

# A47 North Tuddenham to Easton Dualling

**Scheme Number: TR010038**

**Volume 6**

## **6.1 Environmental Statement** **Chapter 6 – Cultural Heritage**

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Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
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The A47 North Tuddenham to Easton  
Development Consent Order 202[x]

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**ENVIRONMENTAL STATEMENT CHAPTER 6  
CULTURAL HERITAGE**

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## 6. Cultural Heritage

### 6.1. Introduction

- 6.1.1. Highways England (the Applicant) has submitted an application for an order to grant a development consent order (DCO) for the North Tuddenham to Easton Dualling Scheme (hereafter referred to as ‘the Proposed Scheme’). The Proposed Scheme comprises the dualling of a section of the A47 between North Tuddenham and Easton, including the creation of two grade separated junctions (Wood Lane junction and Norwich Road junction), associated side road alterations and walking, cycling and horse-riding connections. This section of A47 road is currently unable to cope with the high traffic volume and there are limited opportunities to overtake slower moving vehicles on the single carriageway. This section of the A47 also has a poor safety record. The Proposed Scheme aims to reduce congestion related delay, improve safety, improve journey time reliability and increase the overall capacity of the A47. Full details of the Proposed Scheme are provided in Environmental Statement Chapter 2 (The Proposed Scheme) **(TR010038/APP/6.1)**.
- 6.1.2. Under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the Proposed Scheme is an Environmental Impact Assessment (EIA) development and as such requires submission of an Environmental Statement (ES) presenting the likely significant environmental effects of the Proposed Scheme.
- 6.1.3. As part of the EIA process, this ES chapter reports the predicted significant effects on cultural heritage as a result of the Proposed Scheme. This assessment includes a review of the existing baseline conditions, consideration of the potential impacts, identification of proportionate mitigation and enhancement and describing predicted significant residual effects.
- 6.1.4. The approach to this assessment follows the methodology set out in the Scoping Report (September 2019) **(TR010038/APP/6.5)** and subsequent agreed Scoping Opinion (November 2019) for the EIA of the Proposed Scheme **(TR010038/APP/6.6)**. The assessment has been undertaken in combination with the Design Manual for Roads and Bridges (DMRB); LA 104 Environmental assessment and monitoring, and LA 106 Cultural heritage assessment.
- 6.1.5. The main chapter text is supported by the following appendices **(TR010038/APP/6.3)**:
- Appendix 6.1 – Cultural Heritage Information. A detailed description of baseline information gathered to date, including assessment of archaeological potential, contribution of setting to value / significance and of the value / significance of all identified heritage assets

- Appendix 6.2 – A47 North Tuddenham to Easton, Geophysical Survey, Headland Archaeology (April 2020)
- Appendix 6.3 – A47 North Tuddenham to Easton, Archaeological Evaluation (PCA Report R14273, October 2020)

## 6.2. Competent expert evidence

- 6.2.1. This cultural heritage chapter has been undertaken by a Principal Heritage Consultant who holds full corporate membership with the Chartered Institute for Archaeologists (MCI(A)). The Senior Consultant has over 14 years of experience undertaking heritage assessments for highways schemes throughout the UK. A technical review of this assessment was undertaken by a Technical Director with 30 years of professional heritage experience.
- 6.2.2. They have used their EIA knowledge, experience with DMRB and road schemes and professional judgement in identifying the likely significant impacts associated with the Proposed Scheme and providing technical guidance through the assessment process.

## 6.3. Legislation and policy framework

- 6.3.1. The relevant legislative and planning context for cultural heritage is presented below.

### *National legislation and policy*

- 6.3.2. The overarching legislation and policy relating to the historic environment in England and relevant to this heritage assessment of the Proposed Scheme are:
- The Ancient Monuments and Archaeological Areas Act 1979, which provides legal protection for areas of national archaeological importance as well as setting out guidelines for the selection of sites for inclusion in the protected schedule.
  - The Planning (Listed Buildings and Conservation Areas) Act 1990, which provides legal protection for buildings recognised to be of special architectural or historic interest and are subject to additional controls over demolition and alteration. Section 1 of the Act requires the Secretary of State to compile and maintain lists of buildings of special architectural or historic interest. The principal statutory duty under the Act is to preserve the special character of heritage assets, including their setting.

### **National Policy Statement for National Networks**

- 6.3.3. The *National Policy Statement for National Networks* (NPS NN, 2014) sets out guidance concerning infrastructure projects. Of relevance to this assessment is Section 5: The historic environment (Paragraphs 5.120 – 5.142), which

addresses impacts to heritage assets and the conservation and enhancement of the historic environment. The statement sets out requirements for the applicant's assessment and the Secretary of State's responsibilities when dealing with planning proposals which have the potential to impact on cultural heritage assets. The statement emphasises the importance of balancing the need for the conservation of heritage assets with the desirability of new development.

#### **National Planning Policy Framework (NPPF, 2019)**

6.3.4. Of relevance to the Proposed Scheme are paragraphs 188, 189, 190, 192, 193, 194, 196, 197 and 199 of the NPPF. These paragraphs set out the local planning authority's responsibilities when dealing with planning proposals which have the potential to impact heritage assets. These paragraphs emphasise the importance of balancing the need for the conservation of heritage assets with the desirability of new development. Although the Proposed Scheme will not be subject to the local authority planning process, these policies represent best practice when dealing with the cultural heritage resource.

#### *Local planning policy*

#### **Joint Core Strategy for Broadland, Norwich and South Norfolk (Greater Norwich Development Partnership 2014)**

6.3.5. The Joint Core Strategy for Broadland, Norwich and South Norfolk contains the following policies relevant to cultural heritage:

- Policy 1 - Addressing climate change and protecting environmental assets: "The built environment, heritage assets, and the wider historic environment will be conserved and enhanced through the protection of buildings and structures which contribute to their surroundings, the protection of their settings, the encouragement of high-quality maintenance and repair and enhancement of public spaces"
- Policy 2 - Promoting good design: "Development proposals will respect local distinctiveness including landscape character and historic environment, taking account of conservation area appraisals and including the wider countryside and the Broads area"

#### **Breckland Council Local Plan (November 2019)**

6.3.6. The Joint Core Strategy for Broadland, Norwich and South Norfolk contains the following policies relevant to cultural heritage:

- Policy ENV 07 Designated Heritage Assets - The significance of designated heritage assets (including their settings), such as listed buildings, scheduled monuments, registered parks and gardens and conservation areas, will be conserved, or wherever possible enhanced. Great weight shall be given to their conservation.

- Policy ENV 08 Non-designated Heritage Assets - Development should be expected to conserve, or wherever possible enhance the historic character, appearance and setting of non-designated historic assets.

## 6.4. Assessment Methodology

### Introduction

- 6.4.1. The assessment has been undertaken in accordance with DMRB LA 104 for Environmental Assessment and LA 106 Cultural Heritage Assessment. It has considered effects on designated and non-designated heritage assets. These assets include; listed buildings, non-designated locally recorded historically important buildings and landscapes, locally important buildings and structures identified during survey work, and non-designated below ground archaeological remains.
- 6.4.2. In addition to DMRB LA 104 and LA 106, the following guidance has been used to inform this assessment:
- Chartered Institute for Archaeologists (CIfA) Standard and guidance for historic desk-based assessment (CIfA 2020)
  - Conservation Principles, Policies and Guidance (Historic England 2008)
  - Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision Taking (Historic England 2015)
  - Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England 2017)
  - Standards for Development-led Archaeological Projects in Norfolk (NCCES 2018)
- 6.4.3. Temporary and permanent construction and operational effects on heritage assets have been considered in this assessment. Temporary effects relate to setting effects from construction-related activities. Permanent effects can be either physical effects on the heritage asset or effects on their setting.
- 6.4.4. All heritage assets are listed in, Appendix 6.1 (**TR010038/APP/6.3**), table 4 with an assessment of their heritage value. This appendix also provides the historic background necessary to place the assessments in context.
- 6.4.5. Baseline information has been gathered using desktop sources and information collected from surveys. A full list of desktop sources is presented in Appendix 6.1 (**TR010038/APP/6.3**).
- 6.4.6. The results of desk-based work and site visits (Appendix 6.1 (**TR010038/APP/6.3**)), and geophysical survey and trial trenching (Appendices 6.2 and 6.3 (**TR010038/APP/6.3**)) have been used to inform the assessment of



archaeological potential. Mitigation recommendations are based on industry best practice outlined above (see paragraph 6.4.2) and consultations undertaken with relevant heritage consultees.

- 6.4.7. All heritage assets are listed in Appendix 6.1 (**TR010038/APP/6.3**) with an assessment of their heritage value/sensitivity. This appendix also provides the historic background necessary to place the assessments in context
- 6.4.8. An assessment of magnitude of impact and significance of effect without application of proposed mitigation measures upon all baseline heritage assets that may be affected is presented in Appendix 6.1 (**TR010038/APP/6.3**), Tables 6.3 (construction phase impacts) and 6.4 (operation impacts).
- 6.4.9. The value (sensitivity) of heritage receptors has been assessed in accordance with DMRB LA 104, Table 3.2N. It should be noted Listed Buildings because of their designation are generally considered to be of high importance. Although all grades of listed building are equally protected in law there are 3 grades of category (Grade I, Grade II\* and Grade II). All listed buildings have been assessed as being of high value (sensitivity).
- 6.4.10. The methodology was presented within Chapter 6 of the EIA Scoping Report for the Proposed Scheme (2019) (**TR010038/APP/6.5**). A schedule of responses detailing how each of the Scoping Opinion (**TR010038/APP/6.6**) comments has been considered as part of this chapter is contained within ES Appendix 4.1 (**TR010038/APP/6.2**).

### **Update to guidance and scope of assessment**

- 6.4.11. Following the Scoping Report of the Proposed Scheme (2019) (**TR010038/APP/6.5**), an update to the DMRB standards was published in 2019. The scope of this assessment has been reviewed and changed to reflect the most up to date standards in DMRB LA 106. Changes to DMRB standard in 2019 since the date of scoping did not significantly affect the methodology as presented within the EIA Scoping Report (2019).
- 6.4.12. Table 6.1 (Summary of proposed scope) sets out the proposed scope for further assessment in the ES which was originally used in the scoping assessment to determine the proposed scope of the heritage assessment. Where the response to one or more of the scoping assessment questions is 'yes', further assessment has been undertaken.



Table 6.1 Summary of proposed scope

Scoping question	Comment	Scope in?
Is any designated or other cultural heritage resource in the footprint of the Proposed Scheme or outside that footprint but still potentially physically affected by it?	Non-statutory sites recorded within the proposed construction boundary.	Yes
Is the setting of any designated or other cultural heritage resource in the footprint of the Proposed Scheme, within the zone of visual influence or potentially affected by noise?	Designated and non-designated assets have settings that include or partially include the footprint of the Proposed Scheme, ZVI and / or is potentially affected by noise.	Yes
Is there new land take associated with the Proposed Scheme?	The Proposed Scheme has new land take south of the existing highway.	Yes
Could potential hitherto unknown archaeological remains be concealed?	Potential archaeological remains are indicated in the Proposed Scheme footprint from findspots and cropmarks visible on aerial photos.	Yes

## Surveys

- 6.4.13. The results of site visits, geophysical survey and trial trenching have been used to inform the assessment of archaeological potential.
- 6.4.14. A site visit was undertaken in May 2020 to determine the sensitivity of the heritage assets. The site visit did not reveal any new previously unidentified non-designated heritage assets.
- 6.4.15. A geophysical survey (Appendix 6.2) (**TR010038/APP/6.3**) was undertaken in November and December 2019 and February 2020. The geophysical survey identified 16 possible archaeological anomalies. The possible anomalies include 11 ditch-like features, a scatter of strong positive magnetic signals across a field and 4 possible kiln sites.
- 6.4.16. Archaeological trial trenching was carried out in 2020 which resulted in 504 trenches being excavated. A low-density spread of archaeological remains of various periods was identified across the whole Proposed Scheme boundary. Several distinct or coherent 'sites' were identified based on a greater density of archaeological features and/or finds densities. Further details on the findings of the archaeological trial trenching is provided in Appendix 6.3 (**TR010038/APP/6.3**).

## Consultation

- 6.4.17. The statutory environmental bodies (SEBs) Historic England, Norfolk County Council, Breckland Council, Broadland District Council and South Norfolk Council contributed to the assessment through comments in the Scoping Opinion for the

Proposed Scheme. Responses are recorded in ES Appendix 4.1 (Scoping opinion responses) (**TR010038/APP/6.3**).

6.4.18. Further consultation on the study area and approach to assessment of impacts was agreed with the SEBs. General agreement was reached regarding the approach to mitigation and no contentious issues were identified.

6.4.19. In addition to this:

- Norfolk County Council was consulted in relation to the design of archaeological evaluations and archaeological mitigation proposals. The areas of archaeological potential were agreed with Norfolk County Council.
- Historic England was consulted regarding the Grade I and Grade II\* listed buildings. Historic England were in agreement that an underpass was preferable to an overbridge connecting to St Andrew's Church (NHLE1170701). It was also recognised that the retaining wall shown during Statutory Consultation, located at the front of the church has been designed out of the Proposed Scheme. At St Peter's Church, Historic England requested more planting along the west and east boundaries of the churchyard to soften the impact of the footbridge west of Easton.
- Breckland and Broadland & South Norfolk Councils Conservation Officers were consulted regarding Grade II listed buildings and non-designated built heritage.

6.4.20. In each case, consultees agreed with the definition of the study area and approach to assessment of impacts. Broad agreement was reached with all consultees regarding the approach to mitigation and no contentious issues were identified.

### Assessment criteria

6.4.21. Further clarification of how criteria in this assessment applies to cultural heritage is provided in Appendix 6.1 (**TR010038/APP/6.3**).

6.4.22. The value/sensitivity of heritage assets and the magnitude and significance of effects has been based on the criteria outlined in tables 3.2N, 3.4N and 3.7 of DMRB LA 104. Each heritage asset in the baseline is graded for heritage value/sensitivity on a scale of Negligible, Low, Medium, High and Very High. This is based on the criteria outlined in DMRB LA 104 and with reference to other appropriate criteria such as those used to designate Scheduled Monuments or Listed Buildings as well as professional judgement. The contribution that setting makes to the value of the asset is assessed at this stage. The criteria for assessing sensitivity of heritage assets is presented in Table 1, Appendix 6.1 (**TR010038/APP/6.3**).

- 6.4.23. The magnitude of impact is assessed on a scale of No Change, Negligible, Minor, Moderate or Major. This is based on consideration of each of the parts of each asset likely to be affected. These parts could be physical elements of the asset or its setting and how important those elements are to the heritage value of the asset. Impacts can be beneficial or adverse and there can be both beneficial and adverse impacts on the same asset. Beneficial and adverse impacts do not “balance out” and each type of impact gets carried forward to assessment of residual effect significance. The criteria for assessing the magnitude of impact is presented in Table 2, Appendix 6.1 (**TR010038/APP/6.3**).
- 6.4.24. The significance of effect is established by comparing the assessment of the value/sensitivity of a heritage asset with the magnitude of the impact as described in DMRB LA 104 and shown in Table 6.2 below. In accordance with DMRB, moderate, large or very large effects are considered significant.

Table 6.2: Significance matrix

		Magnitude of Impact				
		No Change	Negligible	Minor	Moderate	Major
Heritage Value	Very High	Neutral	Slight	Moderate/Large	Large/Very Large	Very large
	High	Neutral	Slight	Moderate/Slight	Moderate/Large	Large/Very Large
	Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/Large
	Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/Moderate
	Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

## 6.5. Assessment assumptions and limitations

- 6.5.1. Information provided by the Historic Environment Records (HER) can be limited due to its dependence on previous opportunities for historic and archaeological research, fieldwork, and discovery. Where nothing of historic interest is shown in a particular area, this can be down to a lack of research or investigation in the area to date, rather than proof that no heritage assets are present at that location.
- 6.5.2. Documentary sources are rare before the medieval period and many historic documents are inherently biased. Older primary sources often fail to accurately locate sites and interpretation can be subjective.
- 6.5.3. Where assets are known the precise extent of these assets is unknown despite the archaeological surveys undertaken to date. However, the level of survey

undertaken to date is sufficient to inform the assessment of impact and appropriate mitigation.

- 6.5.4. Site inspections were undertaken in 2017 for a previous scheme assessment. While the notes from this survey were available, the photographs were not. A second site visit was undertaken in May 2020. However, due to restrictions made necessary by the COVID-19 pandemic, this was limited to public rights of way and limited safe paths. Likewise, visits to data archives were not possible during the period of the updated assessment (in May 2020). These limitations are largely mitigated by undertaking archaeological field survey in the form of geophysical survey and archaeological trial trenching as well as the availability of digital images online and records from other disciplines' surveys. Site meetings intended to discuss setting impacts with Historic England and NCCES were also cancelled due to COVID-19 controls but these were replaced by remote consultation which was adequate to inform the assessment.
- 6.5.5. Consultees noted the limitation that they could not reach agreements on specifics without the final scheme design (including landscape design) and the final archaeological trenching report (which was issued in draft). These details will be made available prior to the detailed design stage.
- 6.5.6. With regard to impact assessment it has been reasonable to assume that the reduced road use during the COVID-19 pandemic had an influence on road noise levels experienced by surveyors during site visits (April 2020) and a larger effect has been assumed for the purposes of this assessment.

## 6.6. Study Area

- 6.6.1. The study area has been defined in accordance with DMRB LA 106 (paragraphs 3.5 to 3.7) and shown on Figure 6.1 (**TR010038/APP/6.2**) to include:
- The footprint of the Proposed Scheme (DCO boundary) and areas which may be physically affected.
  - The Zone of Visual Influence (ZVI). This draws from the Zone of Theoretical Visibility (ZTV) and is modified using site observations to account for vegetation or other factors. The ZVI does not have a mappable output, as it is based partly on professional judgement and will change with season and weather.
  - Any heritage assets which may potentially be affected by noise.
- 6.6.2. To establish the archaeological potential and historic context of the Proposed Scheme, additional baseline information has been gathered for the wider region.
- 6.6.3. In response to a comment in the Scoping Opinion for the Proposed Scheme (2018) (**TR010038/APP/6.6**), the study area has been expanded to identify

designated assets within the ZTV (approximately 1.8km at maximum based on the Proposed Scheme) that could have settings which may be sensitive to visual impacts.

## 6.7. Baseline conditions

- 6.7.1. The archaeological and historic background is given in detail in Appendix 6.1 (**TR010038/APP/6.3**), along with an assessment of value/sensitivity for all heritage assets identified. A summary of the baseline conditions and descriptions of the heritage assets which may be affected by the Proposed Scheme is set out below.
- 6.7.2. A total of 277 heritage assets have been identified within the study area (see Appendix 6.1) (**TR010038/APP/6.3**). These assets are made up of:
- 26 Listed Buildings (4 Grade I, 3 Grade II\* and 19 Grade II)
  - 244 non-designated assets including find spots
  - Seven non-designated historic landscape types in 182 individual parcels<sup>1</sup>
- 6.7.3. There are no Registered Parks and Gardens, Registered Battlefields or Conservation Areas within the study area.
- 6.7.4. Heritage assets are referred to by their National Heritage List for England (NLHE) or Norfolk Historic Environment Record (NHER) reference number pre-fixed MNF. Assets recorded by both sources are referred to by reference to their NHLE reference number. Where assets have been identified by fieldwork as a part of this Proposed Scheme assessment, they are prefixed by "TUD".
- 6.7.5. The location of heritage assets are shown on Figures 6.1, 6.2 and 6.3 (**TR010038/APP/6.2**) and are listed in Appendix 6.1 (**TR010038/APP/6.3**), tables 4 and 5 with an assessment of their heritage value/sensitivity.
- 6.7.6. Heritage assets were screened following review of all available construction information to exclude those assets from detailed assessment on which the Proposed Scheme would not have any impact. Details of this process and comments on individual assets can be found in Appendix 6.1 (**TR010038/APP/6.3**), tables 6 and 7. In brief, assets excluded from detailed assessment mainly fell into three categories:

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<sup>1</sup> An individual parcel is made up of a small area of land that is the same character throughout. In the study area, these are mostly post-medieval and modern landscape types distributed in a mosaic across the landscape,

- Upstanding remains within the ZTV where the Proposed Scheme would only be visible from an inaccessible location such as roof lines, the tops of trees, boundary walls or hedges.
- Archaeological remains with no upstanding elements outside the footprint of the Proposed Scheme as these are not likely to be affected by the Proposed Scheme. However, these were used to inform the assessment of potential for the presence of previously unknown archaeological remains within the Proposed Scheme footprint.
- Findspots of artefacts that have been removed from their original location. These cannot be affected as they are no longer present however, as above, these may indicate other remains nearby and were used to inform the assessment of archaeological potential.

### Key designated heritage assets

#### *St Peter's Church (NHLE1305921)*

- 6.7.7. A Grade I listed building. Built in the late 12<sup>th</sup> century with 13<sup>th</sup> and 15<sup>th</sup> century additions. Repaired and restored in 1883. Partially rendered flint with stone dressings and some brick repairs. Pantile and slate roofs. The former tower at north west corner of church fell in 1778 and large blocks of it are still in the church yard. The door has surviving medieval ironwork. Some early internal features include a 16<sup>th</sup> century pulpit and a 13<sup>th</sup> century font. These give the asset a **high** level of heritage value. The church is located at the east end of the Proposed Scheme, west of Easton (Figure 6.1) (TR010038/APP/6.2).
- 6.7.8. The church is open to worshippers and has an active burial ground which positively contributes to the sense of spiritual value associated with the heritage asset. The field to the east of the church is also consecrated, with no active plan to use. The above details inform the heritage asset's high level of heritage value.
- 6.7.9. Positive elements of the church's setting that contribute to its heritage value are defined by two main components; its relationship to the settlement of Easton and its rural setting. The collapse of the spire has reduced the visibility of the asset within Easton. It now has an enclosed and hidden-away feel to visitors, due to the dense planting on three sides. The rural setting provides ambience, tempered by the church being placed on the former main route through this area, Dereham Road, which provides access.
- 6.7.10. Visibility of the church is constrained by woodlands to the west, north and east and an embankment to the north. These appear to be a deliberate attempt to screen the church and provide a secluded character to the church yard. The church is clearly visible to the south from Dereham Road but, longer distance views are blocked by hedgerows and tall trees.



- 6.7.11. The experience of the asset is quiet and secluded, with a strong presentation to the south, preserving access of sunlight to the interior through the main south windows. Road noise can be heard in the church yard, and vehicles can be seen on Dereham Road. The presence of the existing A47 was assessed as noticeable during survey, but not particularly intrusive. However, it is reasonable to assume that the reduced road use during the COVID-19 pandemic had an influence and a larger effect has been assumed for the purposes of this assessment.
- 6.7.12. These elements of the setting of the asset make a moderate positive contribution to the heritage value of the church.
- 6.7.13. In addition, findspots from the local area indicate a potential for Early Medieval remains. Along with the 12<sup>th</sup> century surviving elements, this may be an indicator that a Saxon church and burial ground may have predated this asset. There is a possibility of previously unknown, unmarked or deviant burials outside current churchyard boundary.

#### *St Andrew's Church (NHLE1170701)*

- 6.7.14. A Grade II\* listed building, St Andrew's Church is 14<sup>th</sup> and 15<sup>th</sup> century in origin, but much renewed in the 19<sup>th</sup> century. The church is made of flint with brick and limestone dressings and slate roofs. The tall square west tower is decorated with statues of evangelists. These give the asset a **high** level of heritage value. The church is located west of Honingham village (Figure 6.1) (**TR010038/APP/6.2**).
- 6.7.15. The building is in good condition, although the churchyard is no longer used for burials. The rectangular churchyard is enclosed on the north, east and west sides by tall planting and has a U-shaped path running from the southern corners to south face of the church. The grave markers south of the church have been rearranged to form two parallel lines roughly on the same alignment as the paths. Although there is always a possibility of previously unknown, unmarked or deviant burials outside the current church boundary, its location and lack of archaeological evidence from trial trenching near the church suggest this is unlikely.
- 6.7.16. Access to the church is directly from the existing A47. There is a layby to the south west. With a small car park just off the western end of the layby, on private land. The car park was not accessible at the time of survey, likely due to the closure of the church during the COVID-19 pandemic. Footpaths on the existing A47 give access to the church from Taverham Road (Church Farm 1051542 below) and from towards Honingham, but only as far as the Honingham roundabout. There are no road signs for the church or layby. The street lighting



for the roundabout to the west extends to the western end of the layby but is not visible from the churchyard.

- 6.7.17. The setting of the church is mostly defined by its visibility, both the south face of the church from the existing A47 and the visibility of the tower to the surrounding countryside. The church lies in the centre of the parish on the main historic thoroughfare and historic maps indicate the tower would once have been highly visible in the area, with views from the west constrained by topography, meaning it would not have been visible from Honingham at any time. However, the planting within the church yard and along the existing A47 and other local roads has rendered the tower non-visible to most travellers apart from a view from the existing A47 directly to the south of the churchyard. Restricted views along most of this stretch of the existing A47 and the speed of the traffic produces a sudden reveal of the church. In winter, the church tower is more visible for approximately 100m in either direction along the existing A47. The furthest the church tower can be seen today is approximately 800m to the south east, from Blind Lane, where the top of the tower is visible.
- 6.7.18. Within the churchyard north of the church, there is a sense of enclosure and rural character from the tall planting on three sides and the building itself. South of the church, the character is more open due to the sparse planting and lack of a wall on the southern boundary. The arrangement of grave markers and paths also focus attention on the relationship of the church to the road. Road noise and visual intrusion from traffic is dominant in the setting here.
- 6.7.19. The setting of the asset has a complex contribution to the heritage value of the asset. The visibility and rural character of the setting has been somewhat lost due to screening from planting and the urbanising effect of the road. however, the relationship to the road is important to the context of the church as a destination and focal point in the parish.

#### *Church Farm House and Barn (NHLE1051542 & NHLE1170764)*

- 6.7.20. These Grade II buildings date from the 17<sup>th</sup> and 18<sup>th</sup> centuries and are red brick with tiles roofs. They form a group with the other buildings in the small farm complex. They also have an association with St Andrew's Church indicated by the naming (which does not imply ownership or other organisational relationships) and with Honingham Park (MNF49020) within which they are located. The buildings contribute to the sense of time and depth in the rural character of the area. These elements give the asset a **high** level of heritage value. The buildings are located on the west side of Taverham Lane immediately north of its junction with Blind Lane (Figure 6.1) (TR010038/APP/6.2).

- 6.7.21. The setting of the assets is very enclosed, due to the dense planting on all sides. The barn is partially visible from the existing A47, more so in winter. The visibility of the barn is principally to the north east and east, from the farmland across Taverham Road. There is a three to five-foot tall red brick wall from Taverham Road along the existing A47, forming the southern boundary of the garden and for Honingham Park. Past the garden to the west, the wall ends and is continued by a wrought iron estate fence, approximately five to six feet tall and topped with fleur-de-lys finials. The fence then continues to seven-foot tall brick and stone gate piers for a gate lodge to Honingham Hall. These elements of the setting illustrate the connection of the farm complex to the park and hall and make a positive contribution to the setting.
- 6.7.22. Road noise from the existing A47 was highly noticeable from Taverham Road and the footpath of the existing A47 at the time of survey, although internal access to the buildings and garden was not possible to assess the effect within the complex. The modern road noise and light from vehicles is intrusive and detrimental to the rural setting of the assets.
- 6.7.23. The setting makes a moderate positive contribution to the heritage value of the asset.

*Berry Hall (1306730/MNF51580).*

- 6.7.24. The Grade II listed Berry Hall is an early 19th century former vicarage with major alterations having taken place in 1949. The main block is constructed from gault brick with a slate roof, and the irregular service wings are constructed in colour washed brick. It has an associated icehouse to the south, with which it forms a group. These elements give the asset a **high** level of heritage value. Berry Hall is located to the west of Honingham (Figure 6.1) (**TR010038/APP/6.2**).
- 6.7.25. There are two main facades, one overlooking a lawn towards the River Tud to the south and another looking east over the main approach from Berrys Lane. An enclosed and heavily screened garden is to the north and west. The approach to the hall passes through pasture with what may have been a lime avenue on either side of the drive. Some of the trees are now fallen but stumps could still be seen during the site visit.
- 6.7.26. The setting of the asset would contribute to its significance by its association with the church served by the former vicar. Unfortunately, it is not clear from available sources, which church or churches were ministered by the vicarage.
- 6.7.27. The character of the immediate surroundings of the asset is rural and focused on the fields immediately surrounding the building. The lawn to the south and the River Tud, the tree-lined approach and framing by tall hedgerows create a picturesque landscape, clearly centred on the approach to and view from the two

main elevations. Dense planting on Berrys Lane and the existing A47 provide a highly effective visual screen to the urbanising elements of the road network and road noise is low due to the low traffic volumes on Berrys Lane and the distance from the A47. In winter, the house and grounds are more visible from Berrys Lane to the east and south-east, but the manorial character is preserved despite increased permeability of vegetation.

6.7.28. The setting of the asset makes a moderate positive contribution to its heritage value.

### Key non-designated heritage assets

6.7.29. A total of 244 non-designated assets have been identified within the study area. Their locations are shown on Figure 6.2 (**TR010038/APP/6.2**). These are made up of:

- 229 archaeological and built heritage assets identified from the NHER
- 15 archaeological and built heritage assets identified from historic mapping and site visits

6.7.30. Numerous anomalies and archaeological remains were identified from geophysical survey and archaeological trial trenching undertaken for this assessment. These have been assembled into broad groups of prehistoric, Roman, and medieval settlement remains, and multi-phase, undated field systems. Since these areas include assets previously recorded, they are not included in the totals. They are better understood in these groups rather than multiple individual features.

6.7.31. The 10 key non-designated assets that the assessment has identified will be significantly affected by the Proposed Scheme are discussed below. For a full account of non-designated assets and non-significant effects refer to Appendix 6.1 (**TR010038/APP/6.3**).

### *Post-medieval milestones (MNF62799 and MNF62796)*

6.7.32. These mileposts are of whitewashed stone with cast iron face plates showing distances from Norwich and Dereham in raised black lettering. They are in good condition and seem to have been restored and cared for recently.

6.7.33. Cast-iron road markers are under threat nationally due to vehicle collisions, neglect and theft. They are often removed during road improvements and either not replaced or replaced at very different locations.

6.7.34. The design of road markers is often highly regional, being based on local procurement and batch ordering for particular routes. During the site visits, other

examples of mileposts nearby but outside the study area were noted to be of similar design, pointing to a regionally distinctive character of signage.

- 6.7.35. The setting of a mile marker in general is made up of its physical location and its visibility and legibility in its immediate surroundings. It also has group value with all other markers in the area, as the uniformity of the design across all milestones on the same turnpike was an aid to wayfinding.
- 6.7.36. For the reasons of group value, regional distinctiveness and fragility, these assets are assessed as of **medium** heritage value. The setting of the assets (including group setting) makes a moderate positive contribution to their value.

#### *Honingham Park (MNF49020)*

- 6.7.37. The former parkland is now mostly made up of agricultural fields and woodland and has experienced boundary loss in the 19<sup>th</sup> and 20<sup>th</sup> centuries. The boundaries of the park are now only apparent from a small section of Taverham Road and the existing A47 south of Church Farm (1051542/MNF41511). This is described above for the farm, but briefly consists of a brick wall and wrought iron fence. There is a single-storey gate house which appears to be of mid-19<sup>th</sup> century construction, on a path which formerly led to Honingham Hall (MNF 49020) the north. The entrance to the path breaks the wrought iron fence with brick and stone gate piers. The piers and fence are heavily over-grown, and the fence appears to have been damaged in places. The park has been assessed as of **low** heritage value
- 6.7.38. The significant elements of the setting of the park is mostly derived from its relationship to Honingham Hall and the surrounding rural landscape. There is also a positive relationship with the roads of the area, which form several boundaries to the parkland. The presentation of the southern entrance indicates this was a main access point for visitors to the hall. The setting of the asset makes a moderate positive contribution to its heritage value.

#### *Paleo-environmental archaeological potential*

- 6.7.39. Geotechnical ground investigations for the Proposed Scheme confirmed the presence of peat derived from former channels of the River Tud, present at four discrete locations within alluvium. Peat can be found at the proposed River Tud crossing and three locations south of Hockering village. The locations of these are shown on Figure 6.2 (**TR010038/APP/6.2**).
- 6.7.40. There is the potential for the recovery of organic palaeo-environmental remains from peat deposits. Peat deposits also have the potential for the survival of waterlogged organic remains.

- 6.7.41. The peat deposits have the potential to contribute to regional research objectives to investigate Pleistocene deposits and survival of environmental deposits they contain and understand long term impacts on the surviving resource.
- 6.7.42. The peat deposits have been assessed as of **medium** heritage value.

*Known archaeological remains, geophysical anomalies, cropmarks and findspots*

- 6.7.43. The precise extent of these assets is unknown despite the archaeological surveys undertaken to date. These surveys have also been unable to locate some features previously recorded, and conversely has identified additional previously unknown features. Full details of the assets and surveys are available in Appendices 6.1, 6.2 and 6.3 (**TR010038/APP/6.3**). For the purposes of this assessment, it is more useful to group the assets and survey results into zones<sup>2</sup> of archaeological potential, which are defined by their geographical location and character. These are listed below and shown on Figure 6.4 (**TR010038/APP/6.2**).
- 6.7.44. These remains identified covered a wide date range, covering the Mesolithic to the modern period.
- 6.7.45. **Zone 1 (Trial trenching Areas 6 and 7)** consisted of ditches, pits and post-holes indicative of Late Bronze Age to Early Iron Age fields and possible contemporary settlement. This multi-period site also included an array of Roman ditches and finds which suggested that a Roman settlement, possibly including a tiled structure was near the site.
- 6.7.46. **Zone 2 (Trial trenching Area 10)** consisted of medieval settlement edge activity, represented by ditches and discrete features adjacent to the village of Hockering.
- 6.7.47. **Zone 3 (Trial trenching Area 26)** consisted of a burnt mound of probable Bronze Age date.
- 6.7.48. **Zone 4 (Trial trenching Area 38)** consisted of a series of ditches and pits, some of which are associated with the presence of a Bronze Age barrow. This barrow forms a part of a wider barrow group located on the brow of the hill (MNF 12809).
- 6.7.49. **Zone 5 (Trial trenching Areas 37, 39, 40 & 41)** contained medieval remains, possibly representing the edge of a small settlement, encompassing plot/croft boundaries and associated activity (MNF 28552), located across the north-east corner of Areas 37 and in areas 39, 40 and 41.

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<sup>2</sup> The zones are numbered sequentially west to east.

- 6.7.50. **Zone 6 (Trial trenching Area 47)** contained a large rectangular enclosure of probable Mid- to Late-Bronze Age date, which had been previously identified by geophysical survey.
- 6.7.51. **Zone 7 (Trial trenching Area 48)** was centred in the eastern part of Area 48, at the far eastern end of the Proposed Scheme and consisted of a small cluster of medieval to Post Medieval boundaries adjacent to the village of Easton (MNF 54359).
- 6.7.52. These zones have been assessed as of **medium** heritage value.

#### *Unknown archaeological remains*

- 6.7.53. The remainder of the footprint of the Proposed Scheme can be grouped into a further archaeological zone. A low-density spread of archaeological remains of various periods was identified across the whole Proposed Scheme. However, as this is spread out and interrupted by many roads, buildings, hardstanding, service trenches and woodland, it has not been presented on Figure 6.4 (TR010038/APP/6.2) as a “Zone 8” to avoid a confusing presentation.
- 6.7.54. The areas of the Proposed Scheme outside of the seven zones of identified archaeological potential include areas without significant geophysical or archaeological trenching results as well as untested areas. The archaeological trial trenching results show a good correlation with the geophysical survey. However, enough features were found through excavation that were not present on the geophysical or cropmark surveys that it must be assumed that the remainder of both the surveyed and un-surveyed land retains further archaeological potential.
- 6.7.55. The character of identified remains is consistent across the Proposed Scheme and this can be expected to inform the potential for undiscovered remains. The remaining open land within the Proposed Scheme has the potential for remains which will contribute to regional research framework objectives as listed above for the seven zones. However, the unknown remains are likely to be less substantial than the known remains and related to the identified activity. The potential value of any such remains might technically be of medium value, but as the value would be principally derived from their contribution to our understanding of the wider context of the seven zones, they are more correctly of **low** heritage value in themselves. This would not preclude individual features or artefacts from being of higher value.
- 6.7.56. The likelihood of finding unknown remains across the entire Proposed Scheme is high, save for the following areas which have entirely or substantially removed the potential archaeology:



- Road surfaces and hardstanding which will have removed any archaeological remains within their footprints
- Modern ponds and drainage ditches which will have removed any archaeological remains within their footprints
- Buried services and their working areas which will have removed any archaeological remains within their footprints
- Extant mature and semi-mature woodland, where root action and grubbing up prior to construction would destroy any potentially preserved archaeological remains.
- 19<sup>th</sup> century and later quarries which are likely to have removed any earlier remains and are of negligible heritage value in themselves.

## 6.8. Potential impacts

- 6.8.1. This section gives a brief description of the potential impacts on the environment during both construction and operation of the Proposed Scheme and a justification for scoping these impacts in or out of the remainder of the assessment.
- 6.8.2. For clarity and transparency, the screening process and identification of non-significant effects (without application of any site-specific mitigation) is presented in Appendix 6.1 (**TR010038/APP/6.3**), tables 6 and 7. This exercise identified four designated key assets and 10 key non-designated which may experience potential impacts from the Proposed Scheme.

### Construction impacts

#### *Temporary construction impacts*

- 6.8.3. Temporary construction impacts would last for all or part of the construction period. These impacts include:
- noise generated by construction work which could impact the quiet, rural setting of heritage assets
  - movement of construction plant within the setting of heritage assets
  - siting of construction compounds, including the introduction of noise and lighting which could have a potential impact on the setting of heritage assets
  - siting of haul routes and traffic diversions introducing traffic and plant movement deeper into the rural setting of heritage assets
- 6.8.4. These impacts are short term and reversible, which means they will cause no permanent change. Therefore, while temporary impacts are predicted for the Proposed Scheme, none of these are residual effects.



- 6.8.5. Construction noise, temporary vegetation clearance and the presence of temporary plant and fencing during construction of the main carriageway will have a temporary impact on the setting of the St Peter's Church (NHLE1305921). The noise impact assessment (Chapter 11 (Noise and vibration)) (TR010038/APP/6.1) has assessed the short-term impact from noise on the asset as minor adverse for the church building and negligible for the churchyard concluding the short-term impact to be not significant for this high value asset. There is also possible temporary physical impact from vibration or ground movement during ground works as they are very close to the churchyard. The magnitude of impact of these temporary effects on this heritage asset are considered to be **slight adverse** on this **high** value asset.
- 6.8.6. Construction noise and the presence of temporary plant and fencing during construction of the main carriage away will have a temporary impact on the setting of St Andrew's Church (NHLE1170701). The noise impact assessment (ES Chapter 11 (TR010038/APP/6.1)) has assessed the short-term impact from noise on the asset as major adverse for the church building and minor adverse for the churchyard concluding the short-term impact to be not significant. There is also possible temporary physical impact from vibration or ground movement during ground works as they are adjacent to the churchyard. The potential magnitude of impact of these temporary effects are considered to be **major adverse** on this **high** value asset.
- 6.8.7. Construction noise and the presence of temporary plant and fencing in relation to the construction of a drainage pond at Norwich Road junction would have a temporary minor impact on the setting of the Grade II Church Farm House (NHLE1051542) and Barn at Church Farm (NHLE1170764) buildings. The potential magnitude of impact of these temporary effects are considered to be **slight adverse** on this **high** value asset.
- 6.8.8. Construction noise and the presence of temporary plant and fencing in relation to the construction of Wood Lane junction would have a temporary negligible impact on the setting of the Grade II Berry Hall (NHLE1306730). The potential magnitude of impact of these temporary effects are considered to be **slight adverse** on this **high** value asset.

#### *Permanent construction impacts*

- 6.8.9. Permanent impacts occur from works carried out during the construction period which would result in a direct or indirect permanent impact. Permanent impacts are likely to include:
- Earthworks required for construction of the Proposed Scheme which have the potential to permanently impact the setting of heritage assets.

- Structural damage to historic buildings due to proximity of works (vibration or other ground movement).
- Excavation required for construction of the Proposed Scheme, site compounds, and haul routes, which have the potential to permanently remove archaeological remains.
- The appearance of the Proposed Scheme, including landscaping works and presence of structures and signage which have the potential to permanently alter the setting of heritage assets.

- 6.8.10. At St Peter's Church (NHLE1305921) no physical permanent construction impact is predicted on the church building. There is a **low** possibility that there are further unknown and unrecorded burials outside the modern boundary of the churchyard on which construction to the north and east of the churchyard might have an impact. These assets are considered of **high** value/sensitivity but if they exist to the north of the churchyard, the Proposed Scheme would have a **major adverse** potential magnitude of impact on them.
- 6.8.11. There are possible setting impacts due to the removal of existing planting and bank forming the northern boundary of the churchyard, which provides screening from the existing A47 carriageway and roundabout. The construction of the footbridge to the east of the church could potentially be visible from the churchyard and would have an impact on the setting of the church and churchyard. This would be a **moderate adverse** magnitude of impact on this **high** value asset. There is some loss of the original setting, but it does not adversely affect the integrity of the setting.
- 6.8.12. At St Andrew's Church (NHLE1170701) no physical permanent construction impact is predicted. There will be no physical impact on the church or churchyard. Due to the location of the church on the north side of the existing A47 and the Proposed Scheme alignment it is unlikely that previously unknown or deviant burials outside the current churchyard would be encountered by construction of the Proposed Scheme. Trenching to the west of the churchyard and south of the A47 opposite the church revealed little in the way of buried archaeological remains (see Appendix 6.3) (**TR010038/APP/6.3**).
- 6.8.13. The church will experience large scale changes to its setting. The proposed Norwich Road junction to the east would create urbanising elements in its current rural setting, whilst cutting off direct road access to the church from Honingham Village. There would also be a loss of rural views of the church from the south and west due to new carriageway passing adjacent to south west corner of the churchyard. The proposed embankment for the Norwich Road junction would also make the road more prominent in this part of the setting. This would be a **major adverse** magnitude of impact on this **high** value asset.

- 6.8.14. Church Farm House (NHLE1051542) and Barn at Church Farm (NHLE1170764) are not predicted to experience any physical construction impacts. However, setting impacts are expected from the proposed Norwich Road junction and drainage basin on the east side of Taverham Road which introduce new urbanising elements to the buildings setting. Potential loss of the estate fencing and wall along the existing A47 belonging to Honingham Park (MNF49020) would also have an impact on their setting through removal of related features that, while not listed, give context to the assets. This would be a **moderate adverse** magnitude of impact on this **high** value asset.
- 6.8.15. There will be no physical impact on Berry Hall (NHLE1306730). The proposed Wood Lane junction to the north of the hall on the line of the existing A47 new embankment would also make the road more prominent in this part of the setting. This would be of **minor adverse** magnitude of impact on this **high** value asset,
- 6.8.16. Honingham Park (MNF49020) may experience physical loss and alteration of part of the south eastern corner of the park through loss of the estate fencing and wall along alongside the existing A47 leading up to Taverham Road. This is part of the conversion of the existing A47 into a new access road for St Andrew's Church and new tie in to Taverham Road and the Norwich Road junction. Potential loss of the estate fencing and wall along the existing A47 belonging to Honingham Park would also change the setting by reducing rural context and increasing urbanisation. The asset is of **low** value and the impacts are of **minor** magnitude.
- 6.8.17. There are two milestones on which construction could have an effect. The Proposed Scheme is not anticipated to have a physical impact on milestones (MNF62796 & MNF62797) but they are close to construction activities that could accidentally damage them. The milestones and their locations will be recorded and protected during construction resulting in **moderate beneficial** magnitude of impact.
- 6.8.18. Construction of a bridge over the River Tud and the carriageway south of Hockering could have an impact on peat deposits containing organic, palaeo-environmental remains. The asset is of **low** value and the impacts are of **minor adverse** magnitude.
- 6.8.19. The known and potential archaeological assets have been grouped into 7 zones. An assessment of impact of individual features and assets from the HER and desk-based resources is available in Appendix 6.1, table 7 (**TR010038/APP/6.3**). The following description of predicted impacts refers only to the zones rather than the individual assets within each zone.

- 6.8.20. The Proposed Scheme will remove all identified and potential remains within its footprint. As the precise layout of storage areas, haul routes and site compounds cannot be committed to at this stage, it is assumed that the whole of the boundary of the Proposed Scheme will be disturbed, except for the current road elements to be retained. The magnitude of impact on zones 1 to 7 is **major adverse** on the zones of **medium** value.
- 6.8.21. The potential archaeological remains affected by the Proposed Scheme outside of zones 1-7 (Zone 8) are assessed to be of **low** value and may also be wholly removed during construction. A magnitude of impact of **major** adverse is predicted.
- 6.8.22. The physical removal of parts of historic landscape types and the setting changes from increased urbanising elements are predicted to have negligible magnitude of impact on the historic landscape. As the historic landscape types are of generally **low** value, the magnitude of impact is predicted to be **neutral to slight adverse**.

### Operational impacts

- 6.8.23. Operational impacts would arise for heritage assets from the use of the Proposed Scheme. Operational impacts are likely to include:
- changes to traffic movements from the Proposed Scheme, which have the potential to alter the setting of heritage assets
  - road lighting around the altered junctions, which have the potential to alter the setting of heritage assets
- 6.8.24. St Peter's Church (NHLE1305921) already sits above a large roundabout on the existing A47 at the end of a dualled section which is already lit and heavily used by existing traffic. The noise assessment (Chapter 11 (Noise and vibration)) (**TR010038/APP/6.1**) has assessed the noise impact for the Proposed Scheme as minor adverse in the short term (scheme opening for operation) for the church and negligible for the churchyard. This would improve in the long term (15 years-time) to negligible for both. It was concluded that this impact was not significant for both church and churchyard.
- 6.8.25. Impacts from operation of the Proposed Scheme from operational effects such as light and traffic noise on the setting of the church and churchyard due to replacement of the existing roundabout with a new tie-in to the existing dualled section of the A47 at Easton and footbridge are assessed as **moderate adverse** magnitude of impact on a **high** value asset
- 6.8.26. St Andrew's Church (NHLE1170701) already sits alongside the lit and heavily used existing A47. The noise assessment (Chapter 11 (Noise and vibration))

(TR010038/APP/6.1) has assessed the noise impact for the Proposed Scheme as major adverse in the short term (scheme opening for operation) for the church and minor adverse for the churchyard. This would improve in the long term (15 years-time) to moderate adverse for the church and negligible for the churchyard. It was concluded that this noise impact was significant adverse for the church and not significant for the churchyard.

- 6.8.27. Grade II\* listed St Andrew's Church (NHLE1170701) already sits alongside the lit and heavily used existing A47. The noise assessment (Chapter 11 (Noise and vibration)) (TR010038/APP/6.1) has assessed the noise impact for the Proposed Scheme as major adverse in the short term (scheme opening for operation) for the church and minor adverse for the churchyard. This would improve in the long term (15 years-time) to moderate adverse for the church and negligible for the churchyard. It was concluded that this noise impact was significant adverse for the church and not significant for the churchyard.
- 6.8.28. Impacts from operation of the Proposed Scheme from operational effects such as light and noise on the setting of the church and churchyard due to the construction of the carriageway very close to the south west corner of the churchyard are assessed as **major adverse** on a **high** value asset .
- 6.8.29. Grade II listed Church Farm House (NHLE1051542) and Barn at Church Farm (NHLE1170764) are located on the west side of Taverham Road 100m north of its junction with the existing A47. The noise assessment (Chapter 11 (Noise and vibration)) (TR010038/APP/6.1) has assessed the noise impact for the Proposed Scheme as minor adverse in the short term (scheme opening for operation). This would improve in the long term (15 years-time) to negligible. It was concluded that this noise impact was not significant.
- 6.8.30. Impacts from operation of the Proposed Scheme from operational effects such as light and traffic noise on the setting of Church Farmhouse and Barn from the operation of Norwich Road junction are assessed as a **moderate adverse** magnitude of impact on a **high** value asset.
- 6.8.31. Berry Hall (NHLE1306730) is located 300m to the south of the existing A47 and is accessed off Blind Lane. The noise assessment (Chapter 11 (Noise and vibration)) (TR010038/APP/6.1) has assessed the noise impact for the Proposed Scheme as minor adverse in the short term (scheme opening for operation). This would improve in the long term (15 years-time) to negligible. It was concluded that this noise impact was not significant.
- 6.8.32. Impacts from operation of the Proposed Scheme from operational effects such as light and traffic noise on the setting of Berry Hall from the operation of Wood Lane junction are assessed as **minor adverse** on a **high** value asset



6.8.33. In addition to the operational impacts described above on key designated heritage assets, the Proposed Scheme would have a number of **minor beneficial** impacts on the setting of other designated heritage assets; four listed buildings in the village of Hockering. These benefits are due to moving the carriageway of the A47 further away from these designated heritage assets:

- St Michaels Church (NHLE1077354) Grade I Listed Building
- Manor Farmhouse (NHLE1306686) Grade II Listed Building
- Manor House (NHLE1342550) Grade II Listed Building
- Yew Tree Farmhouse (NHLE1077355) Grade II Listed Building

## 6.9. Design mitigation and enhancement measures

### Design measures

- 6.9.1. Design intervention is mitigation embedded into the design of the Proposed Scheme and is achieved through an iterative process and enforced through requirements in the draft DCO.
- 6.9.2. Sensitive design of planting of vegetation along the route corridor has been applied to mitigate potential impacts to the setting and location of heritage assets within the study area. The planting design is presented in Chapter 7 (Landscape and visual effects) (**TR010038/APP/6.1**).
- 6.9.3. The proposed planting layout would reduce the predicted adverse impacts of the new proposed junctions and traffic on the setting of nearby heritage assets including the St Peter's Church (NHLE1305921), St Andrew's Church (NHLE1170701), Grade II listed Church Farm House (1051542) and Barn at Church Farm (NHLE1170764) and Grade II listed Berry Hall (NHLE1306730). Specific mitigation to help reduce significant impacts is discussed below.
- 6.9.4. The landscape and planting design has been developed to provide texture screening and avoids block planting, as shown in the Environmental Masterplan (**TR010038/APP/6.8**). This is in keeping with the current character of the immediate setting of the existing A47 and surrounding area with open fields bordered by dispersed tree lines. This would reduce potential impacts on the historic landscape as well as the setting of built heritage.
- 6.9.5. Removal of the screening layer of trees along the northern boundary of St Peter's Church (NHLE1305921) will be replaced with new screening planting beyond which will be installed a noise barrier. These measures are designed to maintain the setting of the churchyard and the church from within the churchyard.
- 6.9.6. Consideration has also been given to the setting of St Peter's Church (NHLE1305921) to the south of the church. Design measures in front of the

church to improve Dereham Road where it linked to the Proposed Scheme have been removed. The setting to the south and west of the church will remain unchanged. Access to the church from Easton will still be via Dereham Road as at present. Additional planting is proposed along the western and eastern sides of the churchyard to maintain the setting within the churchyard and reduce potential impact on setting from the construction of a footbridge to the east of St Peter's Church.

- 6.9.7. The Proposed Scheme has been amended to remove a retaining wall proposed immediately adjacent to St Andrew's Church. The Norwich Road junction has been moved east by approximately 150m away from the church. The Proposed Scheme would pass the Church on a low embankment planted to screen views of the new road from the church. The grade separated junction has been designed so users of the junction pass under the carriageway of the new road and not over it to reduce its height impact in the landscape overall. The contextual link between St Andrew's Church and the village of Hockering will be maintained by providing a pedestrian footpath under the proposed A47 so that villagers can still access the church on foot from the village. The stretch of existing A47 in front of the church will be retained as the access road to the church from Taverham Road.
- 6.9.8. The working plans for the Proposed Scheme around the milestone opposite St Andrew's Church (MNF62797) have been amended to make sure the asset is excluded from the works area and its current location maintained. It will be recorded and protected during construction.
- 6.9.9. The milestone (MNF62796) on the south boundary of St Peter's Church will be fenced, recorded and protected during construction.
- 6.9.10. Drainage on west side of Taverham Road, which would have an effect on the setting of the Grade II Church Farm House (1051542) and Barn at Church Farm (1170764), has had its planting amended in the Proposed Scheme designs to reduce the predicted adverse setting impact of the proposed Norwich Road junction.
- 6.9.11. The Proposed Scheme has been redesigned in the vicinity of Berrys Lane to remove an access road from the Wood Lane junction directly on to Berrys Lane. This would reduce the impact on the setting of Berry Hall (10306730). The Environmental Masterplan (**TR010038/APP/6.8**) presents additional woodland planting to maintain the belt of woodland that screens views of the existing A47 from within the grounds of Berry Hall to include the new junction layout.
- 6.9.12. The Proposed Scheme will be constructed with a low noise surface along its entire length to help reduce noise impact overall.



## Construction mitigation measures

- 6.9.13. Construction will be carried out using industry best practice and in accordance with implementation of an Environmental Management Plan (EMP) to minimise potential adverse effects from noise and vibration as well as dust and accidental damage. Compliance with the EMP will be secured by a requirement in the DCO. No specific measures outside these best-practice measures are recommended for temporary effects on heritage assets.
- 6.9.14. For St Peter's Church (NHLE1305921) and St Andrew's Church (NHLE1170701), in addition to the identified Proposed Scheme design, mitigation measures are proposed due to their very close proximity to construction work comprising a condition survey and structural risk assessment of the buildings to be undertaken prior to construction to form a baseline for the regular monitoring of the condition of these buildings by a structural engineer.
- 6.9.15. During construction, St Peter's Church (NHLE1305921) and St Andrew's Church (NHLE1170701) will be monitored for vibration which may affect the structures. Protocols will be established following best practice guidance to ensure vibration levels are kept within acceptable tolerances to avoid damage, and to halt or alter works methodology should tolerances be exceeded. This is not strictly necessary, as no physical impacts are predicted but is prudent, following the precautionary principal and the relatively low cost of monitoring. The condition survey and structural risk assessment above will also serve as a baseline condition survey for the structures closest to construction.
- 6.9.16. During construction, works to the north and north east of St Peter's Church (NHLE1305921) churchyard will be archeologically monitored during construction to deal with the occurrence of unexpected burials outside the current boundary of the churchyard.
- 6.9.17. The milestone opposite St Andrew's Church (MNF62797) will be protected from accidental damage during construction with fencing and the asset will be fully recorded, conserved and restored. An appropriate specialist will be consulted on the methodology to record, conserve and restore. The asset will then be proposed for listing to Grade II to enhance its future protection. Conservation actions may require temporary removal of the milestone from site.
- 6.9.18. The milestone opposite on the south boundary of St Peter's Church (MNF62796) will also be protected from the works site with fencing and recorded, conserved and restored. An appropriate specialist will be consulted on the methodology to record, conserve and restore. The asset will then be proposed for listing to Grade II to enhance its future protection. Conservation actions may require temporary removal of the milestone from site.

- 6.9.19. The gateway piers and southern boundary of Honingham Park (MNF49020) between St Andrew's Church and Taverham Road will be recorded prior to any works taking place in this area. The gate piers will be protected during construction works. The works will necessitate the removal of a short length of the boundary leading up to the junction of the existing A47 with Taverham Road. The boundary will be reinstated after construction. The type of replacement boundary will be discussed with Norfolk County Council and the Broadland District Council.
- 6.9.20. The heritage value of the known and potential archaeological resource within the footprint of the Proposed Scheme lies in its potential to contribute to the regional research framework objectives. Preservation by record would be an appropriate method to mitigate adverse effects. Identified remains are not of such complexity and sensitivity that preservation in-situ would be necessary. However, good practice dictates that where remains need not be disturbed, they should be protected to ensure they are preserved for the future. Throughout detailed design development, design proposals for temporary structures, services, haul routes, storage methods etc should have regard to this and preserve remains where reasonably practicable by excluding open areas from works with appropriate fencing.
- 6.9.21. Peat deposits affected by crossing of the River Tud and south of Hockering will be archaeologically sampled prior to construction, and analysis will be carried out to mitigate the impact on them. The sampling strategy will be agreed with Norfolk County Council (NCC).
- 6.9.22. All zones of identified archaeological potential will be subject to preservation by record. The precise scope of this work will be agreed with NCCES. Archaeological methods may need to adapt to changing conditions and discoveries throughout the works. Recommendations are set out below but, these should be seen as a strategy and a starting point for agreement.
- Pre-construction excavation for direct impacts in Zones 1-7. These zones contain the main locations of sensitive remains and will likely require the most time to excavate appropriately. Sampling levels should be agreed in advance of works but, will require flexibility to adapt to the emerging archaeological remains in discussion with NCCES. Advance excavation will limit the risk to the subsequent construction phase programme.
  - Archaeological monitoring with potential construction integrated recording in all other parts of the scheme (Zones 8). This work should focus on the mapping of archaeological features related to zones recovering dating evidence to clarify the results of previous excavation in those areas. The monitoring will also provide a safety net to catch any unexpected remains of archaeological value. The monitoring would be targeted on areas of impact defined during the detailed design of the temporary works.

- 6.9.23. During construction, a protocol for unexpected archaeological discoveries will be developed as part of the Environmental Management Plan. This protocol will be agreed with Historic England and NCCES and is likely to include:
- Toolbox talks or other instruction methods to allow operatives to identify potential archaeological remains
  - Protocols for protection, recording, and archiving of relevant finds
  - Protocols and communications plans for temporarily halting works and discussing with the relevant stakeholders in the event of unexpected remains of high or very high value / sensitivity
- 6.9.24. All recording and conservation measures will be secured through DCO requirements and captured within a Written Scheme of Investigation (WSI) which will be agreed with Historic England, NCCES and the Breckland, Broadland and South Norfolk District Council Conservation Officers as appropriate.

### Operational Mitigation Measures

- 6.9.25. No specific operational mitigation measures are considered to be necessary above the design mitigation measures included in this section 6.9.

## 6.10. Assessment of likely significant effects

- 6.10.1. This section details the likely significant adverse or beneficial residual effects predicted with mitigation described in section 6.9 in place (see tables 6.3 and 6.4 below). For an assessment of all cultural heritage assets, including those where no likely significant effects have been reported, refer to Appendix 6.1, **(TR010038/APP/6.3)**, tables 6 and 7.
- 6.10.2. The residual significant effects are determined by comparing the value/sensitivity of the heritage asset affected against the magnitude of impact of the Proposed Scheme after mitigation using the matrix approach set out in DMRB LA 104. See section 6.4, Table 6.2.
- 6.10.3. There are some assets where some effects cannot be mitigated fully, such as the loss of part of the south boundary of Honingham Park (MNF49020) and the impact of the route on the setting of St Andrew's Church. Measures have been proposed to soften these impacts in character. Implementation of mitigation measures change the magnitude of impact of the Proposed Scheme. Magnitude of impact before and after mitigation measures would be implemented are shown and compared in the columns for 'Magnitude of impact before construction' and 'Magnitude of impact after construction' in Tables 6.3 and 6.4. It should be noted that the matrix approach to assessment of significance of effect as set out in DMRB LA 104 and LA 106 can result in the same magnitude of impact and significance of effect before and after mitigation.

## Construction temporary effects

- 6.10.4. The predicted effects are short term and reversible and therefore will cause no permanent change. Therefore, no residual effects arising from temporary effects are predicted for the Proposed Scheme.

## Construction permanent effects

- 6.10.5. The residual beneficial and adverse construction permanent effects predicted on heritage assets are reported in Table 6.3. DMRB LA 104 describes significant effects as typically comprising residual effects that are moderate, large or very large. Significant effects are highlighted in the Significance of Effect column of Table 6.3 in bold type. For all impacts before mitigation on all heritage assets, please refer to Appendix 6.1 (**TR010038/APP/6.3**), Tables 6 and 7.
- 6.10.6. All residual effects are included in Table 6.3 below. Significant effects are highlighted in bold text in the 'Significance of effects after mitigation' column of the table.

Table 6.3: Beneficial and adverse residual construction effects

NHLE / HER / TUD Ref Name	Designation	Value/ Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
St Peter's Church (NHLE1305921)	Listed Building Grade I	High	Construction activities are not predicted to have an impact on the building or churchyard through vibration or other ground movement. However, as they are very close to the construction works (less than 50m for the church and 5m for the existing churchyard), as a precautionary approach the building and associated structures such as tombs and grave markers will be monitored for vibration during construction.	No change	No change	Neutral
St Peter's Church (NHLE1305921)	Listed Building Grade I	High	It is predicted that the footbridge to east of the church would have a moderate impact on the setting for the church which will be mitigated through planting design by adding additional planting to the west and east boundaries of the churchyard. The landscape screening planting on the east and west sides of the churchyard will soften the urbanising effect of the new footbridge structure on the setting of the churchyard viewed from within it.  DMRB LA 104 Significance Matrix allows for a choice of slight or moderate effect in cases of minor adverse impacts on high sensitivity assets. Moderate adverse has been selected as it was considered that the footbridge would have a moderate effect on the assets setting. There is some loss of the original setting but it does not adversely affect the integrity of the setting.	Moderate Adverse	Minor Adverse	<b>Moderate adverse</b>
St Peter's Church (NHLE1305921)	Listed Building Grade I	High	There is a low potential for previously unknown or deviant burials outside the current churchyard boundary. The occurrence of unexpected burials will be mitigated through archaeological monitoring during construction.  The significance of effect could be given as neutral or slight. Neutral has been chosen to reflect that recording and dissemination of archaeological information will add to our understanding of the archaeology of the region.	Major Adverse	Negligible	Slight adverse
St Andrew's Church (NHLE1170701)	Listed Building Grade II*	High	Construction activities are not predicted to have an impact on the building or churchyard through vibration or other ground movement. However, as the asset is located close to the construction works (less than 40m for the church and 5m for the churchyard), as a precautionary approach and the building and associated structures such as tombs and grave markers will be monitored for vibration during construction.	No change	No change	Neutral

NHLE / HER / TUD Ref Name	Designation	Value/ Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
St Andrew's Church (NHLE1170701)	Listed Building Grade II*	High	<p>There would be permanent construction effects on the setting of the church and its churchyard from construction of the new carriageway immediately adjacent to them. Existing traffic would be removed from directly in front of the church by converting the existing A47 into an access road for the church from Taverham Road. This would remove regular heavy traffic from directly in front of the church to the new carriageway. However, the proposed grade separated junction (Norwich Road junction) to the east and new carriage way to the immediate south and west of the church and the churchyard introduce noticeable new urbanising elements into their setting. The new elevated carriageway will also divorce the church from its rural setting to the south and west and Honingham Village. This will impact of views of the church from these directions.</p> <p>During the design process a retaining wall was removed from the scheme design to reduce the impact on the setting of the church. The carriageway was redesigned to sit on a low embank that could be better planted to screen the carriageway from the church and improve its new setting. A pedestrian and cyclist underpass under the carriageway near the church was added to the Proposed Scheme to retain its contextual link with the village of Honingham. Norwich Road junction was also moved further to the east to reduce to introduction of urbanising elements to the setting of the church. It was also designed to be largely in cutting to reduce its impact on the landscape. There will also be extensive mixed landscaped planting around Norwich Road junction to soften its urbanising effect. The landscape screening planting alongside the carriageway the south and west of the churchyard will also help to screen the carriageway from the church and within churchyard.</p> <p>DMRB 104 allows for selection of Significance of Effect as either moderate or large on high value assets with moderate adverse impacts on them. Large has been chosen based on professional judgement because of the design measures incorporated to reduce the impact of the Proposed Scheme. Without them the impact would have been major with a very large significance of effect.</p>	Major Adverse	Moderate Adverse	<b>Large adverse</b>
Church Farm House and Barn at Church Farm (NHLE1051542 & 1170764)	Listed Building Grade II	High	Church Farm House and Barn will not be physically affected by the Proposed Scheme. Construction activities are also not predicted to have a physical effect on the buildings through vibration or other ground movement during the construction of Norwich Road junction. However a permanent construction impact is predicted on the setting due to the introduction of urbanising elements through the construction of a large drainage pond immediately south	Moderate Adverse	Minor Adverse	Slight adverse

NHLE / HER / TUD Ref Name	Designation	Value/ Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
			<p>west of the assets on east side of Taverham Road and Norwich Road junction to the south west.</p> <p>The impact on setting will be mitigated through landscape screening planting around Norwich Road junction and around the drainage pond to soften the urbanising effect of the Proposed Scheme on the buildings setting. During the design process additional planting of individual trees was added around the drainage pond on the west side to further reduce its impact on the buildings setting.</p> <p>DMRB 104 allows for selection of Significance of Effect as either slight or moderate on high value assets with minor adverse impacts on them. Slight has been chosen based on professional judgement because of the design measures incorporated to reduce the impact of the Proposed Scheme. Without them the impact would have been moderate adverse with a moderate significance of effect.</p>			
Berry Hall (NHLE1306730)	Listed Building Grade II	High	<p>The Proposed Scheme will not have a physical impact on Berry Hall but it will have a permanent construction impact on its setting due to construction of Wood Lane junction to the north of Berry Hall on the line of the existing A47.</p> <p>During the design process the plan to use Berrys Lane to the east of Berry Hall was removed from the Proposed Scheme. This reduced its impact on the setting of Berry Hall. Additional landscape woodland planting to the north of the Berry Hall was also added to the south side of the junction to maintain the existing belt of woodland planting between Berry Hall and the A47.</p>	Minor Adverse	Negligible	Slight Adverse
Honingham Park (MNF49020)	None	Low	<p>The entrance to the park sits on the existing A47. The existing A47 will be retained here and converted into an access road from Taverham Road to serve St Andrew's Church. Construction activities to upgrade the access road and tie it into Taverham Road would physically affect a very small strip of land and estate fencing at the southwest corner of the park, where its character is not readily apparent. The current estate boundary would be removed alongside the existing A47 for approximately 150m and replaced with landscape planting.</p> <p>To mitigate the impact the gate piers and any part of the estate fencing not affected will be protected during construction. The length of boundary wall affected will be recorded before its removal.</p>	Minor Adverse	Negligible	Slight adverse



NHLE / HER / TUD Ref Name	Designation	Value/ Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
Milestone (MNF62796)	None	Medium	Asset is within the boundary of the Proposed Scheme although not directly affected by the Proposed Scheme it is vulnerable to accidental damage from construction works in its vicinity. The asset will be appropriately recorded, conserved, restored and protected during works. It will then be proposed for listing to Grade II. Layout of paths, fences and planting will re-instate the general visual context of the asset, enhancing its setting.	No change.	Moderate Beneficial	<b>Moderate Beneficial</b>
Milestone (MNF62797)	None	Medium	Asset is within the boundary of the Proposed Scheme although not directly affected it is vulnerable to accidental damage from construction works in its vicinity. The asset will be appropriately recorded, conserved, restored and protected during works. It will then be proposed for listing to Grade II. Layout of paths, fences and planting will re-instate the general visual context of the asset, enhancing its setting.	No change	Moderate Beneficial	<b>Moderate Beneficial</b>
Areas of Archaeological Potential Zones 1-7	None	Medium	Construction works will physically remove large parts of these assets. A programme of mitigation by archaeological recording will be prepared and agreed with NCCES to preserve the assets affected by record and contribute to regional research framework objectives.  The significance of effect could be given as neutral or slight. Neutral has been chosen to reflect that recording and dissemination of archaeological information will add to our understanding of the archaeology of the region.	Major Adverse	Negligible	Neutral
Paleo-environmental deposits	None	Low	Construction works will physically remove large parts of these assets where they occur. A programme of archaeological sampling will be agreed with NCCES to preserve the assets affected by record and contribute to regional research framework objectives.  The significance of effect could be given as neutral or slight. Neutral has been chosen to reflect that recording and dissemination of archaeological information will add to our understanding of the archaeology of the region.	Minor Adverse	Negligible	Neutral
Known and Potential archaeological remains outside of Areas of	None	Low	Construction works will physically remove large parts of these assets. A programme of archaeological recording will be agreed with NCCES to preserve the assets affected by record and contribute to our understanding of the potential archaeological remains outside zones 1-7.	Major Adverse	Negligible	Neutral

NHLE / HER / TUD Ref Name	Designation	Value/ Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
Archaeological Potential Zones 1-7			The significance of effect could be given as neutral or slight. Neutral has been chosen to reflect that recording and dissemination of archaeological information will add to our understanding of the archaeology of the region.			

## Operational effects

- 6.10.7. The predicted residual effects on heritage assets during operation are reported in Table 6.4. For non-significant adverse effects, please refer to Appendix 6.1 (**TR010038/APP/6.3**), Tables 6 and 7. DMRB LA 104 describes significant effects as typically comprising residual effects that are moderate, large or very large. Significant effects are highlighted in the Significance of Effect after mitigation column of Table 6.4 in bold type.

Table 6.4: beneficial and significant adverse operational effects

NHLE / HER / TUD Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
St Peter's Church (NHLE1305921)	Listed Building Grade I	High	<p>Operational effects such as light and traffic noise are likely to impact the setting of the church and churchyard due to replacement of the existing Easton roundabout with dual carriageway at Easton and a new walking and cycling footbridge. The impact of the infrastructure has been designed with a consideration of the setting of the church.</p> <p>Operational impacts of the Proposed Scheme will be reduced by the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• implementation of low noise surfacing on the carriageway;</li> <li>• the installation a green/living noise barrier to the north of the churchyard boundary; and</li> <li>• landscape planting along the north boundary of the churchyard to maintain the setting of the church within the churchyard.</li> </ul> <p>Additional planting will be added along the east and west boundaries of the churchyard to further improve its setting over time as the planting becomes established.</p> <p>DMRB 104 allows for selection of Significance of Effect as either moderate or slight on high value assets with minor adverse impacts on them. Slight has been chosen based on professional judgement because of the design measures incorporated to reduce the impact of the Proposed Scheme.</p>	Moderate Adverse	Minor Adverse	Slight adverse

NHLE / HER / TUD Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
St Andrew's Church (NHLE1170701)	Listed Building Grade II*	High	<p>Operational impacts of the Proposed Scheme from light and traffic noise on the setting of the church and churchyard due to construction of the new carriageway very close to the south west corner of the churchyard have been mitigated where possible by design during the design process.</p> <p>Impact from operation of the Proposed Scheme will be reduced by use of a low noise surface on the carriageway and landscape planting either side of the carriageway. A retaining wall near the church and churchyard was replaced during the design process in favour of the carriage way on a low embankment that could be more easily screened with landscape planting. There is a mix of planting including individual trees to screen the operation of the carriageway when viewed from the churchyard looking south.</p> <p>DMRB 104 allows for selection of Significance of Effect as either moderate or large on high value assets with moderate adverse impacts on them. Large has been chosen based on professional judgement because of the design measures incorporated to reduce the impact of the Proposed Scheme. Without them the impact would have been major with a very large significance of effect.</p>	Major Adverse	Moderate Adverse	<b>Large adverse</b>
Church Farm House and Barn at Church Farm (NHLE1051542 & 1170764)	Listed Building Grade II	High	<p>Operational impacts of the Proposed Scheme from light and traffic noise on the setting of Church Farmhouse and Barn have been mitigated where possible through the design process.</p> <p>Impact from operation of the Proposed Scheme will be mitigated by use of a low noise surface on the carriageway and landscape planting on all sides of the junction involving a wide range of planting types. During the design process the roundabout locations were moved as far away as practically possible from the buildings.</p> <p>DMRB 104 allows for selection of Significance of Effect as either slight or moderate on high value assets with minor adverse impacts on them. Slight has been chosen based on professional judgement because of the design measures incorporated to reduce the impact of the Proposed Scheme. Without them the impact would have been moderate adverse with a moderate significance of effect.</p>	Moderate Adverse	Minor Adverse	Slight adverse
Berry Hall (NHLE1306730)	Listed Building Grade II	High	Operational impacts of the Proposed Scheme from light and traffic noise on the setting of Berry Hall as a result of the Wood Lane junction have been mitigated where possible by design during the design process.	Minor Adverse	Negligible	Slight adverse

NHLE / HER / TUD Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
			Impacts from operation of the Proposed Scheme will be mitigated by use of a low noise surface on the carriageway and landscape planting on all sides of the junction involving a wide range of planting types. During the design process access to the new junction from Berry Hall Lane was removed from the Proposed Scheme to reduce the impact on the setting of Berry Hall. Additional woodland plating was also added the landscape planting design at the junction to the north east of Berry Hall to further mitigate any operational impacts.			
Church of St Michael (NHLE1077354)	Listed Building Grade I	High	Dualling of the Proposed Scheme 200m to the south of Hockering will bypass the village. This would preserve the current road layout and planting on the existing A47. Operation of the Proposed Scheme would result in less traffic and traffic noise on the existing A47 immediately south of the asset and result in an improvement on its setting.	Minor Beneficial	Minor Beneficial	Slight adverse
Manor Farmhouse (NHLE1306686)	Listed Building Grade II	High	Dualling of the Proposed Scheme 200m to the south of Hockering will bypass the village. This will preserve the current road layout and planting on the existing A47. As a result operation of the Proposed Scheme will result in less traffic and traffic noise on the existing A47 immediately south of the asset and result in an improvement on its setting.  DMRB 104 allows for selection of Significance of Effect as either slight or moderate on high value assets with minor beneficial impacts on them. Slight has been chosen based on professional judgement because the Proposed Scheme will lower traffic and noise levels on the existing A47 next to the asset.	Minor Beneficial	Minor Beneficial	Slight beneficial
Manor House (NHLE1342550)	Listed Building Grade II	High	Dualling of the Proposed Scheme 200m to the south of Hockering will bypass the village. This will preserve the current road layout and planting on the existing A47. Operation of the Proposed Scheme will result in less traffic and traffic noise on the existing A47 immediately south of the asset and result in an improvement on its setting.  DMRB 104 allows for selection of Significance of Effect as either slight or moderate on high value assets with minor beneficial impacts on them. Slight has been chosen based on professional judgement because the Proposed Scheme will lower traffic and noise levels on the existing A47 next to the asset.	Minor Beneficial	Minor Beneficial	Slight beneficial
Yew Tree Farmhouse	Listed Building Grade II	High	Dualling of the Proposed Scheme 200m to the south of Hockering will bypass the village. This will preserve the current road layout and planting on the existing A47. Operation of the Proposed Scheme will result in less traffic and	Minor Beneficial	Minor Beneficial	Slight beneficial



NHLE / HER / TUD Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect after mitigation
(NHLE1077355)			<p>traffic noise on the existing A47 immediately south of the asset and result in an improvement on its setting.</p> <p>DMRB 104 allows for selection of Significance of Effect as either slight or moderate on high value assets with minor beneficial impacts on them. Slight has been chosen based on professional judgement because the Proposed Scheme will lower traffic and noise levels on the existing A47 next to the asset.</p>			

## 6.11. Monitoring

6.11.1. Due to the potential for significant adverse effects to archaeological remains and heritage assets, the monitoring of any protection measures would be undertaken during construction to ensure that they remain effective including regular inspections of temporary fencing. Monitoring measures and protocols for managing any disturbance or removal of archaeological remains and heritage assets would be agreed with the relevant stakeholders and recorded in the Environmental Management Plan (EMP) and compliance will be secured by a requirement in the DCO.

## 6.12. Summary

6.12.1. Noise barriers, low noise surfacing, landscaping and planting have been incorporated into the design of the Proposed Scheme to reduce adverse effects on the setting of several cultural heritage assets. Design intervention and mitigation has been included in the impact assessments for the heritage assets.

6.12.2. Impacts on heritage assets have largely been mitigated during the design process. For those heritage assets where impacts could not be fully designed out, recommendations have been made for suitable mitigation measures which are included in the EMP. Mitigation will be delivered through the EMP through the preparation and implementation of a heritage mitigation strategy called a Detailed Heritage Written Scheme of Investigation (DHWSI). The DHWSI will be agreed with and monitored by the relevant SEB's.

6.12.3. Residual adverse effects on setting have been identified as a result of construction and operation activities on the following designated heritage assets:

- St Peter's Church (NHLE1305921 Grade I Listed Building) - **Moderate**
- St Andrew's Church (NHLE1170701 Grade II\* Listed Building) - **Large**
- Church Farm House (NHLE1051542 Grade II Listed Building) – **Slight**
- Berry Hall (NHLE1306730 Grade II Listed Building) – **Slight**

6.12.4. Likely significant impacts for archaeological remains dating from the prehistoric to Post-medieval periods have been identified and this assessment presents the most likely worst case. A programme of archaeological recording is proposed to mitigate these effects. The significance of effect the residual impact is considered to be **neutral**.

6.12.5. There will also be a **slight** impact on Honingham Park (MNF 49020) a non-designated historic park and garden.

- 6.12.6. **Moderate** significant beneficial effects of the Proposed Scheme during construction have been identified as a result of protection and conservation actions on two milestones (MNF62796 and MNF62797).
- 6.12.7. In addition to this, some slight beneficial effects, have been identified for the Proposed Scheme during operation. These are due to moving the carriageway of the A47 further away from various assets:
- St Michaels Church (NHLE1077354) Grade I Listed Building
  - Manor Farmhouse (NHLE1306686) Grade II Listed Building
  - Manor House (NHLE1342550) Grade II Listed Building
  - Yew Tree Farmhouse (NHLE1077355) Grade II Listed Building
- 6.12.8. No significant effects are predicted for the historic landscape.
- 6.12.9. During construction, a protocol for unexpected archaeological discoveries will be developed as part of the WSI. This protocol will be agreed with Historic England and NCCES in advance and is likely to include:
- Toolbox talks or other instruction methods to allow operatives to identify potential archaeological remains
  - Protocols for protection, recording, and archiving of relevant finds
  - Protocols and communications plans for temporarily halting works and consulting with the relevant stakeholders in the event of unexpected remains of high or very high value / sensitivity.
- 6.12.10. Monitoring of any protection measures would be undertaken during construction to ensure that they remain effective including regular inspections of temporary fencing.

## 6.13. References

- 6.13.1. For a full list of references and a glossary of terms, please refer to Appendix 6.1 **(TR010038/APP/6.3)**.