of local historic interest, Guildford Borough Council also maintains a list of local historic parks and gardens. The following locally listed historic parks and gardens are located within the study area:

- Ockham Park, Ockham;
- Dunsborough Park, Ripley; and
- Foxwarren Park, Wisley.

11.7.14 Eighty non-designated heritage assets have been identified within the study area. These assets include possible prehistoric earthworks, the London to Winchester Roman Road, medieval or post-medieval enclosures, parish boundaries and earthworks, as well as post-medieval domestic, agricultural and industrial buildings, and post-medieval and modern gardens and parkland.

Archaeological and Historic Background

11.7.15 The DBA included in Appendix 11.2 provides an overview of the archaeological and historic background of the study area, demonstrating the extent and variety of the known cultural heritage. A summary is provided here.

11.7.16 Evidence of prehistoric use of the study area includes finds from all periods of prehistory, from Palaeolithic hand axes (MSE746), Mesolithic flint-working, funerary monuments from the Neolithic and Bronze Ages, and possible Iron Age earthworks. There are three Scheduled Monuments of prehistoric date within the study area:

- a Neolithic hengi-form monument (1007905), c. 103m to the south east of the Scheme boundary;
- a Bronze Age bell barrow (1012204) at Cockcrow Hill, c. 3m west of the Scheme boundary, and

- a Bronze Age bowl barrow (1012205) c. 275m west of the Scheme boundary.
- 11.7.17 Evidence of the Roman period (AD 43- 410) includes the Scheduled Roman bath house at Chatley Farm (1005923) located within the area of replacement land at Chatley Wood. In addition, the putative Roman Road from London to Winchester (SMR4619) is thought to cross the study area, though its exact location is as yet unknown. A Roman villa (MSE13733) has been identified north of the Scheme boundary at Ashted Common.
- 11.7.18 Early medieval (AD 410 - 1066) evidence is limited. Several banks and boundaries are recorded within the study area and it is possible that these may date back to the Anglo-Saxon period (MSE13733; MSE18141). The old parish boundary at Ockham Heath (MSE14795), which lies partially within the Scheme, may be related to the early Saxon boundary called Fullingdic (MSE14795).
- 11.7.19 Medieval evidence (AD1066 - 1500) within the study area is extensive, with ample documentary evidence and archaeological remains. Two Listed Buildings within the study area may have medieval origins: The Grade II Listed Chatley Farm House (1286910) which was constructed in the 16th century but has an 18th century facade and The Grade II Listed Ockham Mill (1188416) which dates from the 19th century, although a mill is first recorded on the site in 1296 and medieval remains related to earlier mills may still exist at the location.
- 11.7.20 Extensive evidence exists for the post-medieval period (AD 1500-1900). Early maps, extant buildings, and known archaeology present a robust picture of the post-medieval development of the area. The most prominent post-medieval asset within the study area are the buildings and landscaped grounds associated with Painshill Park, a Grade I Registered Park and Garden of historic interest, (1000125), which is discussed in detail in the Appendix 11.3. The Foxwarren Park, a 19th century estate lies to the north west of junction 10 was badly affected by the construction of the M25, although the park's listed water tower (1377855) and cottage (1030053) are reminders of the 19th century estate which survive within the study area. The principal building in the Park, the Grade II* listed Foxwarren Park (1189110) is located over 400m from the A3, in a heavily wooded landscape and would not be affected by the Scheme. Details of other post-medieval heritage assets, including designated assets, within the study area are included in the gazetteer in Appendix 11.1.
- 11.7.21 The area around the Scheme is depicted throughout the 20th century, as a predominantly rural landscape with the historic A3 running between Ripley and Cobham, through Wisley and Ockham Common. Wisley Airfield to the south of the Scheme was in operation from 1943 to the mid-1970s. Other Second World War remains within the study area include an anti-aircraft battery site at Wisley Common (MSE21230) and an anti-aircraft gun emplacement (MSE6886) to the north of the M25.
- 11.7.22 The Grade II* Registered RHS Gardens, Wisley (1000126) are located to the north of the A3 and the south-east corner of the gardens lies within the Scheme boundary. While originally laid out from 1878 to 1902, the gardens, as they exist today, largely date from the early 20th century. They were acquired by the RHS in 1903 and have since been enlarged and developed, as discussed in Appendix 11.3.

11.8 Potential impacts

- 11.8.1 As noted in the DMRB methodology, potential impacts on the cultural heritage resource are defined as changes to the historic environment resource caused by the Scheme. The type of impacts that can occur include:
- Direct impacts, which arise as straightforward consequences of the Scheme; this can include physical damage to, or physical improvement of, the fabric of the asset, and can include impacts on the setting of heritage assets, such as an increase in noise and pollution as a result of the Scheme; and
 - Indirect or secondary impacts, which arise from impacts that are complicated, unpredictable or remote; for instance, severing an agricultural holding could lead to changes in farming viability and thence changes to historic land-use patterns in areas away from the Scheme.
- 11.8.2 Impacts can also be positive or negative; short-, medium- or long-term; temporary or permanent, and cumulative.
- 11.8.3 In accordance with the methodology outlined in section 11.5, the assessment of impacts upon known assets has involved establishing the value of the affected heritage asset and the sensitivity of the asset to change. The magnitude of impact is then derived from the Scheme, and using the matrix set out in DMRB guidance together with professional judgement, the significance of effect on each heritage asset is determined.
- 11.8.4 For the purpose of this report, effects have been split into construction and operation phase impacts.

Construction

- 11.8.5 During construction, direct physical impacts are likely to occur as a result of earthmoving operations, creation of site compounds, road formation/construction; and construction of proposed overbridges/structures. Setting impacts are likely to occur due to the introduction of construction machinery, compounds and vegetation removal with the potential to create new sightlines to existing roads and views of the Scheme.
- 11.8.6 The potential impacts of construction activities upon setting would be temporary, short term and reversible. However, direct physical impacts are usually permanent in nature. Construction impacts are identified in Table 11.4 below which outlines the assets, their value, likely magnitude of impacts and resultant effect. The impacts outlined in this table take into consideration standard mitigation measures for dealing with construction noise and visual intrusions, as well as the fencing off of the Scheduled Bell Barrow on Cockrow Hill (1012204) to avoid accidental direct impacts to the monument.
- 11.8.7 There is potential for hitherto undiscovered archaeological remains to be encountered during construction. Whilst further assessment is required in order to establish the location, extent, condition and significance of any such remains, they are expected to be of low to moderate value, and for impacts to range from neutral to major adverse. Such assessments may include non-intrusive surveys such as fieldwalking and geophysical survey or more intrusive investigations such as trial trenching, strip, map and record, or area excavations. With these assessments to further characterise the archaeological remains and record the information present, it is felt that the overall effects of the Scheme on as-yet

unknown archaeological remains would be neutral to slight adverse, and not significant.

- 11.8.8 A programme of archaeological evaluation is currently being devised to appropriately deal with the potential buried archaeological remains which are likely to be affected by the Scheme. These evaluations will be specified in the final CEMP, compliance with which is a requirement of the DCO.

Operation

- 11.8.9 Operational effects are long term and generally permanent and the following impact assessment shown in Table 11.4 takes into consideration standard mitigation measures that are in place at this stage, such as landscape planting for visual screening and noise mitigation.
- 11.8.10 In the case of the archaeological assets within the boundaries of proposed replacement and compensation and enhancement land, operational impacts are not anticipated because the operational effects of use of these areas is negligible. Details for the treatment of heritage assets within these areas will be dealt with in the CEMP (see section 11.9).

Table 11.4: Scheme Impacts without mitigation

Site Reference Number	Site Name	Value (per DMRB)	Construction Impact	Operation Impact	Impacted by/Nature of impact	Construction Effect	Operation Effect
1005923	Late Roman bath house at Chatley Farm (Scheduled Monument)	High	Minor Adverse	None	Temporary impacts to setting due to noise and visual intrusion during Chatley Wood replacement land works such as tree felling.	Slight Adverse	Neutral
1012204	Bell barrow on Cockcrow Hill (Scheduled Monument)	High	Moderate Adverse	Moderate Adverse	Temporary setting impacts during construction of junction elements; Permanent changes to the setting of the barrow due to the operation of junction elements at a decreased distance to the monument. This would result in an increase in noise and visual impact on the monument.	Large Adverse	Large Adverse
1012205	Bowl barrow west of Cockcrow Hill (Scheduled Monument)	High	Minor Adverse	Minor Adverse	Temporary setting impacts during construction of the Scheme; slight permanent changes to setting during Scheme operation due to change in noise levels and minor increase in visual impact.	Minor Adverse	Minor Adverse
1007905	Red Hill hengi-form scheduled monument (Scheduled Monument)	High	Minor Adverse	Minor Adverse	Temporary setting impacts during construction of A3 Widening between junction 10 and Painshill including the new Red Hill Road overbridge; Permanent changes to the setting of the barrow due to the operation of the Scheme at a decreased distance to the monument, with possible slight noise and visual impact on the monument.	Moderate Adverse	Slight Adverse
1000125	Painshill Park (Grade I Registered Park and Garden)	High	Moderate Adverse	Minor Adverse	Temporary setting impacts during construction of access to Painshill properties and A3 Widening between Ockham and Painshill; Slight permanent changes to setting during Scheme operation through minor changes to visual and auditory setting.	Moderate Adverse	Slight Adverse

Site Reference Number	Site Name	Value (per DMRB)	Construction Impact	Operation Impact	Impacted by/Nature of impact	Construction Effect	Operation Effect
1000126	RHS Gardens, Wisley (Grade II* Registered Park and Garden)	High	Minor Adverse	Negligible Adverse	Permanent physical (including land take from within the Park's boundaries) and temporary setting impacts due to the construction of the New Wisley Lane access and A3 Widening between Ockham and junction 10; negligible impacts to setting during operation of the Scheme through intermittent low-level increases in noise levels and visual change only visible from the periphery of the north east corner of the gardens.	Moderate Adverse	Slight Adverse
1191694	Gothic Tower (Grade II* Listed Building)	High	Moderate Adverse	Moderate Adverse	Temporary setting impacts during construction of A3 widening between junction 10 and Painshill; Changes to setting during Scheme operation due to some loss of screening vegetation between the tower and the A3 and new NMU route.	Moderate Adverse	Moderate Adverse
1030053	Foxwarren Cottage (Grade II Listed Building)	Medium	Moderate Adverse	Minor Adverse	Temporary setting impacts during construction of A3 Widening between junction 10 and Painshill; Permanent setting impacts due to the operation of Scheme elements adjacent to the asset resulting in an increase in visual impact on the listed building from the construction of the New Red Hill overbridge and widened A3.	Moderate Adverse	Slight Adverse
MSE3464	Parish boundary stone, between Ockham and Wisley	Low	Major Adverse	None	Permanent physical impacts due to A3 Widening between Ockham and Painshill; no operational impacts due to removal of asset during construction.	Moderate Adverse	None
MSE14725	Cropmarks caused by aggregates work: non-	Low	Major Adverse	None	Permanent physical impacts due to Scheme works adjacent to Wisley, including proposed construction compound at Ockham roundabout; no operational impacts due to removal during construction.	Slight Adverse	None

Site Reference Number	Site Name	Value (per DMRB)	Construction Impact	Operation Impact	Impacted by/Nature of impact	Construction Effect	Operation Effect
	antiquities, Ockham						
MSE14766	Dam, Bolder Mere, Ockham Common	Low	Minor Adverse	None	Permanent physical impacts due to A3 Widening between Ockham and Painshill; no operational impacts due to removal of asset during construction.	Slight Adverse	None
MSE14771	Pond site, Culverlake, Ockham	Low	Major Adverse	None	Permanent physical impacts due to Scheme works adjacent to M25 and Chatley Wood; no operational impacts due to removal of asset during construction.	Moderate Adverse	None
MSE14774	Red Hill Road Holloway or ditch feature, Wisley	Low	Minor Adverse	None	Permanent physical impacts due to A3 Widening between Ockham and Painshill; no operational impacts due to removal of asset during construction.	Slight Adverse	None
MSE14776	Dam and pond site, Wisley Pond	Low	Minor Adverse	None	Possible permanent physical impacts due to works associated with Pond Farm Common Land replacement; no operational impacts anticipated due to the distance of the operational Scheme.	Slight Adverse	None
MSE14778	Pond site, Chatley Wood, Cobham	Low	Minor Adverse	None	Possible permanent physical impacts due to works associated with Chatley Wood Common Land replacement; no operational impacts anticipated due to the distance of the operational Scheme.	Slight Adverse	None
MSE14782	Boundary bank, Clearmount, Wisley	Low	Negligible	None	No/limited physical impacts likely due to works at Park Barn Farm Common Land replacement; no operational impacts anticipated due to the distance of the operational Scheme.	Neutral	None
MSE14783	Lord King's ditch, Pond Farm, Wisley	Low	Negligible	None	No/limited physical impacts likely due to Scheme works adjacent to A3 at Wisley Common; no	Neutral	None

Site Reference Number	Site Name	Value (per DMRB)	Construction Impact	Operation Impact	Impacted by/Nature of impact	Construction Effect	Operation Effect
					operational impacts anticipated due to either removal or avoidance of the asset.		
MSE14787	Enclosure bank, Red Hill, Wisley	Low	Negligible	None	No/limited physical impacts likely due to A3 widening between Ockham and Painshill; no operational impacts anticipated due to either removal or avoidance of the asset.	Neutral	None
MSE14789	Enclosure bank, Ockham Village Green	Low	Negligible	None	No/limited physical impacts likely due to Elm Lane access; no operational impacts anticipated due to either removal or avoidance of the asset.	Neutral	None
MSE14791	Road, Pointer's Road, Cobham and Ockham	Negligible	Minor Adverse	None	Permanent physical impacts during construction of Scheme elements; no operational impacts due to removal of the asset during construction.	Slight Adverse	None
MSE14795	Parish boundary bank, Ockham Heath	Low	Negligible	None	Permanent physical impacts during construction of Scheme elements; no operational impacts due to removal of the asset during construction.	Slight Adverse	None
MSE14796	Quarry pit, Chatley Wood Quarry, Cobham	Low	Minor adverse	None	Possible physical impacts during construction of Chatley Wood Common Land replacement; no operational impacts anticipated due to either removal or avoidance of the asset during construction.	Slight Adverse	None
MSE16852	Claygate to Guildford milestone	Low	Minor Adverse	None	Permanent removal or relocation of milestone due to construction Scheme requirements; no operational impacts due to removal of the asset during construction.	Slight adverse	None
MSE17075	Cropmarks	Low	Major Adverse	None	Permanent physical impacts during construction of Scheme works adjacent to Wisley; no operational impacts due to removal of the asset during construction.	Moderate Adverse	None

Site Reference Number	Site Name	Value (per DMRB)	Construction Impact	Operation Impact	Impacted by/Nature of impact	Construction Effect	Operation Effect
MSE17084	Cropmarks	Low	Minor Adverse	None	Possible permanent physical impacts during works associated with Chatley Wood Common Land replacement; no operational impacts due to either removal or avoidance of the asset during construction.	Slight Adverse	None
SMR4619	London to Winchester Roman Road	Medium	Minor Adverse	None	Possible permanent physical impacts during construction of Scheme and works associated with Pond Farm Common Land replacement; no operational impacts due to either removal or avoidance of the asset during construction.	Slight Adverse	None
MSE14785	Bank at Chatley Wood	Low	Minor Adverse	None	Possible permanent physical impacts during works associated with Chatley Wood Common Land replacement; no operational impacts due to either removal or avoidance of the asset during construction.	Neutral	None
	Ockham Park locally listed park & garden	Low	Negligible Adverse	Negligible Adverse	Temporary work adjacent to boundary of park at the junction of the A3 and Ockham Road North.	Slight Adverse	Slight Adverse

11.9 Design, mitigation and enhancement measures

11.9.1 The planning policies and guidance, as set out in section 11.3 above, require a mitigation response to potential impacts upon the historic environment in order to avoid, minimise or offset such impacts as appropriate. Further archaeological investigations to identify, evaluate and mitigate or offset impacts to the historic environment are specified in the Outline CEMP, compliance with which is a requirement of the DCO. The Outline CEMP will also describe measures to reduce or avoid impacts of construction activities on the settings of heritage assets, as outlined in Table 11.4.

11.9.2 Recommended post-consent and potential mitigation measures are as follows:

- A programme of archaeological investigation should be undertaken in areas affected by the Scheme where there is considered to be potential for significant archaeological remains to survive. The scope and extent of such investigations should be developed in consultation with the Surrey County Council's Archaeological Officer and subject to a Written Scheme of Investigation for their approval. This work will comprise geophysical survey in the first instance and may further include evaluation trenching, and area excavation;
- Where archaeological sites are identified through non-intrusive and intrusive investigations, further work should be agreed in consultation with Historic England and Surrey County Council's Archaeological Officer to develop appropriate mitigation measures to offset the impact the Scheme will have on these assets;
- Construction areas, including all compounds and temporary routes, should erect protective fencing prior to site works in order to bar incursion into the Scheduled Bell barrow on Cockcrow Hill (1012204) enabling continued protection during construction; and
- Design mitigation for noise and landscape/visual impacts (see Chapters 6 and 9 respectively) provide additional mitigation for impacts to the settings of heritage assets. These include road surface materials and noise barriers to keep noise levels at or near current levels during Scheme operation, as well as landscape planting to restore the landscape screening impacted during construction activities.

11.10 Assessment of likely significant effects

Likely Significant effects

11.10.1 The significant resultant effects on identified heritage assets as a result of the construction and operation phases of the Scheme are considered below.

Construction

11.10.2 There are 27 heritage assets identified within the study area that would be affected in some way by the construction phase of the Scheme. Of these effects, five are neutral and 14 are considered minor. These are not considered to be significant in terms of DMRB methodology.

- 11.10.3 There would be nine heritage assets that would have moderate adverse effects, which relate to temporary setting impacts and permanent physical impacts on high and medium value assets. In addition, there would be one large adverse effect upon an asset of high value, due to permanent physical and temporary setting impacts. These are significant in terms of the DMRB methodology.
- 11.10.4 The significant construction effects relate to the following assets:
- 1012204: Bell barrow on Cockcrow Hill (Scheduled Monument), large adverse effect;
 - 1007905: Red Hill hengi-form Scheduled Monument (Scheduled Monument), moderate adverse effect;
 - 1000125: Painshill Park (Grade I Registered Park and Garden), moderate adverse effect;
 - 1000126: RHS Gardens, Wisley (Grade II* Registered Park and Garden), moderate adverse effect;
 - 1191694; Gothic tower (Grade II* listed building), moderate adverse effect;
 - 1030053: Foxwarren Cottage (Grade II Listed Building), moderate adverse effect;
 - MSE3464: Parish boundary stone, between Ockham and Wisley, moderate adverse effect;
 - MSE14771; Pond site, Culverlake, Ockham, moderate adverse effect; and
 - MSE17075: Cropmarks, moderate adverse effect.
- 11.10.5 The construction related impacts include the removal of archaeological remains associated with the medieval pond site at Culverlake (MSE14771) and the cropmarks at MSE17075. Construction impacts on the remaining assets would involve temporary setting impacts from noise and visual intrusion at a level would be sufficient to distract from the settings of these assets in a manner to affect the contribution of setting to significance.

Operation

- 11.10.6 There are seven heritage assets identified within the study area that would be affected by the operation phase of the Scheme. One heritage asset, the Bell Barrow on Cockcrow Hill Scheduled Monument (1012204), would be subject to moderate adverse effects due to operation of the Scheme. This is due to permanent changes to the setting of the Bronze Age monument. The increased proximity of the junction to the barrow, with the expected increase in traffic and noise, would further erode the ability of the setting to reflect the significance of the barrow as part of a prehistoric funerary landscape. This is the only significant effect on a heritage asset from the operation of the Scheme.
- 11.10.7 A Statement of Significance of the Painshill Park Grade I Registered Park and Garden, which provided an analysis of the park's value, including its setting, was completed to support this ES (see Appendix 11.3). This assessment identified the key values of the Registered Park and Garden, which reflects its significance as an example of an early and prominent example of the Picturesque style of landscape design including the Grade II* listed Gothic Tower (discussed below),

as well as the significance of the later Grade II* listed house and its associated group of assets.

- 11.10.8 The Scheme is located on the northern boundary of the RPG and away from the core of the park, defined by the artificial serpentine lake fed by the River Mole, with its islands connected by bridges (including the Grade II listed Chinese Bridge [1030127] the Woollett Bridge, and the Five Arch Bridge) and incorporating the Grade II listed remains of the Grotto and Rockwork Bridge on Grotto Island [1286954]). This part of the park is shielded from the sight and noise of the A3 by means of topography and landscaping. Views of the main features of the park are glimpsed in controlled ways, pursuant to the original design of the park, with many of the original follies having been re-created or restored.
- 11.10.9 The Scheme would have temporary impacts during construction to the northern edge of the Registered Park and Garden (RPG), with an increase in noise and vehicle access which would distract visitors from appreciating the parkland setting of the RPG and its constituent feature due to occasional prominence of construction activities within the park. However, these impacts would be temporary in terms of both the prominence of intrusion as well as the duration of construction activities.
- 11.10.10 The Scheme would introduce only minor changes to the values of the RPG, with only slightly changed visual impacts and negligible changes in noise levels once the Scheme is operational and landscaping along the A3 is implemented (see Chapters 6 and 9). There would be no impacts on the core components of the park, nor would it prevent the appreciation of the park's designed landscape, its historic significance or its associations with the 18th century 'Picturesque' landscape movement. All historic connections and designed views within the park would be retained, allowing the park to continue to be experienced as it was originally intended. As per the methodology described in Table 11.3, this constitutes a negligible impact, and therefore slight adverse effect on the asset, which is not considered to be significant.
- 11.10.11 The only heritage asset within the RPG to be impacted by the construction and operation of the Scheme is the Grade II* listed Gothic Tower (1191694). This building is further considered within the Statement of Significance for the Painshill Park RPG. Originally a prominent feature in the views from the core of the park around the lake and designed to rise above the tree line from the core of the park (as described above), the tower is now largely hidden from most of the park by trees that are considerably taller than in the 18th century. Closer to the tower, the setting is dominated by a large electricity pylon, shown on maps from the 1950s onwards.
- 11.10.12 The original design of the park placed the tower where it had a prominent view from the parkland and offered wide views of the surrounding countryside on all sides from its rooftop battlements. Its close setting at ground level would have been enclosed, with tree growth creating a dark, sombre character. The current vegetation overgrowth to an extent preserves this enclosed character at ground level. There were two paths leading from the core of the garden along which there were key views of the tower from the south and south east. However, tree growth and the pylons impede views along both of these approaches. From the rooftop battlements the tall trees partly restrict the historically more extensive views, although those to the south and north east still partly survive.

- 11.10.13 In addition to the changes to the visual setting of the tower through vegetation overgrowth and construction of the electricity pylons, the presence of the A3 is more noticeable from the tower than anywhere else in the park. As such, the setting both at ground level and at high level has been significantly compromised and now only contributes partly to the significance of the tower, and the Scheme would have only a minor impact on the remaining aspects of the tower's setting, which forms part of the tower's significance. Because views to and from the Tower are part of the significance of its setting, and the Scheme would open these views through vegetation thinning and the construction of the non-motorised users (NMU) path, the result would be a return towards the original, more open, setting of the Tower, which could be seen as being beneficial. However, as this would also result in additional modern intrusions into the setting through a heightened awareness of the A3, the impact cannot be considered fully beneficial. As such, professional judgement has led to the conclusion that the impact would result in a slight adverse effect for Scheme operation, which is minor considered to be significant.
- 11.10.14 A Statement of Significance was also prepared for the RHS Wisley Grade II* Registered Park and Garden to identify the key aspects of the garden's significance and setting (Appendix 11.3). The significance of Wisley is in its cohesive garden designs, the scientific focus of the work done at the gardens, its role as a trial garden and its association with the Royal Horticultural Society. The operation of the Scheme would not affect any of the key aspects of these values and would only affect the very edge of the garden on the fringes of Battleston Hill and would therefore have only a negligible impact on the asset through a possible increase in noise levels from traffic. This would result in a slight adverse effect, which is not considered to be significant.

Residual effects

- 11.10.15 Residual effects have been defined as those environmental effects predicted to remain after the implementation of mitigation. Significant residual effects are those that have an irreversible effect and that would not have been completely mitigated by the Scheme and the proposed mitigation. Further assessment may be necessary during the detailed design phase, the procedures for which will be outlined in the Outline CEMP. Residual effects are reliant on adherence to all conditions of the final CEMP which is secured by Requirement 3 of the DCO.
- 11.10.16 In relation to this Scheme and the construction impacts outlined in Table 11.4, where buried archaeological remains are directly affected by construction, and have subsequently been excavated and recorded, there should be no residual effects as the impacted portions of the assets will be completely removed and recorded during the archaeological mitigation fieldwork.
- 11.10.17 The operation of the Scheme would have reduced significant residual effects on heritage assets or their settings when compared to effects caused by the construction phase, with landscape mitigation screening disruptive views and noise mitigation reducing auditory effects. Chapters 6 (Noise and Vibration) and 9 (Landscape) of this the Environmental Statement detail the effects of the Scheme and the proposed design and mitigation measures to limit these effects.
- 11.10.18 When considered in light of standard mitigation proposed in section 11.9, residual effects have been identified on seven heritage assets, none of which are significant (Table 11.5).

Table 11.5: Residual effects

Site Reference Number	Site Name	Operation Impact	Mitigation Proposed	Residual Impact after mitigation	Residual Effect
1012204	Bell barrow on Cockcrow Hill (Scheduled Monument)	Large Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Minor Adverse	Slight Adverse
1012205	Bowl barrow west of Cockcrow Hill (Scheduled Monument)	Slight Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Minor Adverse	Slight Adverse
1007905	Red Hill hengi-form scheduled monument (Scheduled Monument)	Minor Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Minor Adverse	Slight Adverse
1000125	Painshill Park (Grade I Registered Park and Garden)	Minor Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Negligible adverse	Slight Adverse
1000126	RHS Gardens, Wisley (Grade II* Registered Park and Garden)	Negligible Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Negligible Adverse	Slight Adverse
1191694	Gothic Tower (Grade II* Listed Building)	Moderate Adverse	Landscaping and noise mitigation to prevent increases in noise levels and reduce visual impacts.	Negligible Adverse	Slight Adverse
1030053	Foxwarren Cottage (Grade II Listed Building)	Minor Adverse	Landscaping and noise mitigation to prevent increases in noise levels and screen visual intrusion.	Negligible Adverse	Slight Adverse

11.11 Cumulative effects

- 11.11.1 The cumulative effects are those that result from the additive impacts of both the Scheme's components, and past, present or future developments within the surrounding area. These effects are considered both during the construction and operation stages.
- 11.11.2 The following developments have been identified within the study area and are considered as part of the cumulative assessment.

Table 11.6: Cumulative effects

Other Schemes	Cumulative impact on assets affected by Scheme	Additional significant construction effects	Additional significant operation effects
M25 junction 10 - 16 Smart Motorway Programme (SMP) - M25 junction 10 to junction 16 includes upgrading the M25 between junction 10 (A3) and junction 16 (M40) through a mixture of enhancements, including hard shoulder running between junctions 15 and 16, as well as four-lane through-junction running between junction 10 and junction 12	None anticipated. Work will be within the existing motorway footprint and have limited potential to impact known heritage assets, either directly or indirectly. Gantry locations can be microsituated to have minimal impact.	None anticipated	None anticipated
Land to the East of South Cottage, White Horse Lane, Ripley, GU23 6BB (Planning ref. 16/P/00608, refused on 22 June 2016 and appeal allowed subject to conditions 23 Aug 2017)	The Scheme would not impact the heritage assets identified in the 16/P/00608 application; no cumulative impacts are anticipated.	None anticipated	None anticipated
RHS Gardens, Wisley Lane, Wisley, Woking, GU23 6QS (Planning ref. 16/P/01080, granted 30 September 2016)	The Scheme would have a minor adverse effect on the Grade II* Listed RPG at Wisley, though no direct impact on associated Listed Buildings will occur. Application 16/P/01080 was approved on the benefit of the proposal to the Listed Buildings within the RPG outweighing the harm to historic ancillary buildings. The Scheme's improvements at RHS Wisley combine with the 16/P/01080 proposal to improve access to RHS Wisley, and will support the beneficial impacts of increasing access to RHS Wisley, where public access and education are key contributors to the asset's significance.	None anticipated	None anticipated

Other Schemes	Cumulative impact on assets affected by Scheme	Additional significant construction effects	Additional significant operation effects
RHS Gardens, Wisley Lane, Wisley, Woking, GU23 6QS (Planning ref. 16/P/00976, granted 30 September 2016)	The Scheme would have a minor adverse effect on the RHS Wisley RPG. Historic England comment on proposal 16/P/00976 identified only minimal impact on the formal gardens. No cumulative impact is anticipated, due to the minor nature of both impacts.	None anticipated	None anticipated
Former San Domenico Restaurant (Planning Ref. 2017/0524) (validated 21st March 2017)	The Scheme may impact the purported route of the London - Winchester Roman Road, which also intersects with the location of the proposed development of application 2017/0524. Both the Scheme and the application include requirements for archaeological evaluation and mitigation, and the extent of the overall Roman Road would be only slightly diminished if both the Scheme and the proposal were to require complete removal of archaeological remains. No cumulative impacts are anticipated.	None anticipated	None anticipated
Painshill Farm, Portsmouth Road, Cobham Surrey KT11 1DN (Planning Ref. 2016/4204) (validated 27th February 2017)	No cumulative impacts anticipated, as the proposed development does not impact any heritage assets.	None anticipated	None anticipated

11.12 NPSNN compliance

11.12.1 Sections 5.126 and 5.127 of the NPSNN state the following:

- 5.1.26 'Where the development is subject to EIA the applicant should undertake an assessment of any likely significant heritage impacts of the proposed project as part of the EIA and describe these in the Environmental Statement.'
- 5.1.27 'The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, field evaluation.'

- 11.12.2 A combination of the PEIR and this ES chapter in conjunction with the archaeological desk-based assessment (Appendix 11.2) and Statements of Significance (Appendix 11.3) provide an opportunity for the decision maker {Secretary of State} to assess impacts in the required manner, complying with the NPSNN.

11.13 Monitoring

- 11.13.1 Monitoring activities may include review of the establishment of landscaping and noise mitigation design address the Scheme's impact on built heritage and historic landscape assets. The Outline CEMP will outline these measures. Impacts to archaeological remains are dependent on additional survey and evaluation activities. Archaeological Watching Briefs will be recommended through the measures outlined in the CEMP to identify where monitoring would be required. The Outline CEMP sets out these measures.

11.14 Summary

- 11.14.1 This chapter has shown that there is potential for adverse effects on designated and non-designated heritage assets within the Scheme boundary and study area. These effects include a total of nine heritage assets that are likely to be subject to significant effects during construction, comprising one large adverse effect to one heritage asset and moderate adverse effects to eight heritage assets. One significant effect, a large adverse effect on the Bell Barrow on Cockcrow Hill Scheduled Monument has been identified during operation. With mitigation, this effect can be reduced to a slight adverse effect, which is not significant. With mitigation, the moderate adverse effect on the Gothic Tower can be reduced to a residual slight adverse effect, which would not be significant.

11.15 References

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