

M5 Junction 10 Improvements Scheme

Environmental Statement Chapter 11: Cultural Heritage TR010063 – APP 6.9

Regulation 5(2)(a)

Planning Act 2008

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

Volume 6
December 2023

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Infrastructure Planning Planning Act 2008

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

M5 Junction 10 Improvements Scheme Development Consent Order 202[x]

6.9 Environmental Statement: Chapter 11: Cultural Heritage

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010063
Application Document Reference	TR010063/APP/6.9
Author:	M5 Junction 10 Improvements Scheme Project Team

Version	Date	Status of Version
Rev 0	December 2023	DCO Application

Contents

Chapter	Page
Document accessibility	5
11. Cultural Heritage	6
11.1. Introduction	6
11.2. Competent expert evidence	6
11.3. Planning policy and legislative context	6
11.4. Standards and guidance	14
11.5. Methodology	14
11.6. Consultation	19
11.7. Baseline conditions	19
11.8. Archaeological and historic background	21
11.9. Geophysical survey and trial trenching	25
11.10. Sensitivity (value) of heritage assets and their settings	26
11.11. Potential impacts	27
11.12. Mitigation measures	28
11.13. Residual impacts	31
11.14. Significant effects	31
11.15. Cumulative effects	32
11.16. Assumptions and limitations	35
11.17. Chapter summary	36
Appendix 11.1 – Gazetteer	38
Appendix 11.2 – Figures	39
Appendix 11.3 – Geophysical survey	40
Appendix 11.4 – Evaluation trenching report	41
Tables	
Table 11-1 - Legislation and planning policies	6
Table 11-2 - Factors in determining the value (sensitivity) of heritage assets (based on DMRB Table 3.2N)	16
Table 11-3 - Determining the magnitude of impact on heritage assets (DMRB Table 3.4N)	17
Table 11-4 - Significance of effect matrix (DMRB Table 3.8.1)	19
Table 11-5 - Significance of effect on cultural heritage	32

Document accessibility

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11. Cultural Heritage

11.1. Introduction

- 11.1.1. This chapter presents the findings of the environmental assessments of the M5 Junction 10 Improvements Scheme (“the Scheme”) for Cultural Heritage based on the Scheme as it is described in Chapter 2 – The Scheme (application document TR010063 – APP 6.2). This chapter sets out the standards and methodologies that have been used to carry out the assessment of Cultural Heritage for the Environmental Statement. This chapter provides an overview of the known historic environment baseline and an assessment of the impacts of the Scheme.
- 11.1.2. A number of designated and non-designated heritage assets have been identified within the study area, with the potential for direct and indirect adverse impacts cause by the construction and operation of the Scheme. These impacts have been mitigated through embedded design, removing the elements causing the adverse impact from the Scheme design, as well as through embedded design for the minimisation of visual, noise, and pollution impacts that have the added value of preserving the setting of heritage assets. Additional mitigation has been recommended to preserve the significance of archaeological remains through excavation and recording.

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 Heritage Consultant, Associate member of the Chartered Institute for Archaeology, with 11 years of experience in archaeology and archaeological consultancy, and
 - A Principal Heritage Consultant, Member of the Chartered Institute for Archaeology, with 23 years of experience in archaeology and archaeological consultancy.

11.3. Planning policy and legislative context

- 11.3.1. Specific cultural heritage features have statutory protection, provided under multiple parliamentary Acts. Specific policy regarding the historic environment is also contained within both national and local planning policy, as well as the NPS NN. It should be noted that the details presented in this section are not intended to provide a full consideration of the relevant documents and their application to the Scheme. This information is provided within the Planning Statement and Schedule of Accordance with National Policy Statement (application document TR010063 – APP 7.1) that accompanies the application for a DCO.
- 11.3.2. The legislative and policy framework for this assessment is presented in Table 11-1 below.

Table 11-1 - Legislation and planning policies

Legislation/ policy	Summary of requirements
	National
Ancient Monuments and Archaeological Areas Act (1979)	The Act provides protection to Scheduled Monuments as well as other archaeological remains (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: ‘(a) any building, structure or work, whether above or below the surface of the land, and any cave or excavation;

Legislation/ policy	Summary of requirements
	<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>
<p>Planning (Listed Buildings and Conservation Areas) Act 1990</p>	<p>The Planning (Listed Buildings and Conservation Areas) Act 1990 identifies the special controls applicable to the identification, designation, and modifications to listed buildings and conservation areas. It establishes a national heritage list and outlines the conditions for consent to amend properties on the list. It also outlines the duties of planning authorities with regard to the identification, development, and control of conservation areas.</p> <p>Provides protection to Listed Buildings and Conservation Areas of ‘special architectural or historic interest’. Section 66 of the Act states that ‘In considering whether to grant permission or permission in principle 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 or any features of special architectural or historic interest which it possesses’.</p> <p>Section 72 of the Act also addresses Conservation Areas, which decision makers must pay special attention to the desirability of preserving or enhancing the[ir] character or appearance.</p>
<p>National Policy Statement for National Networks (NPS NN)</p>	<p>Under the 2008 Planning Act, covering Nationally Significant Infrastructure Projects (NSIP), policy with regard to assessment of the historic environment effects of nationally significant transport infrastructure is laid out in the NPS NN. NPS NN 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 NPS NN, as well as paragraph 014 (Reference ID: 18a-014-20140306) of the National Planning Policy Guidance (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> <p>Historic Environment Policy is laid out in paragraphs 5.120 to 5.142 of the NPS NN. The key aspects which should be addressed are as follows:</p> <p>5.127 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’s 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 a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the</p>

Legislation/ policy	Summary of requirements
	<p>applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.</p> <p>5.129 In considering the impact of a proposed development on any heritage assets, the Secretary of State should take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.</p> <p>5.130 The Secretary of State should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example, screen planting).</p> <p>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. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, 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 a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional.</p> <p>5.132 Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.</p> <p>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 that outweigh that loss or harm, or alternatively that all of the following apply:</p> <ul style="list-style-type: none"> • the nature of the heritage asset prevents all reasonable uses of the site; and • no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and • conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and • the harm or loss is outweighed by the benefit of bringing the site back into use.

Legislation/ policy	Summary of requirements
	<p>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.</p> <p>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.</p> <p>5.136 Where the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development and the significance of the asset in question, the Secretary of State should consider imposing a requirement that the applicant will prevent the loss occurring until the relevant development or part of development has commenced.</p> <p>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. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.</p> <p>5.138 Where there is evidence of deliberate neglect of or damage to a heritage asset the Secretary of State should not take its deteriorated state into account in any decision.</p> <p>5.139 A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.</p> <p>5.140 Where the loss of the whole or part of a heritage asset's significance is justified, the Secretary of State should require the applicant to record and advance understanding of the significance of the heritage asset before it is lost (wholly or in part). The extent of the requirement should be proportionate to the importance and the impact. Applicants should be required to deposit copies of the reports with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.</p> <p>5.141 The Secretary of State may add requirements to the development consent order to ensure that this is undertaken in a timely manner in accordance with a written scheme of investigation that meets the requirements of this section and has been agreed in writing with the relevant Local Authority (or, where the development is in English waters, with the Marine Management Organisation and English Heritage) and that the completion of the exercise is properly secured.</p> <p>5.142 Where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the Secretary of State should consider requirements to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction.</p>

Legislation/ policy	Summary of requirements
National Planning Policy Framework (NPPF)	<p>The NPPF (2021) 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 189).</p> <p>The following paragraphs are of particular relevance to this chapter:</p> <p>Paragraph 194: 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 (HER) 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.’</p> <p>Paragraph 197: ‘In determining planning applications, local planning authorities should take account of:</p> <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.’ <p>Paragraph 199: ‘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 irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance’</p> <p>Paragraph 200: Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification. Substantial harm to or loss of:</p> <ul style="list-style-type: none"> a) Grade II Listed Buildings or grade II registered park or garden should be exceptional; and 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 68: ‘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> <p>Paragraph 201: ‘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:</p> <ul style="list-style-type: none"> a) the nature of the heritage asset prevents all reasonable uses of the site; and

Legislation/ policy	Summary of requirements
	<p>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</p> <p>c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and</p> <p>d) the harm or loss is outweighed by the benefit of bringing the site back into use.'</p> <p>Paragraph 202: '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.'</p> <p>Paragraph 203: '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.'</p> <p>Paragraph 204: '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.'</p> <p>Paragraph 205: 'Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets 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.'</p>
National Planning Policy Guidance (NPPG)	<p>The Ministry of Housing, Communities and Local Government (MHCLG) published NPPG online in 2014, to expand upon the NPPF and has made continuous updates since its original publication.</p> <p>'18a: Conserving and Enhancing the Historic Environment' was published in April 2014 and updated in July 2019 as "The Historic Environment". The Guidance notes that 'conservation is an active process of maintenance and managing change. It requires a 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> <p>'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 paragraph 041, citing National Planning Policy 'Framework Paragraph 139), and</p> <p>'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 Paragraph 041).</p> <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.' (NPPG Paragraph 018)</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</p>

Legislation/ policy	Summary of requirements
	<p>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.’ (NPPG Paragraph 018)</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.’ (NPPG Paragraph 020).</p>
	<p>Local</p>
<p>The Joint Core Strategy for Gloucester, Cheltenham, and Tewkesbury (2017)</p>	<p>Policy SD8 “Historic Environment”</p> <ol style="list-style-type: none"> 1.The built, natural, and cultural heritage of Gloucester City, Cheltenham town, Tewkesbury town, smaller historic settlements and the wider countryside will continue to be valued and promoted for their important contribution to local identity, quality of life and the economy. 2.Development should make a positive contribution to local character and distinctiveness, having regard to valued and distinctive elements of the historic environment. 3.Designated and undesignated heritage assets and their settings will be conserved and enhanced as appropriate to their significance, and for their important contribution to local character, distinctiveness, and sense of place. Consideration will also be given to the contribution made by heritage assets to supporting sustainable communities and the local economy. Development should aim to sustain and enhance the significance of heritage assets and put them to viable uses consistent with their conservation whilst improving accessibility where appropriate. 4.Proposals that will secure the future conservation and maintenance of heritage assets and their settings that are at risk through neglect, decay or other threats will be encouraged. Proposals that will bring vacant or derelict heritage assets back into appropriate use will also be encouraged. 5.Development proposals at Strategic Allocations must have regard to the findings and recommendations of the JCS Historic Environment Assessment (or any subsequent revision) demonstrating that the potential impacts on heritage assets and appropriate mitigation measures have been addressed.

Legislation/ policy	Summary of requirements
<p>The Cheltenham Plan (2020) policies</p>	<p>HE1: Buildings of Local Importance and Non-designated Heritage Assets Planning permission will only be granted where it would involve the demolition of, or substantial alteration to, the external appearance of:</p> <ul style="list-style-type: none"> a) any building designated as being of local importance on the Local List; and b) any non-designated heritage assets. <p>When it can be demonstrated that:</p> <ul style="list-style-type: none"> a) all reasonable steps have been taken to retain the building, including examination of alternative uses compatible with its local importance; b) retention of the building, even with alterations, would be demonstrably impracticable; and c) the public benefits of the redevelopment scheme outweigh the retention of the building. <p>Development proposals that would affect a locally important or non-designated heritage asset, including its setting, will be required to have regard to the scale of any harm or loss to the significance of the heritage asset.</p> <p>HE2: National and Local Archaeological Remains of Importance There will be a presumption in favour of the physical preservation in situ of nationally important archaeological remains and their settings. Development affecting sites of local archaeological importance will be permitted where the remains are preserved (Note 1):</p> <ul style="list-style-type: none"> a) in situ; or b) by record, if preservation in situ is not feasible. Where remains are to be preserved in situ, measures adequate to ensure their protection during construction works will be required.
<p>The Tewkesbury Borough Plan 2011-2031 (adopted 2022)</p>	<p>Policy HER1 Conservation Areas: Proposals for development in or within the setting of conservation area will need to have particular regard to the potential impact on its character and setting. New development will be expected to preserve or enhance the character and appearance of conservation areas through high quality design and use of appropriate materials.</p> <p>Policy HER4 Archaeological Sites and Scheduled Monuments: Scheduled Monuments and sites of national archaeological importance will be preserved in situ. Development which would lead to substantial harm or loss of these sites and their setting should be wholly exceptional and will not normally be permitted. Where development will cause harm or loss, as identified after an appropriate assessment and evaluation, provision should be made for excavation and recording with the appropriate publication and curation of the archive.</p> <p>Policy HER5 Non-Designated Heritage Assets: Non-Designated Heritage Assets will be conserved having regard to the significance of the asset and its contribution to the historic character of the area. Proposals affecting a Non-Designated Heritage Asset and/or its setting will be expected to sustain or enhance the character, appearance and significance of the asset.</p>

Legislation/ policy	Summary of requirements
	<p>Proposals that seek the preservation and/or enhancement of these assets will be encouraged.</p> <p>Historically important groups of farm buildings will be protected from proposals for destructive development or demolition.</p>

11.4. Standards and guidance

11.4.1. Historic England has produced guidance documents for the treatment of the historic environment, which have been consulted in the development of this assessment. These include:

- Advice Notes on ‘Historic Environment Good Practice in Planning’ *Note 1: The Historic Environment in Local Plans (2015a)*.
- Advice Notes on ‘Historic Environment Good Practice in Planning’ *Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015b)*.
- Advice Notes on ‘Historic Environment Good Practice in Planning’ *Note 3: The Setting of Heritage Assets 2nd Edition (2017)*.
- Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (2008a).
- Preserving Archaeological Remains: Decision-taking for Sites under Development (2016).
- Geophysical Survey in Archaeological Field Evaluation (2008b).

11.4.2. In addition to guidance provided by Historic England, the Chartered Institute for Archaeologists (CIfA), the professional body for archaeologists in the UK, has produced standards and guidance that comprise best practice for the profession. The following guidelines have been considered in this assessment:

- *Standard and Guidance for Historic Environment Desk-based Assessment (2020)*.
- *Standard and Guidance for Geophysical Survey (2020)*.
- *Standard and Guidance for Archaeological Field Evaluation (2020)*.

11.4.3. The National Highways Design Manual for Roads and Bridges (DMRB) documents LA 104 and LA 106 have also been used in the assessment of cultural heritage.

- LA 104, Introduction to environmental assessment, sets out the requirements for environmental assessment of projects, including reporting and monitoring of significant adverse environmental effects.
- LA 106 Cultural Heritage, sets out the requirements for assessing and reporting the effects on cultural heritage as part of the environmental assessment process of construction, operation and maintenance projects.

11.5. Methodology

Study area

11.5.1. The study area for assessing the impacts to the historic environment was developed in the initial stages of the Scheme and is described below. To capture the potential indirect impacts on high-value assets through changes in setting, the study area for designated assets is wider than that for non-designated assets, as follows:

- The DCO boundary plus a 500m buffer for non-designated heritage assets, to identify impacts and characterise the historic environment to aid in the evaluation of significance and develop appropriate evaluation and mitigation measures; and

- The option alignments plus a 1 km buffer for designated heritage assets¹ to also incorporate possible indirect impacts such as those on setting and landscape.

11.5.2. The study areas defined for the landscape and visual impact assessment (LVIA) and the Air Quality and Noise assessments were also considered to determine if areas impacted by changes in these topics identified the need for expanding the cultural heritage study area.

11.5.3. The study area was established by professional judgement and relevant guidance, in particular guidance recommended by the DMRB LA 106 Cultural Heritage.

Assessment methodology

11.5.4. The methodology for assessing impacts and effects of the Scheme on the cultural heritage follows the methodology outlined in the DMRB LA 104 for the assessment of environmental impacts. Within the DMRB LA 104, guidance is provided on the assessment of the value (sensitivity) of receptors, as well as the assessments of magnitude of impact and determination of significance of effect.

11.5.5. The treatment of cultural heritage is further discussed in DMRB LA 106 Cultural heritage assessment² (DMRB LA 106), which outlines the methodology specific to heritage. Following Section 3 of DMRB LA 104, professional judgement has been used to identify the sensitivity and level of impact on heritage assets.

11.5.6. This assessment approach is also informed by the policy requirements within Section 16 Conserving and enhancing the historic environment of the NPPF, and within the relevant local planning policies. As the Scheme is a nationally significant transport infrastructure project, historic environment policy laid out within the NPS NN are also considered. This assessment reflects guidance for assessing impacts on the setting of heritage assets contained in Historic England's Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets³.

11.5.7. The assessment of the historic environment for the Scheme has been informed by desk-based research as well as non-intrusive geophysical survey and intrusive archaeological evaluation trenching. The findings of each of these activities is presented in the sections below covering baseline conditions and the archaeological and historic background. The results of desk-based and field-based studies are combined to provide a comprehensive understanding of the historic environment for assessment of sensitivity (value) and evaluation of potential impacts.

11.5.8. The first step in environmental assessment is understanding the value or sensitivity of environmental receptors. For cultural heritage, the receptors are defined as heritage assets⁴. The sensitivity (value) of a heritage asset is defined by its heritage interest and its scale of importance at a local, regional, national or international level. The guidance provided by DMRB LA 104 lays out the requirements for assessment and is described in Table 11-2. The examples for cultural heritage used herein are provided as well, based on industry standards and professional judgement. Now-withdrawn guidance from earlier versions of the DMRB (HA208/07) have been incorporated into the assessment tables below to clarify how the factors may be expressed through the historic environment. The applicability of the guidance provided in HA208/07 has long made it a standard for assessing value and significance in the historic environment, including outside the realm of highways schemes. As such, some of the detail of the methodologies in HA208/07 have been used to provide exemplars to assist in the understanding of how the LA104 guidance has been applied to the assessment of Cultural Heritage. These provide additional detail and guidance on how both value (sensitivity) and impact are applied to specific types of assets and are provided to help the non-professional understand the factors that contribute to the professional assessments.

¹ Includes listed buildings, scheduled monuments, registered parks and gardens, registered battlefields, conservation areas, and World Heritage Sites.

² Design Manual for Roads and Bridges, LA 106 Cultural heritage assessment, Highways England, January 2020

³ Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets, Historic England, March 2015

⁴ A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest (NPPF 2018 glossary).

11.5.9. It should be noted that while the Planning (Listed Building and Conservation Areas) Act (1990) offers national protection for the buildings on the National Heritage List for England, it does not require these buildings to be of national significance. The significance of buildings on the list are related to their special historic or architectural interest and range from nationally significant structures to those of local importance or defining local character.⁵ Grade I buildings are of exceptional special interest; Grade II* buildings are particularly important buildings of more than special interest; Grade II buildings are of special interest (DDCMS, 2018: 4). The assessment of an asset's sensitivity in terms of local, regional, or national interest is based on professional judgement and best practice. Examples are provided in Table 11-2 below.

Table 11-2 - Factors in determining the value (sensitivity) of heritage assets (based on DMRB Table 3.2N)

Value (sensitivity)	Description (DMRB LA 104)	Example
Very high	Very high importance and rarity, international scale and very limited potential for substitution.	World Heritage Sites or internationally significant heritage assets.
High	High importance and rarity, national scale, and limited potential for substitution.	Nationally important heritage assets generally recognised through designation as being of exceptional interest and value. 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 notable concentrations of heritage assets, Grade II buildings of exceptional interest and non-designated assets of national or international importance. Historic landscapes of national importance and / or rarity.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.	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 non-designated assets of regional or national importance. Historic landscapes of national or regional importance.
Low	Low or medium importance and rarity, local scale.	Assets that are of interest primarily due to their contribution to the local historic environment. Non-designated heritage assets such as locally listed Buildings, non-designated archaeological sites, non-designated historic parks, and gardens etc. Historic landscapes of local importance Can also include degraded designated assets that no longer warrant designation.

⁵ DCMS, 2008. *Principles of Selection for Listed Building*. Department for Digital, Culture, Media, and Sport. [Microsoft Word - Revised Principles of Selection 2018 \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/281202/Principles_of_Selection_for_Listed_Building_2008.pdf)

Value (sensitivity)	Description (DMRB LA 104)	Example
Negligible	Very low importance and rarity, local scale.	Non-designated heritage assets with very limited or no historic interest. Can also include highly degraded designated assets that no longer warrant designation.

11.5.10. The criteria for judging the impacts of the Scheme upon the cultural heritage resource have been assessed using DMRB criteria shown in Table 11-3 below.

Table 11-3 - Determining the magnitude of impact on heritage assets (DMRB Table 3.4N)

Impact magnitude		Criteria (positive and negative)
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features, or elements. For example, this could include major changes that completely or partially remove or substantially alter elements that contribute to significance of the physical form; changes to the setting of an asset that would lead to substantial harm; or the unrecorded loss of archaeological interest.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality. For example, this could include: major changes that conserve or restore elements that contribute to significance; alterations to the setting of an asset that very substantially improve our appreciation of it and its significance; or changes in use that safeguard an asset e.g. by taking it off the At Risk register.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements. For example, this could include: physical alterations that remove or alter some elements of significance, but do not substantially alter the overall contribution to significance of the asset; notable alterations to the setting of an asset that affect our appreciation of it and its significance; or the unrecorded loss of archaeological interest.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality. For example, this could include: physical alterations that conserve or restore elements that contribute of significance; notable alterations to the setting of an asset that improve our appreciation of it and its significance; or changes in use that help safeguard an asset.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements. For example, this could include physical changes that alter some elements that contribute to significance but do not noticeably alter the overall significance of the asset and small-scale alterations to the setting of an asset that hardly affect its significance.

Impact magnitude		Criteria (positive and negative)
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring. For example, this could include: physical changes that reveal or conserve some elements which contribute to significance but do not noticeably alter the overall significance of the asset; or small-scale alterations to the setting of an asset that improve our appreciation of it.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements. For example, this could include very limited harm to an asset's significance as a result of physical changes or alterations to setting which would not materially affect our understanding or appreciation of it.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements. For example, this could include: physical changes that reveal or conserve elements that contribute to significance but do not noticeably alter the overall significance of the asset; and very small-scale alterations to the setting of an asset that improve our ability to appreciate it.
No change/ neutral		No loss or alteration of characteristics, features or elements; no observable impact in either direction. For examples, this would result in no appreciable change to elements that contribute to the significance of an asset.

11.5.11. As consistent with DMRB methodology and explained above, the significance of effect on the cultural heritage baseline is determined by consideration of a combination of the magnitude of the impact and the value of each asset with a level of professional judgement included in the determination. The magnitude of impact to a heritage asset is identified by the degree of change to the significance of the asset and its setting if a scheme were to be completed as compared with a 'do nothing' situation, taking into consideration embedded and additional mitigation measures.

11.5.12. The significance of effect is determined through the consideration of the value of the assets and the magnitude of the impact demonstrated in Table 11-4. Where the impact of magnitude falls into a category that includes two possible levels of effect, professional judgement will be used to determine the most appropriate level of significance of effect. The significance of effect is based on their materiality in the decision-making process, as follows (from DMRB Table 3.7):

- Very Large: Effects at this level are material in the decision-making process.
- Large: Effects at this level are likely to be material in the decision-making process.
- Moderate: Effects at this level can be considered to be material decision-making factors.
- Slight: Effects at this level are not material in the decision-making process, and
- Neutral: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Table 11-4 - Significance of effect matrix (DMRB Table 3.8.1)

Environmental value (sensitivity)	Magnitude of impact					
		No change	Negligible	Minor	Moderate	Major
Very high		Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
High		Neutral	Slight	Slight or Moderate	Moderate or Large	Very Large or Large
Medium		Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
Low		Neutral	Neutral or slight	Neutral or Slight	Moderate or Slight	Slight or Moderate
Negligible		Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

Limits of deviation

11.5.13. The assessment has been conducted within the Limits of Deviation (LoD) outlined within Chapter 2 - The Scheme (application document TR010063 – APP 6.2). The vertical and lateral LoD for the Scheme have been reviewed with respect to sensitive receptors identified within this ES chapter, and would not affect the conclusions of the assessment reported in this chapter.

11.6. Consultation

11.6.1. Consultation with the Gloucestershire County archaeological advisor has been ongoing, including the review of design options, written schemes of investigation and the results of geophysical survey and trial trenching. Evaluation trenching was monitored by the Gloucestershire County archaeological advisor and advice and information from the archaeological advisor have been incorporated into this assessment. To date, no concerns have been raised by the GCC Archaeologists. Volume 5 of the DCO application (application document TR010063 – APP 5.1) includes the records of consultation with relevant stakeholders.

11.6.2. Consultation is also underway with Historic England regarding the potential impacts on designated heritage assets, with particularly emphasis on the contributions of setting to the significance of the Scheduled Monuments and Listed Buildings within the study area. Statements of Common Ground (SOCG) have been prepared (application documents TR010063 – APP 8.1 and APP 8.5).

11.7. Baseline conditions

11.7.1. The following sources were consulted to establish a baseline for the historic environment:

- National Heritage List for England (NHLE).
- Gloucestershire Historic Environment Record (GHER).
- Know Your Place: West of England digital mapping⁶.
- Portable Antiquities Scheme (PAS)⁷.
- Gloucestershire Historic Landscape Characterisation (HLC) data⁸.

11.7.2. In addition to the desk-based searches to identify and evaluate the heritage baseline, a geophysical survey of the land proposed for the Link Road was conducted and the findings

⁶ Know Your Place (kypwest.org.uk). Digital mapping including 19th century tithe and enclosure maps and 1st-3rd edition OS maps.

⁷ www.finds.org.uk

⁸ Available on the Archaeology Data Service, Gloucestershire Historic Landscape Characterisation (HLC) including the Cotswolds and the Wye Valley Areas of Outstanding Natural Beauty: Introduction (archaeologydataservice.ac.uk)

incorporated herein⁹. To further assess and characterise and assess the below-ground archaeological remains identified during the desk-based studies and geophysical surveys, a programme of trial trenching was conducted along the length of the proposed Link Road. The results are presented in Appendix 11.3 and 11.4 (application document TR010063 - APP 6.15) and incorporated into this assessment. Site visits were undertaken to evaluate the settings of the known heritage assets.

- 11.7.3. The study area for the baseline has been defined to allow for the identification of both direct and indirect impacts of the Scheme on the historic environment. This includes not only the immediate footprint of the construction Scheme, but also wider areas. A 500m buffer around the Order limits has been used to characterise the archaeological evidence and aid in the assessment of the potential for as-yet unknown archaeological remains that may be impacted by the Scheme. A 1km buffer around the Order limits has been used to encompass potential impacts to settings of designated heritage assets. These study areas were chosen to allow for a proportionate characterisation of the known and potential for as-yet unknown archaeological remains, as well as to identify an area in which significant impacts to the settings of designated heritage assets would be identifiable.
- 11.7.4. A gazetteer of heritage assets with their locations shown against the Scheme is provided in Appendix 11.1 - Gazetteer and 11.2 - Figures (application document TR010063 - APP 6.15).

Designated heritage assets

- 11.7.5. A total of 31 designated heritage assets are recorded within the study area. These include one scheduled monument (Moat House Moated Site [1016835]), one Grade I listed building (the Church of St Mary Magdalene, Boddington [1172312]) and 29 Grade II listed buildings. As can be seen in the figures included in Appendix 11.2 (TR010063 - APP 6.15), these are scattered across the landscape within the study area. Some, such as those associated with churches, form tight groups that sit within a closed setting such as a churchyard and maintain a designed setting that protects the significance of the assets. Others, such as The Gloucester Old Spot (1340058) are significant in part due to their locations that relied on historic foot and coach traffic to survive. Many of the listed buildings within the study area are located on the edges of that study area, where the distance from the Scheme alongside existing vegetation and landscaping provides sufficient buffer from potential significant impacts.
- 11.7.6. Three groups of designated assets stand out as having the potential for being receptors affected by significant impacts from the Scheme:
- The Scheduled Monument (1016835) and four Grade II listed buildings (1091874, 1154528, 1303797, and 1340069) located at Moat House, c. 100 m south of the A4019 at Moat Lane.
 - Two Grade II listed buildings (1091875 and 1303770) c. 160 m north of the A4019 near the Uckington & Elmstone Hardwicke Village Hall.
 - Two Grade II listed buildings (1088722 and 1305182), c 200 m west of the new Link Road between the B4634 and the A4019 and associated with archaeological remains of Withybridge Mill (GHER 6474). An additional Grade II listed building, 1172272, is located nearby, but not associated with Withybridge Mill.

Non-designated heritage assets

- 11.7.7. The study area includes a variety of known archaeological remains relating to prehistoric and historic use of the region. Cropmarks recorded in the study area are suggestive of prehistoric settlement, and excavations at All Saints Academy, near the eastern end of the Scheme, confirmed activity dating to the middle Bronze Age. Unsurprisingly for the area around Cheltenham, Romano-British archaeological remains are found throughout the study area, including settlements and field systems. An area of cropmarks thought to relate to a later prehistoric or Romano-British field system (GHER 8637) is recorded in the field south of the A4019, within the boundaries of the Link Road to the B4634.

⁹ Beck, L and Ingénieur, JC, 2021. *Geophysical Survey Report of M5 J10, Tewkesbury, Gloucestershire*. Magnitude Surveys Ref MSS0739.

- 11.7.8. Early medieval remains have been identified through archaeological excavations near All Saints Academy. Cropmarks and earthworks of possible shrunken medieval settlements attest to later medieval settlement, along with the scheduled monument at Moat House, and other moated sites (not scheduled), in the study area. Structures and archaeological remains associated with medieval and post-medieval mills are recorded along the River Chelt. Post-medieval turnpikes and associated structures, as well as other built heritage assets, are seen throughout the study area. More recent heritage is seen in sites related to World War II defences of the area.
- 11.7.9. The underlying geology of the area includes Cheltenham Sand and Gravels, which is known to correlate with prehistoric and Romano-British settlement patterns. Geophysical survey conducted for this Scheme in 2020 by Magnitude Surveys identified a number of archaeological anomalies, with an extensive area of remains shown within the boundaries of GHER 8637. Initial interpretations suggested these are the remains of a late prehistoric or Romano-British settlement.
- 11.7.10. Evaluation trenching along the route of the Link Road confirmed the nature of these anomalies and identified additional non-designated heritage assets in the form of archaeological remains related to late prehistoric and Romano-British settlement (see Appendix 11.4 (application document TR010063 - APP 6.15)).

Historic landscape

- 11.7.11. The Gloucestershire Historic Landscape Characterisation (HLC) reports were consulted to further understand the nature and significance of the surrounding landscape. HLC attributes are not heritage assets; values are not assigned and impacts are not specified. This is because the historic landscape is the result of the entire history of any parcel of land and therefore reflect all periods and uses up until the present day.
- 11.7.12. HLC information can be used to identify contributions of setting to the significance of heritage assets, as well as assisting in the development of sympathetic development within the historic landscape. HLC data for the study area shows it to be predominantly enclosed fieldscapes. Most of the enclosed fieldscapes within the study area are the result of parliamentary type enclosures, with some being later reorganisations and enclosures created in the 20th century. Overall, the historic landscape character of the study area represents an active modern farming landscape, with traces of earlier boundaries dating from post-medieval periods. The exception is the area immediately surrounding the Moat House Scheduled Monument (101683) which retains the medieval moat that makes up the Scheduled Monument along with other landscape features likely associated with the medieval development and use of the site.

11.8. Archaeological and historic background

Prehistoric period (800,000 BC - AD 43)

The Palaeolithic period (800,000 – c. 12,000 BC)

- 11.8.1. This period was characterised by the development of stone tool technologies. It spans the end of the Pleistocene geological epoch and marks the emergence of modern humans from earlier hominid species by the Upper Palaeolithic period (c. 40,000 – c.10,000 BC.). By the end of the Palaeolithic, the ice retreated for the last time as the climate got warmer and drier, and woodlands expanded.
- 11.8.2. The landscape in general would have been unfavourable for people to live permanently due to its cold climate. However, during the short summers, it is possible that hunter gatherer communities crossed the land mass which connected Britain to continental Europe.
- 11.8.3. There is no known evidence of this period within the study area. It is likely that during this period the study area would have been associated with hunters-gatherers and thus settlements would have been temporary and seasonal in nature. It is thought that any archaeology dating to this period would likely be restricted to scattered flints associated to hunting activity.

Mesolithic period (c. 10,000 – c. 4,000 B.C)

- 11.8.4. The arrival of microlithic technologies marks this period, many of which were fixed onto spears and harpoons required for hunting. Mesolithic people followed a seasonal pattern of occupation depending on food source management. Activity would likely have been focused close to rivers for predictable resources sourced through hunting, gathering and fishing.
- 11.8.5. In a historic landscape characterisation study, GCC state that it is probable that Mesolithic hunter gathers were working the gravel terraces from as early as 9000BC. At this time, poor water-logged soils and thick woodland cover would have prohibited farming on a large scale and permanent settlement at this time would have been unlikely (Gloucester County Council 2006)¹⁰.
- 11.8.6. There has been identified linear, sub-circular and amorphous cropmarks from aerial photography and geophysical outside of the study area at Church Lane Farm (GHER 48030) which have plausible early prehistoric origins. However, no date has been confirmed and a Romano-British date is more plausible. There has been no other identifiable evidence of this period within the study area.

The Neolithic period (4,000 – c. 2,500 B.C)

- 11.8.7. The arrival of farming from continental Europe marks the beginning of the Neolithic period. This period witnessed extensive forest clearances to make way for crops and animal herds. The Early Neolithic is comparable to the Mesolithic in terms of stone tool technologies however, this period saw the development of monumental features including long barrows and causewayed enclosures. The Middle Neolithic is marked by the earliest evidence of stone circles and individual burials. However, the Late Neolithic period appears similar in elements to the Early Bronze Age with the widespread introduction of individual and satellite burials within round barrows, as well as the development of cursus monuments aligned on rivers, often associated with earlier barrows.
- 11.8.8. There is only one piece of known evidence from this time period within the wider landscape which is an axehead of Group XVI rock (GHER 5430). This suggests that there was some Neolithic activity in the area, but it was likely temporary in nature.

The Bronze Age (2,000 – 700 B.C)

- 11.8.9. The Bronze Age is characterised by the introduction of metal technologies. This period saw an increase in economic and cultural communications in mainland Europe giving rise to new burial rites, people, objects and technology. The climate began to deteriorate; where once the weather was warm and dry it became much wetter driving the population away from easily defended sites in the hills and into the fertile valleys. Ore sources, such as tin and copper, were both used as components for bronze smelting and thus became increasingly important as bronze gradually replaced stone as the main material for tools. The period sees the increase in visibility of settlement sites and associated field systems within the archaeological record across much of Britain.
- 11.8.10. There is no evidence of this period within the study area. However, Cotswolds Archaeology excavated a site at Kingsmead School/All Saints Academy which revealed pits that were suggestive of an early to middle Bronze Age date (GHER 38085). This date was later confirmed by pottery found within the features.

The Iron Age (c. 700BC – AD 43)

- 11.8.11. The Iron Age period is characterised by the adoption of iron working techniques which reached Britain from mainland Europe. Settlement areas and associated agricultural land division become more extensive. However, generally, people continued to live in small villages and farmsteads with communities run by an individual or small group. Due to the iron technology, tipped ploughs made farming more efficient and agricultural production increased. The Iron Age also saw the wider use and the further development of hillforts,

¹⁰ Gloucester County Council (2006) Gloucester Landscape Character Assessment. Available at: https://www.gloucestershire.gov.uk/media/6800/glca_report_severn___other_vales_text_2006-51673.pdf (Accessed 28 October 2021).

possibly for the defence of intermittently occupied settlement and storage areas. These began to be built in the late Bronze Age, around 1000 BC, but became much larger and more elaborate throughout the Iron Age.

- 11.8.12. Several sites that are suggestive of iron age occupation and even settlement in the area. Between October 2017 and January 2018, Cotswolds Archaeology conducted an archaeological evaluation at Elms Park (GHER 49804). At this site, features including enclosure ditches and domestic artefacts provide evidence of an extensive Iron Age settlement peaking in the 1st and 2nd centuries AD (Havard, 2018). A further area of potential settlement can be found at Cursey Lane Solar Farm in Elmstone, where heritage assessment and survey (GHER 47993) has identified a probable Iron Age settlement. Whilst the settlement is considered fairly typical of its period and region, a well-preserved, rare brooch find could suggest that the site has local status.
- 11.8.13. Cropmarks identified on the HER as having a potential Romano-British date (HER8637) were investigated through geophysical survey and trial trenching. The evaluation trenching identified evidence of a settlement dating from the middle Iron Age to the mid Romano-British period (3rd century AD). This multi-phase site is considered to be of medium sensitivity (value) due to its potential to provide information on the regional Iron Age/ Romano-British transition period and contribute to research agendas relating to non-villa Romano-British rural settlement.

Romano-British period (AD 43-AD410)

- 11.8.14. The British landscape changed rapidly after the arrival of the Romans in AD43 (Allen *et al*, 2017). A new road network was established, connecting the major settlements and forts located throughout the landscape (Margery, 1967). Many former *Oppida* (a fortified Iron Age settlement) became regional administrative centres, and the new roads saw expansion of rural agricultural settlements, centred on farms or villas with larger market type settlements often located where roads crossed rivers.
- 11.8.15. This is reflected in the wider landscape as the Twentieth Legion established itself at Gloucester in AD 49. Roman roads were quickly constructed to link the fort, and later the city of GLEVM (designated as a 'Colonia' AD97), to the wider Roman world. The principal route, now the course of the modern A38 through the vale, linked Gloucester to AQUA SVLIS (Bath) in the south, and SALINAE (Droitwich) in the north.
- 11.8.16. Within the study area is a probable Roman occupation site location just off the A38 (NGR 388931, 227231). Worcestershire Archive and Archaeology Service conducted an archaeological evaluation here in 2017 and have uncovered Roman artefacts from a least two time periods including fired clay, pottery, possible industrial waste and CBM (GHER 49474). In total, 47 features were identified including double ditches, pits, postholes and linear features concluded to be reflective of ephemeral activity as opposed to a direct settlement (Bradley and Arnold, 2017). Some of the features appeared more characteristically prehistoric with charcoal flecks and late-prehistoric pottery confirming a pre-Roman presence.
- 11.8.17. Roman archaeology is unsurprisingly fairly common in the wider environs with extensive Romano British features and artefacts uncovered north of the Scheme extent (GHER 27597). These features include a round house and ditches of probable three phase occupation. There is evidence of road-side activity on the A4019 (GHER 29096). Twenty archaeological features including ditches have been uncovered likely representing field and enclosure boundaries which have since been truncated by medieval ridge and furrow. In addition, in Boddington, ten bronze nummi coins have been found (GHER 48385) which belong to a coinage system and a discrete compositional group of coins that would have been current in Britain towards the middle to fourth century AD.
- 11.8.18. One site recorded within the study area, GHER 8637, was noted on the HER as being of potential Romano-British date. Evaluation trenching identified evidence of a settlement dating from the middle Iron Age to the mid Romano-British period (3rd century AD). This multi-phase site is considered to be of medium sensitivity (value) due to its potential to provide information on the regional Iron Age/ Romano-British transition period and contribute to research agendas relating to non-villa Romano-British rural settlement.

Anglo-Saxon period (AD410-1066)

- 11.8.19. There seems to have been a period of decline with the departure of the Roman administration in Britain in the 5th century. Population and general urban decline were seen in the context of successive settlement of northern Germanic peoples and the establishment of the Anglo-Saxon Kingdoms by the 7th century, which in turn became divided into manors and parishes. The reshaping of the political geography of the country also saw the transition from pagan practices to Christianity as the dominant religion.
- 11.8.20. Within the wider Severn Vale, many of the villages originate from the Saxon period, and grew throughout the medieval period taking increasing areas of land into their open fields, remnants of which can occasionally be found as surviving tracts of ridge and furrow. Other evidence includes left-over field names such as 'Windmill Londilow' (HER5369) located 2.5km north east in Stoke Orchard. Lowdilow Brake at SO924270 derives from a Saxon boundary mark described as 'the sheltered mount' in a charter of 769-85.
- 11.8.21. There has been one significant findspot associated with this period which is an iron inverted axe spearhead with a split socket (GHER 5604) found at a depth of 0.9m in clay on the centre line of the M5 motorway at a location south of the study area. The British Museum identified the find as being 6th-7th century in date from the zoomorphic design of a Style 2 pendent bird head with fine beady eyes and curling beaks.
- 11.8.22. Despite HER29641 being described by the HER as 'Ditches, pits and post holes probably representing a Roman field system, Uckington', the same location is associated with event HER37941, the archaeological excavation in advance of the construction of a new fire station in Uckington. The excavation provided evidence for activity on the site during the Iron Age, Roman, Saxon and postmedieval periods. Though the number of Iron Age features is low, the presence of a ring ditch suggests there was some occupation on the site in this period. The presence of well-preserved waterlogged wood, including three wooden structures, within a number of large pits provisionally dating to both the Roman and Saxon periods, is significant. The wood assemblage is a very rare survival within the UK, particularly in a rural context, and has the potential to be of national significance.

Medieval period (1066-1520)

- 11.8.23. It is likely that during this period, the study area and wider environment was populated with scattered farmsteads. The fabric of the landscape as seen today continues to reflect the drainage and land management regimes dating from the medieval period and areas of irregular enclosure that persist in the landscape often reflect former unenclosed cultivation patterns.
- 11.8.24. These cultivation patterns are evidenced by extensive ridge and furrow within the study area and wider environment. In aerial photographs that take in the site extent, extensive medieval ridge and furrow and drainage have been identified from earthworks and cropmarks (GHER 4466). In the wider environment, further examples of ridge and furrow cultivation patterns can be identified at Stoke Orchard (GHER 50368) and at Staverton (GHER 50331).
- 11.8.25. The general coverage of cultivation marks is indicative of substantial settlement during the medieval period in this area which is supported both by surviving built heritage and indicative cropmarks. On the northern edge of the study area is the corner of a sunken medieval settlement visible as cropmarks of linear ditches and regular/irregular enclosures (GHER 4462). There is a possible moat associated with the settlement located further east of the study area. There are three further moat sites at Fisher's Farm (GHER 50406), at Boddington Manor (GHER 4336) and at the former Coal Research Establishment in Stoke Orchard (GHER 44477). Medieval and post-medieval artefacts have been found at all locations with particularly interesting artefacts found at Boddington Manor associated with the Parliamentary occupation during the Civil War.
- 11.8.26. There are two further medieval features, a deer park at Boddington Manor (GHER 47357) identified by Leland as a 'fair manor place and park' and a slate mill dating to approximately 1326 which ceased working in 1960 (GHER 6476).
- 11.8.27. The Scheduled Monument (1016835) at Moat House is the clearest evidence of the medieval period within the study area. Evidence of earlier developments of the moated

site may still be present within the Scheduled Monument, including earthworks that may represent an earlier design phase of a larger moat feature than what is currently present. The connection between the medieval moated site and the wider community can be seen in the proximity of the village of Uckington and the mill and settlement at Withybridge Mill, which combine to present evidence of a dispersed medieval settlement. As-yet unknown buried archaeological remains are likely to exist with the Site, though the level of preservation may be affected by subsequent development through the post-medieval and modern periods.

Post Medieval and Modern periods (1520-present)

- 11.8.28. In 1721 the inhabitants of Tewkesbury attempted to get an Act of Parliament passed to create a turnpike on the Great Road to London from Tewkesbury to the top of Stanway Hill at Stumps Cross. Five years later in 1726, their efforts were successful, and a Turnpike Trust was established with tollkeepers, gates and cottages. Part of the turnpike connects Norton and Ryall, going through Tewkesbury, and forms the second half of the Gloucester Tewkesbury road, this time under the authority of the Tewkesbury Turnpike Trust, as opposed to the Cheltenham and Tewkesbury Turnpike Trust. The road follows the route of the present A38 and A4019 and covers all the roads in the study area (GHER 48685). Also within the study area is Turnpike House and Garden (GHER 7068) located on the A4019.
- 11.8.29. Larger vale settlements such as Gloucester continued to grow throughout the industrial period, displaying evidence of this in the rows of 19th century terraced houses, and occasionally mills, that have survived demolition such as of the slate mill within the study area (GHER 6476). The vale settlements took advantage of good transport links provided by the Severn, and the numerous roads, canals and railways, for the importation of building materials such as bricks and slate for roofing. The 1894-1903 OS Map shows a great increase in residential houses and enclosed land ownership in contrast to the 1840 pre-Gloucestershire Enclosures map.
- 11.8.30. There is a distinct World War II presence in the wider landscape outside the study area. At Haydon's Elm is the site of a WWII heavy anti-aircraft battery (A12) composed of mounted four 3.7-inch static guns (GHER 27052) and across the road, a Home Guard shelter used to support the battery (GHER 43297). 4.8km north east of these features is the site of a shadow factory, known as Unit 39, visible on aerial photographs. It was part of the Gloster Aircraft Company (GAC) based at Brockworth, Gloucester and was the assembly shed for Hawker Hurricanes and Typhoons from 1943 (GHER 47959). Though outside of the study area, these records illustrate the potential for as-yet unknown remains related to WWII activities to be present within the study area, including unexploded ordnance (UXO).
- 11.8.31. Post-industrial and modern urban and suburban sprawl has had a profound impact on the landscape, in terms of physical change to land use and landscape patterns, the built environment, transport and infrastructure. The main north-south route through the Severn Vale established by the Romans still persists, its course closely followed by the M5 motorway, the mainline railway between Bristol and Birmingham, and to the west, the Gloucester and Sharpness Canal. Apart from the visual impact of the transport infrastructure, the further effect of traffic noise and movement, lighting elements and nightglow also impact on the adjacent rural areas within the Vale.

11.9. Geophysical survey and trial trenching

- 11.9.1. In order to characterize and evaluate the buried archaeological assets impacted by the Scheme a programme of geophysical survey and trial trenching was conducted along the length of the new Link Road. The work was restricted to the new Link Road due to concerns over safety and access of working within the existing highway boundary and because it was determined that the Link Road was where the greatest uncertainty regarding potential significant impacts was held.
- 11.9.2. A magnetometry survey was conducted by Magnitude Surveys in autumn 2020. The survey identified numerous archaeological anomalies that were consistent with the HER

interpretation of cropmarks at GHER 8637. The results of the geophysical survey are included in Appendix 11.3 (application document TR010063 - APP 6.15).

- 11.9.3. The results of the geophysical survey suggested complex archaeological remains but did not provide a clear understanding of their sensitivity (value). To evaluate this and determine whether or not the remains were of schedulable quality, evaluation trenching was undertaken in the summer of 2021. The trenching revealed complex archaeological features relating from the middle Iron Age to middle Romano-British (3rd century AD) periods and indicative of a long period of use with good preservation, including waterlogged deposits (see Appendix 11.4 (application document TR010063 – APP 6.15)).

11.10. Sensitivity (value) of heritage assets and their settings

- 11.10.1. The sensitivity (value) of heritage assets is assessed based on the methodology identified in Section 11.4 as well as using the guidance provided in Historic England's *Conservation Principles* (2008). This identifies the following types of values expressed in heritage assets:

- Evidential Value.
- Historic Value.
- Aesthetic Value.
- Communal Value.

- 11.10.2. Whilst most heritage assets have aspects of all of these values, one value frequently tends to stand out from the others. Archaeological remains are usually considered to have high evidential value, as their understanding requires investigation and interpretation. Listed buildings may have high aesthetic value for their design or construction techniques, or high historic value due to associations with specific individuals or events of the past. Communal heritage values can be seen in long-standing use of historic parklands or the exercise of Commoners' Rights on common land. A summary of the identify sensitivity (value) of the heritage assets impacted by the Scheme is provided in Table 11-5; the Gazetteer (Appendix 11.1 application document TR010063 - APP 6.15) summarises the sensitivity (value) assessments of assets within the study area determined not to be impacted by the Scheme.

- 11.10.3. The majority of the archaeological remains within the study area are primarily characterized as having evidential value. This is particularly true of the buried archaeology which will be directly impacted by the Scheme. The exception to this is the Scheduled Monument at Moat House Moated Site (1016835), which still retains extant upstanding earthworks related to the medieval moated site. This provides it with good aesthetic values. The site is still very recognisable as a moated site, particularly with the improvements and maintenance that have been provided by the current owners. Earthworks to the east of the moat may represent the remains of an earlier variation of the current design and provides a strong associative connection with Moat Cottage (1303797).

- 11.10.4. The values of the listed buildings within the study area are primarily aesthetic in that the preservation of the historic fabric and designs of the buildings reflect the historic development of the area and adds character. In addition, historic values are present in the way in which the buildings provide tangible connections to the people and events of the past.

- 11.10.5. The settings of heritage assets are important for the ways in which they contribute to the sensitivity (value) of the assets. That is, the setting contributes when it allows for further expression of the heritage values embodied in the asset. Within the study area, the settings of three sets of heritage assets are of particular note:

- The Scheduled Monument (1016835) and four Grade II listed buildings (1091874, 1154528, 1303797, and 1340069) located at Moat House, c. 100 m south of the A4019 at Moat Lane.
- Two Grade II listed buildings (1091875 and 1303770) c. 160 m north of the A4019 near the Uckington & Elmstone Hardwicke Village Hall.
- Two Grade II listed buildings (1088722 and 1305182), c 200 m west of the new

Link Road between the B4634 and the A4019 and associated with archaeological remains of Withybridge Mill (GHER 6474).

- 11.10.6. The Scheduled Monument at Moat House acts as the setting for the listed buildings located within its boundaries, as well as for Moat Cottage, which is located outside of the Scheduled Monument's boundary. However, Moat Cottage (1303797) has a long-standing historic association with the moated site and its buildings and can be seen as both contributing to the settings of those assets as well as having those assets within its setting. The field between the moat and Moat Cottage includes earthworks that provide a connection between the earliest development of the moated site and its later post-medieval developments that have created the site that exists today.
- 11.10.7. The setting of the assets at Moat House contribute to their individual and collective significance through the creation of a set of inter-related buildings and earthworks that retain their historic connection to each other and the near landscape. Recent restorations to the properties have improved the expression of the historic designs. However, the planting of tall conifers around the edges of the properties limits the ability for the wider landscape to contribute to the significance of the assets. The moated site was likely originally associated with the settlement of Uckington, and the current buffer of agricultural and undeveloped land around the Moat house assets and the village of Uckington help express this connection, with the road acting as the original thoroughfare through the settlement.
- 11.10.8. The two Grade II listed buildings near the Uckington and Elmstone Hardwicke Village Hall retain the historic agricultural character of post-medieval Uckington. They are the only two listed buildings in the village, and the small size of the village contributes to the appreciation of these buildings as part of the agricultural history of the area.
- 11.10.9. The listed buildings at Withybridge Mill are set within known archaeological remains that likely relate to the history and development of the mill. The surrounding archaeological landscape therefore contributes to the historic and evidential values of the listed buildings.
- 11.10.10. The methodology presented in Section 11.4 outlines the assessment of sensitivity (value) for the purposes of compliance with EIA Regulations and NPS NN requirements. The method for determining the sensitivity (value) of heritage assets presented in Table 11-2 has been followed, with one exception: the archaeological remains at GHER 8637 are thought to be able to contribute to regional research objectives and have been assessed as being of medium value. This was determined through the findings of the evaluation trenching.

11.11. Potential impacts

- 11.11.1. Potential impacts to the historic environment may arise through the removal of heritage assets (in whole or in part) due to construction activities as well as through changes to the settings of assets that affect the significance of the asset. Setting changes may include the removal of surroundings that contribute to the significance of an asset or through the addition of development. As such, impacts to the historic environment will occur as a result of construction activities that would remove all or part of the remains associated with significant archaeological deposits within the footprint of the Scheme. The creation of new infrastructure may also have impacts on the settings of heritage assets, even if physical impacts are avoided. Potential impacts are discussed as those that could occur without mitigation.

Construction

- 11.11.2. The construction of the Scheme, including earthworks, structures, drainage, flood storage and compensation works, and landscape work associated with the road construction, is expected to remove sub-surface archaeological remains located within the footprint of the Scheme alignment. Six known archaeological sites may be impacted by construction works through their partial or complete removal:
- GHER 29641: Ditches, pits, and post-holes probably representing a Roman field system.
 - GHER 5437: Roman site.

- GHER 8637: Area of cropmarks of later prehistoric or Romano-British settlement and field systems.
- GHER 22314: post-holes and linear features associated with post-medieval pottery.
- GHER 48027: Linear and curvilinear cropmarks visible on aerial photographs.
- GHER 27052: Site of World War Two heavy anti-aircraft battery (A12) composed of mounted four 3.7-inch static guns and GL Mark II radar, mostly demolished by 1970.

11.11.3. Construction activities may also impact the setting of heritage assets through disruptions that limit or prevent the significance (value) of the asset being expressed or appreciated. Such impacts would likely be temporary during construction activities and may be mitigated with appropriate construction management such as noise-reducing measures and enhanced access arrangements where noise levels and access contribute to the significance of the heritage assets.

Operation

11.11.4. The operation of the Scheme is not expected to have further impacts on subsurface archaeological remains, as construction activities would result in the removal of those remains.

11.11.5. Following construction, the operation of the Scheme would introduce new permanent infrastructure, which may impact the significance of heritage assets. The ability for the operation of the Scheme to impact heritage assets through changes in setting requires an understanding of how the surroundings of the asset (its setting) contribute to the asset's significance. Whilst buried archaeological remains have their own settings, operational impacts generally affect built heritage and standing earthworks or other monuments. Site visits to assess the setting of the Moat House Moated Site and associated listed buildings have identified where impacts to the settings could affect the significance of those assets.

11.12. Mitigation measures

11.12.1. Where the design of the Scheme cannot be altered to avoid impacts to heritage assets, measures to mitigate or offset the impacts are required. These measures must be based on an understanding of the significance of the heritage assets in question.

11.12.2. Embedded mitigation includes those aspects of the Scheme that have been incorporated into the design to prevent impacts on the historic environment. These include the lighting design and noise mitigation design that mitigates visual and noise impacts to the settings of the rural heritage assets such as those near Withybridge Mill. It also includes the design changes that were made earlier in development, removing the originally proposed new through-road along Moat Lane to avoid increases in traffic around the assets at Moat House. Chapters 2 and 3 of this ES (Application document TR010063 – APP 6.2) describe the submitted design with embedded mitigation and provide a record of the design development, including the changes made as a result of potential impacts to the historic environment.

11.12.3. Additional mitigation is required for those impacts that cannot be avoided through embedded design. This includes activities such as archaeological excavation and recording necessary to preserve the evidential values of buried archaeological remains that would be completely removed as a result of construction. It can also include activities to enhance the understanding of an asset's significance when that significance may be impacted through changes to setting.

11.12.4. For assets of archaeological interest such as those identified in the HER and during the geophysical survey and trial trenching, the significance is generally considered to be within the information that can be obtained through the scientific excavation and recording of the archaeological remains, along with the publication of the results. As such, an Archaeological Management Plan (AMP) is proposed to provide a programme of works and over-arching Written Scheme of Investigation (WSI) to further identify, characterise, and record the significant archaeological remains impacted by the Scheme construction.

These are included in the Register of Environmental Actions and Commitments (REAC) (application document TR010063 – APP 7.4).

Construction

- 11.12.5. Impacts to archaeological remains that will be removed as a result of the construction of the Scheme will be mitigated through a programme of excavation and recording commensurate with the significance of the remains. This recording will be part of the AMP developed in consultation with the local planning authority's archaeological advisor and Historic England if requested.
- 11.12.6. The following heritage assets would be removed in part or in whole as a result of construction activities:
- GHER 29641: Ditches, pits, and post-holes probably representing a Roman field system, assessed as low sensitivity.
 - GHER 5437: Roman site, assessed as low sensitivity.
 - GHER 8637: Area of cropmarks of later prehistoric or Romano-British settlement and field systems, assessed as medium sensitivity.
 - GHER 22314: post-holes and linear features associated with post-medieval pottery, assessed as low sensitivity.
 - GHER 48027: Linear and curvilinear cropmarks visible on aerial photographs, assessed as low sensitivity.
 - GHER 27052: Site of World War Two heavy anti-aircraft battery (A12) composed of mounted four 3.7-inch static guns and GL Mark II radar, mostly demolished by 1970, assessed as negligible sensitivity.
- 11.12.7. The removal of these assets by construction would result in a major adverse effect, primarily related to the removal of the remains at GHER 8637, as the other remains have already been partially or mostly removed as a result of earlier development. A programme of archaeological recording, following an approved AMP and required as a condition of the DCO, would mitigate these impacts through preservation of the significant evidential information by record of the archaeological investigations. Whilst this cannot completely mitigate the impact of the Scheme, it would bring the level of impact to slight adverse.
- 11.12.8. Indirect impacts to the settings of heritage assets during construction activities will be mitigated through the Environmental Management Plan (EMP), 2nd iteration, addressing the specific environmental impacts. For example, increases in noise levels that may distract from an understanding of the significance of an asset through its setting will be addressed through the mitigation measures designed for overall noise reduction. Construction impacts to settings are expected to be temporary in nature and addressed in proportion to their duration and extent.

Operation

- 11.12.9. Once buried archaeological remains are removed through excavation and recording, they will no longer exist in a state where the operation of the Scheme would impact them. As such, no mitigation measures are proposed for operational impacts to buried archaeological remains.
- 11.12.10. These embedded mitigation measures discussed above are considered sufficient to mitigate impacts to the settings of heritage assets affected by the Scheme. No additional mitigation measures are required for the operation of the Scheme. There may, however, be opportunities to enhance the historic environment through the application of National Highways' Designated Funds to help protect the settings of designated heritage assets within the study area, particularly those at the Moat House Scheduled Monument, where future development is likely and could further erode the setting of those assets if not protected.
- 11.12.11. The following designated assets may have impacts through changes to setting:
- 1016835: Moat House Moated Site scheduled monument, assessed at high sensitivity.
 - 1091874: Moat House (GII), assessed at medium sensitivity.

- 1154528: Bridge and Attached Pair of Lodges at Moat House (GII), assessed at medium sensitivity.
 - 1303797: Moat Cottage (GII), assessed at medium sensitivity.
 - 1340069: Barn circa 40 metres north-west of Moat House (GII), assessed at medium sensitivity.
 - 1172272: Butler's Court Farmhouse (GII), assessed at medium sensitivity.
 - 1088722: Cottages by Drive to Butler's Court (GII), assessed at medium sensitivity.
 - 1305182: Withybridge Mill and Adjoining Barn (GII), assessed at medium sensitivity.
- 11.12.12. For the purposes of assessment, these buildings can be combined into two groups: those at Moat House (1016835, 1091874, 1154528, and 1303797) and those off Withybridge Lane (1172272, 1088722, 1088722, and 1305182). The third group of designated heritage assets within the study area, the Grade II listed buildings north of the A4019, are not expected to experience any changes as the result of the operation of the Scheme.
- 11.12.13. The significance of the Moat House scheduled monument (1016835) is in the archaeological remains associated with the monument, as well as the earthwork structures. As the Scheme would not have a direct physical impact on the Scheduled Monument, it is not expected that the Scheme would have an impact on the Scheduled remains. The setting of Moat House includes the listed buildings within the Scheduled Monument as well as the adjacent Moat Cottage (1303797). Site visits to assess the setting of these assets identified a strong association between the assets associated with the moated site, as well as a setting that included Moat Cottage.
- 11.12.14. Within the boundaries of the Moat House scheduled monument (1016835) are four Grade II listed buildings. Whilst these are designated in their own right, they are specifically excluded from the scheduling of 1016835¹¹. The listed buildings at Moat House include two residential structures, Moat House (1091874) and Moat Cottage (1303797). Both of these are post-medieval buildings with 17th century origins and later additions. The barn north-west of Moat House (1340069) is of a slightly later construction and was partially rebuilt in the 20th century following a fire. The bridge and attached pair of lodges are of 19th century construction. All of the listed buildings are set back from the main road and well sheltered from the visual intrusions of the surrounding area. The significance of these assets are thought to lie in their age, design, and construction, as well as with their association with the earlier moated site and their coherency as a group.
- 11.12.15. The operation of the Scheme is expected to have a slight adverse impact on the setting of the assets at Moat House, provided the sheltered nature of the assets at Moat House is retained and that the street furniture (lighting columns, signage, etc) associated with the new junction for Moat Lane/ The Green does not dominate the near landscape in a way that overpowers the setting of the assets. The connection between the assets at Moat House and the village of Uckington should be maintained through sensitive landscaping that allows for the village and moated site to be understood and appreciated as part of a discrete historic settlement. This should be possible by limiting the roadside developments between the moated site and the village. The current landscape design includes woodland hedges along the A4019 that would provide a visual buffer between the Scheme and the assets at Moat House. Lighting design to aid in the creation of bat corridors will leave unlit stretches of road on either side of the Moat Lane/The Green junction, which aids in the maintaining the connection between Uckington and the assets at Moat House by offering a night-time buffer.
- 11.12.16. Noise levels contribute to the significance of the assets at Moat House to a minor extent, in that the current noise levels are not prominent or dominant enough to distract from the appreciation of the moated site or its related surroundings. The noise assessment (see Chapter 6 – Noise and Vibration (application document TR010063 – APP 6.4)) indicates that over the long term, the increase in noise with the Scheme at the Moat House, would be negligible (1-3 decibels (dB)) during the day and minor (3-5dB) at night, when compared with the existing road layout in the opening year. With the Scheme, the noise levels are expected to be between 55dB and 60dB during the day, and between 50 and

¹¹ <https://historicengland.org.uk/listing/the-list/list-entry/1016835>

55dB at night; below the Significant Observed Adverse Effect Level (SOAEL). Given the noise levels at this property, the change in noise is not considered to be significant. In the case of the daytime noise levels, the change would not be perceptible. As such, the increase in noise levels caused as a result of the Scheme would not alter the settings of the Moat House scheduled monument or its associated listed buildings in a manner that would detract from their ability to express their heritage significance and the impact from the change in noise levels would be slight adverse.

- 11.12.17. The listed buildings around Butler’s Court and Withybridge Mill include not only the listed buildings themselves but associated archaeological remains that can be said to contribute to their significance. The Butler’s Court Farmhouse (1172272) itself has early 18th century origins but is located within the Butler’s Court Moated site (GHER 6473) that the HER identifies as possibly the earliest settlement in Uckington. The post-medieval Withybridge Mill and Adjoining Barn (1305182) is located on the site of an earlier mill, possibly at this location since Domesday (GHER 6474). As such, these buildings are significant not only due to their age, survival, design and construction, but also as buildings remaining from earlier settlements now shrunken, deserted, or shifted in location. A more rural setting with fewer modern intrusions contributes to the ability of the assets to express this significance.
- 11.12.18. The introduction of new infrastructure in the form of the Link Road would therefore impact the significance of these designated heritage assets through changes in setting, should the infrastructure dominate the landscape to the point of being unable to appreciate the connection between the archaeological and built heritage. The Scheme would not result in physical changes to the current state of Withybridge Lane, and landscape planning includes woodland planting on either side of the Link Road to limit visual intrusion. Lighting levels for the Link Road are limited to aid in bat conservation and will have the added benefit of protecting the assets along Withybridge Lane from light pollution. Whilst the landscaping is being established, there may be the potential for noticeable changes, but the long-term residual impact would be slight.
- 11.12.19. Consultation with Historic England raised concerns regarding the potential impacts of both construction and operation of the Scheme on the water levels of the Moat House moat, which has been continuously filled for hundreds of years, possibly since its original construction. The analysis of the water environment (see application document TR010063 – APP 6.6) indicated that the moat was filled by a local spring drawing on localised shallow groundwater. The Scheme would not alter this water source and would therefore have no impact on the level of water in the moat; as such, the impact on the moat due to changes in water level is expected to be neutral/no change.

11.13. Residual impacts

- 11.13.1. Following the implementation of agreed mitigation measures, the residual impacts are expected to relate primarily to the residual effects of the removal of buried archaeological remains. Because archaeological excavation cannot hope to recover 100% of information, there will always be some loss of significance following even the most precise of excavations. With proper excavation and recording, the residual impact is expected to be Negligible Adverse.

11.14. Significant effects

- 11.14.1. Table 11-5 below provides a summary of the impact and effects of the Scheme on cultural heritage, once all embedded and additional mitigation is complete.

Table 11-5 - Significance of effect on cultural heritage

Reference	Name	Sensitivity (value)	Impact	Effect
1016835:	Moat House Moated Site scheduled monument	High	Minor	Slight adverse, not significant
1091874	Moat House	Medium	Minor	Slight adverse, not significant
1154528	Bridge and Attached Pair of Lodges at Moat House	Medium	Minor	Slight adverse, not significant
1303797	Moat Cottage	Medium	Minor	Slight adverse, not significant
1340069	Barn circa 40 metres north-west of Moat House	Medium	Minor	Slight adverse, not significant
1172272	Butler's Court Farmhouse	Medium	Negligible adverse	Slight adverse, not significant
1088722	Cottages by Drive to Butler's Court	Medium	Negligible adverse	Slight adverse, not significant
1305182	Withybridge Mill and Adjoining Barn	Medium	Negligible adverse	Slight adverse, not significant
GHER 8637	Romano-British field system	Medium	Minor adverse (with mitigation)	Slight adverse, not significant
GHER 48027	Linear and curvilinear cropmarks	Low	Minor Adverse	Slight adverse, not significant.

11.14.2. Overall, the Scheme would have a slight adverse effect on the historic environment, which is not considered to be significant. Major adverse impacts to buried archaeological remains would be mitigated through preservation by record in the form of archaeological excavation, recording, and reporting through the creation of a site archive to preserve the significant evidential values of the remains.

Assessment of harm

11.14.3. Consideration of the level of harm to a heritage asset as a result of the Scheme is a primary concern for the decision-taker with regards to planning consent. The determination of what constitutes substantial harm not straightforward, and no specific test exists for it. In terms of EIA regulations, it is presumed that only significant effects would rise to the level of requiring assessment for substantial harm. As no significant effects are expected once all embedded and additional mitigation measures are in place, the Scheme is considered to have less than substantial harm on the historic environment.

11.15. Cumulative effects

11.15.1. This section considers the cumulative effects of the Scheme and the Scheme interacting with other Reasonably Foreseeable Future Projects (RFFPs) within the cultural heritage topic.

11.15.2. Cumulative effects are those that result from the effects of the Scheme in combination with effects from other development impacts. Cumulative effects can be seen as the result of either *Intra-Scheme effects* or *Inter-project effects*. Intra-Scheme effects are those where effects from the same Scheme combine. For example, where ecological mitigation would require the removal of archaeological remains. Inter-project effects are those that are a combination of the effect of this Scheme along with the effects of other projects within the defined study area or affecting the same receptors.

- 11.15.3. The further consideration of cross-topic intra-Scheme and inter-project cumulative effects is reported in Chapter 15 - Cumulative Effects Assessment (application document TR010063 – APP 6.13).

Intra-Scheme in-combination cumulative effects assessment (single project impacts) within topic

- 11.15.4. The focus of the intra-Scheme CEA is understanding how receptors may experience a number of different types of impacts from the Scheme at the same time. Within the topic assessments, the methodology for the assessment of the impacts on cultural heritage inherently includes consideration of all stages of the construction and operation of the Scheme, including any mitigation works for other topics that are embedded within the Scheme and are likely to impact heritage assets. Landscaping and ecological embedded mitigation have therefore been factored into the Scheme design and are assessed with the Scheme impacts and the mitigation outlined for cultural heritage impacts applies to impacts across the Scheme.
- 11.15.5. On the basis of the above, there are no additional intra-Scheme cumulative effects from the assessment of cultural heritage to report in this section.
- 11.15.6. An assessment of cross-topic intra-Scheme effects on all receptors is provided in Chapter 15 – Cumulative Effects Assessment (application document TR010063 – APP 6.13).

Inter-project cumulative effects (different project impacts) within topic

- 11.15.7. To complete the cumulative effects assessment inter-project 'within topic' element, the assessment of cultural heritage has been completed with reference to the list of RFFPs that has been developed for the Scheme. The list is based on a review of all developments known to the planning system in accordance with the methodology and criteria set out in Chapter 15 – Cumulative Effects Assessment and Appendix 15.1 (application documents TR010063 – APP 6.13 and TR010063 - APP 6.15).
- 11.15.8. The RFFP long-list has been screened to identify projects that are considered to have a realistic prospect of interacting with the Scheme from the perspective of cultural heritage. The sift from the long-list to the short-list for cultural heritage took into consideration the scale of the RFFP and the likelihood they would have significant impacts on the historic environment.
- 11.15.9. The small-scale residential (<200 homes) and employment RFFPs and change of use applications were scoped out of further assessment. They are considered to have limited to no potential for impacting any of the heritage assets impacted by the Scheme, recognising their characteristics as housing only and/or infill developments within an already suburbanised landscape.
- 11.15.10. The focus has been on employment, educational, commercial and industrial developments that are proposed for larger RFFPs, which have the potential to create entirely new development locations within the wider landscape, thus altering historic settlement patterns and meriting fuller consideration of impacts and potential mitigation proposals. On this basis, the following RFFPs have been shortlisted in relation to heritage assessment:
- Safeguarded land to the north-west of Cheltenham (Policy SD5).
 - North-west Cheltenham Development Area (Policy A4), with related applications 16/02000/OUT and 20/00759/FUL.
 - West Cheltenham Development Area (Policy A7), with related application 22/01817/OUT and 22/01107/OUT (the same application made to two separate authorities).

Safeguarded land to the north-west of Cheltenham (Policy SD5)

- 11.15.11. The land to the north-west of Cheltenham is safeguarded in the JCS to meet future development needs. The CEA assumes it could contain around 2,000 homes and an element of office, industrial and warehousing development; and that the enabling works at the RFFP may overlap to some degree with Scheme construction.

- 11.15.12. There is a very strong likelihood that if the RFFP proposals are not carefully planned, then any future development near The Green would overwhelm the village character of Uckington, with major adverse effects to the settings of the listed buildings therein by absorbing them into large suburban sprawl. In turn, this presents the potential that the historic settlements at Uckington (including those at Moat House) would no longer be appreciable in the developed setting.
- 11.15.13. The Scheme has been developed with a design to minimise the impacts to the historic built environment, including the designated assets at Moat House and the historic character at Uckington. This has included developing an offset junction design to reduce inter-visibility and increasing the buffer to the road through optioneering such that the embedded mitigation includes screen planting between Moat House and the southern edge of the A4019 corridor. As such, the Scheme would contribute only negligible adverse effects to any that may be identified during the development of this safeguarded land.
- 11.15.14. The inter-project CEA within topic concludes that no further work is required to mitigate any impacts the Scheme would bring to the development of this land. The RFFP dominates the adverse cumulative additive impacts and would be required to develop sufficient and appropriate mitigation as part of bringing proposals forwards.

North West Cheltenham Development Area

- 11.15.15. The North West Cheltenham Development Area (Policy A7) is a JCS allocation to which two separate planning applications relate. 16/02000/OUT (Elms Park) is the larger of the applications and comprises a large-scale housing development, with the proposed development of over 4,000 new homes and associated employment areas, retail, educational, and recreational facilities. The outline planning application remains undetermined and includes an Environmental Statement that reported a negligible adverse effect on the assets at Moat House and a minor adverse effect on the assets in Uckington based on inherent mitigation measures recommended for Reserved Matters applications. The Reserved Matters are expected to require green-space buffers to prevent the development from dominating the character of the assets at Moat House and Uckington. It is noted; however, that there is uncertainty about the form of these measures since the application is outline only and not yet determined.
- 11.15.16. The Scheme would introduce additional modern infrastructure close to the assets in Uckington and at Moat House. Landscape design for the road will help to create a sympathetic character around the road, but the widening of the road, including a bus lane and addition of traffic lights and associated street furniture (signage, wayfinding, bus shelters, etc.) will change the character of the approach to the designated assets in Uckington. This is reported in the main assessment and the relevant mitigation measures are cited.
- 11.15.17. Moat House and its associated assets are set back from the road (A4019) and would not experience the same level of intrusion as Uckington from the combination of the road Scheme and the RFFP.
- 11.15.18. The inter-project CEA within topic concludes that no further work is required to mitigate any impacts the Scheme would bring to the development of this land. The RFFP dominates the adverse cumulative additive impacts and would be required to develop sufficient and appropriate mitigation as part of bringing proposals forwards.

West Cheltenham Development Area

- 11.15.19. The West Cheltenham Development Area (Policy A7) is associated with planning application 22/01817/OUT and 22/01107/OUT (the same application, made to two separate local authorities) that relates to part of the JCS allocation. It will introduce large-scale development to the south of the Scheme. Though the majority of the high-density design for the development is located to the south of the Scheme near GCHQ, medium-density housing-led development is proposed for the northern parcels of the development. This would further encroach into the historic agricultural character of the area. Landscaping and design proposed to be developed under the Reserved Matters for this development is expected to minimise the impacts to cultural heritage. It is noted; however, that there is uncertainty about the form of these measures since the application is outline only and not yet determined.

- 11.15.20. The Scheme introduces new linear transport infrastructure to the land to the north, which contributes to the wider historical agricultural character of the area. Landscape design for the Link Road and around the junction to the B4634 will help to deliver a sympathetic character in this location. This is reported in the main assessment and the relevant mitigation measures are cited.
- 11.15.21. The inter-project CEA within topic concludes that no further work is required to mitigate any impacts the Scheme would bring to the development of this land. The RFFP dominates the adverse cumulative additive impacts and would be required to develop sufficient and appropriate mitigation as part of bringing proposals forwards.

Summary

- 11.15.22. The balance of adverse effects on cultural heritage would be dominated by those of the RFFPs (primarily the two development sites (to the West and North West of Cheltenham) and the land safeguarded for development to the north west of Cheltenham). The adverse effects are assessed as resulting in significant adverse in-combination inter-project cumulative effects, with the Scheme contributing only a small proportion, as reported in the main assessment. Consequently, it is anticipated that the promoters of the RFFPs would be responsible for developing sufficient and appropriate mitigation strategies and/or measures to ensure that their project impacts did not give rise to unacceptable adverse effects. This approach has the potential to reduce the cumulative adverse effect, such that is may no longer be significant.
- 11.15.23. On the basis of the assumptions above, but adopting a precautionary approach due to the uncertainty of the RFFP mitigation measures, the in-combination residual cumulative effects of the combined RFFPs within topic would therefore be expected to be moderate adverse, which is significant.

11.16. Assumptions and limitations

- 11.16.1. Due to the restrictions of the COVID-19 pandemic, site visits and inspections were limited during the trial trenching evaluations, with sign-offs being conducted remotely. As the archives were closed due to the pandemic, no initial archival research was conducted beyond what could be done online in advance of the archaeological surveys. Online resources such as Know Your Place¹², British History Online¹³, and the Archaeological Data Service¹⁴ were interrogated to support the baseline provided by the GHER.
- 11.16.2. The material presented within this chapter forms a desk-based assessment (DBA) of the historic environment and the impacts of the Scheme. No separate DBA was produced.
- 11.16.3. A map regression using publicly available resources from Know Your Place and the National Library of Scotland¹⁵ was conducted to assess changes in the character of the landscape during the later historic periods. Likewise, the Environment Agency's LiDAR resources were examined for archaeological traces. Neither the map regression nor the LiDAR data presented provided any new information relevant to the assessments of significance, impact, or effect and have not been further discussed herein.
- 11.16.4. No internal inspections have been made of the listed buildings, as the Scheme is not expected to impact any significant internal character.
- 11.16.5. The following assumptions have been made in the preparation of this report:
- The historic environment baseline evidence has not changed considerably since the data was acquired (June 2019) other than what has been identified through geophysical survey and evaluation trenching as part of these assessments.
 - Information provided on designated asset from the NHLE is accurate and up to date.

¹² Know Your Place (kypwest.org.uk)

¹³ British History Online | The core printed primary and secondary sources for the medieval and modern history of the British Isles (british-history.ac.uk)

¹⁴ Archaeology Data Service (archaeologydataservice.ac.uk)

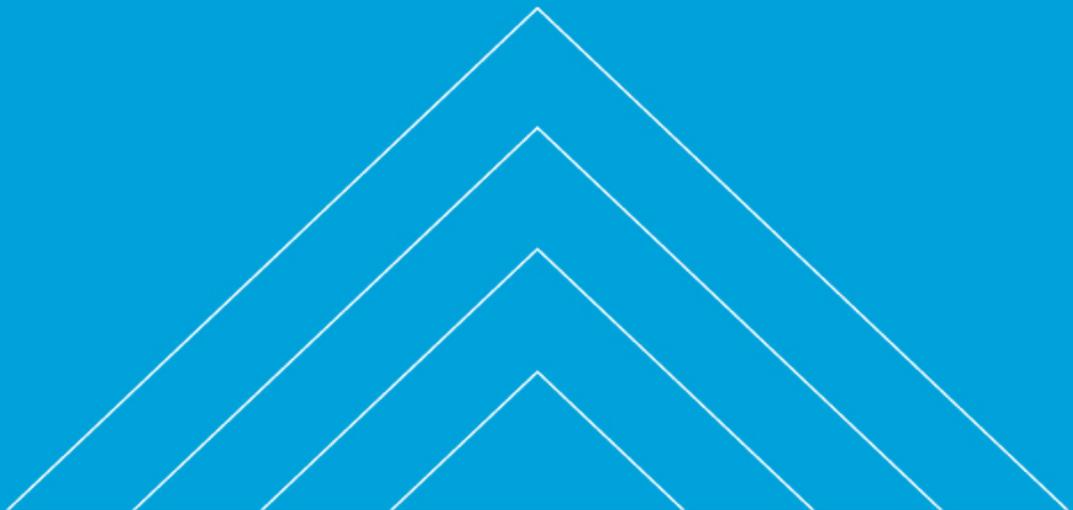
¹⁵ Map images - National Library of Scotland (nls.uk)

- It is assumed that current archaeological investigations being undertaken nearby for housing developments are likely to uncover similar archaeological remains to what is anticipated by the Scheme. This assumption has been used to evaluate potential cumulative impacts to archaeological remains.
- Whilst the online improvements for the junction are likely to impact known and as-yet unknown archaeological remains, the current conditions along the motorway and A4019 do not allow for safe and effective surveying or trenching. It is assumed that the existing baseline has been sufficient to characterise the remains and assess the impact and that post-consent recording as a part of overall mitigation measures will be an appropriate method to mitigate any impacts.

11.17. Chapter summary

- 11.17.1. This chapter has assessed the baseline evidence for cultural heritage to provide an understanding of its significance and the likely impacts and environmental effects that would result from the Scheme. Significant adverse effects are anticipated due to impacts to known and as-yet unknown archaeological remains. A robust programme of archaeological investigation and recording following an AMP prepared in consultation with the local planning authority's archaeological advisor would mitigate these impacts to a slight adverse effect, which is not significant. Impacts to the settings of heritage assets would be mitigated through design and landscaping, resulting in slight adverse effects, which are not significant.

Appendices



Appendix 11.1 – Gazetteer

Appendix 11.1 - Gazetteer is provided as a separate document (application document TR010063 – APP 6.15).

Appendix 11.2 – Figures

Appendix 11.2 - Figures is provided as a separate document (application document TR010063 – APP 6.15).

Appendix 11.3 – Geophysical Survey

Appendix 11.3 – Geophysical survey is provided as a separate document (application document TR010063 – APP 6.15).

Appendix 11.4 – Evaluation Trenching Report

Appendix 11.4 – Evaluation trenching report is provided as a separate document (application document TR010063 – APP 6.15).

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