



The Sizewell C Project

6.10 Volume 9 Rail

Chapter 9 Terrestrial Historic Environment

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9. Terrestrial historic environment

9.1 Introduction

9.1.1 This chapter of **Volume 9** of the **Environmental Statement (ES)** (Doc Ref. 6.10) presents an assessment of the potential terrestrial historic environment effects arising from the construction and operation of proposals relating to rail.

9.1.2 The proposals considered in this volume are as follows:

- the part of the green rail route comprising a temporary rail extension of approximately 1.8 kilometres (km) from the existing Saxmundham to Leiston branch line to the proposed B1122 (Abbey Road) level crossing inclusive (the 'proposed rail extension route') as shown on **Figure 2.1**.
- Saxmundham to Leiston branch line upgrades (including track replacement and level crossing upgrades) (the 'proposed rail improvement works') as shown as **Figure 2.11**, (together the 'proposed development').

9.1.3 The proposed green rail route in its entirety comprises a temporary rail extension of approximately 4.5km from the existing Saxmundham to Leiston branch line to a terminal within the main development site. The part of the green rail route between the proposed B1122 (Abbey Road) level crossing and the terminal within the main development site is detailed in **Volume 2, Chapters 1 to 5** of the **ES** (Doc Ref. 6.3) and assessed in **Volume 2** of the **ES**.

9.1.4 Once the proposed rail extension route is no longer required for the construction of the Sizewell C Project, it will be removed and the land reinstated, however the other rail improvement works would be permanent.

9.1.5 Detailed descriptions of the proposed development sites (referred to throughout this volume as the 'site' as relevant to the location of the works), the proposed development and the construction, operation, and removal and reinstatement phases are provided in **Chapters 1 and 2** of this volume of the **ES**. A glossary of terms and list of abbreviations used in this chapter is provided in **Volume 1, Appendix 1A** of the **ES** (Doc Ref. 6.2).

9.1.6 This assessment has been informed by data from other assessments as following:

- **Chapter 4** of this volume: Noise and vibration.
- **Chapter 6** of this volume: Landscape and visual.

9.1.7 This assessment has also been undertaken in accordance with or informed by data presented in the following technical appendices:

- **Appendix 9A** of this volume: Gazetteer of heritage assets.
- **Appendix 9B** of this volume: United Kingdom (UK) European Pressurised Reactor (EPR™) Sizewell C Rail Route Options Historic Environment Desk-Based Assessment (DBA), September 2015.
- **Appendix 9C** of this volume: Geophysical Survey Report
- **Appendix 9D** of this volume: Green Rail Route, Sizewell C, Suffolk, Interim Fieldwork Summary.
- **Volume 1, Annex 6L.1** of the **ES**: UK EPR™ Sizewell C - Historic Environment Settings Assessment Scoping Update. 2019.

9.1.8 Please note that the red line boundary used in the figures within the appendices was amended after some of these documents were finalised, and therefore does not reflect the boundaries in respect of which development consent has been sought in this application. However, the amendment to the red line boundary does not have any impact on the findings set out in this document and all other information remains correct.

9.2 Legislation, policy and guidance

9.2.1 **Volume 1, Appendix 6L** of the **ES** identifies and describes legislation, policy and guidance of relevance to the assessment of the potential terrestrial historic environment impacts associated with the Sizewell C Project across all **ES** volumes.

9.2.2 This section provides an overview of the specific legislation, policy and guidance of relevance to the historic environment assessment of the proposed development.

a) International

9.2.3 There is no international legislation or policy that is relevant to the terrestrial historic environment assessment of the proposed development.

b) National

i. Legislation

9.2.4 National legislation relating to the terrestrial historic environment assessment include:

- The Ancient Monuments and Archaeological Areas Act 1979 (Ref. 9.1).
- The Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref. 9.2).
- The Infrastructure (Decisions) Regulations 2010 (Ref. 9.3).
- The Hedgerow Regulations 1997 (Ref. 9.4).
- The Protection of Military Remains Act 1986 (Ref. 9.5).

9.2.5 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

ii. Policies

9.2.6 The National Policy Statement (NPS) 2011 sets out the national policy for energy infrastructure. The overarching NPS for Energy (EN-1) (Ref. 9.6) and NPS for Nuclear Power Generation (EN-6) (Ref. 9.7) provide the primary policy framework within which the development will be considered. A summary of the relevant planning policy, together with consideration of how the advice has been taken into account is provided in **Volume 1, Chapter 3** of the **ES**, with requirements specific to this site set out in **Table 9.1**.

Table 9.1: Requirements of the National Policy Statements

Ref.	NPS topic requirement	How the requirement has been addressed for the proposed development
EN-1	EN-1 Paragraph 5.8.9 further states that “Where proposed development will affect the	Relevant heritage visualisations are supplied as agreed with Historic England

Ref.	NPS topic requirement	How the requirement has been addressed for the proposed development
	setting of a heritage asset, representative visualisations may be necessary to explain the impact.”	and the East Suffolk Council Conservation Officer.

c) Regional

9.2.7 No regional policy over and above that described in **Volume 1, Chapter 3** of the **ES** is deemed relevant to the assessment for this site.

d) Local

9.2.8 Local policies relating to the terrestrial historic environment assessment include:

- Suffolk Coastal District Council (SCDC) Local Plan Core Strategy and Development Management Policies (Ref. 9.8):
 - Development Management Policy DM21
 - Strategic Policy SP15
- SCDC Final Draft Local Plan (Ref. 9.9):
 - Policy SCLP11.3.
 - Policy SCLP11.4.
 - Policy SCLP11.5.
 - Policy SCLP11.6.
 - Policy SCLP11.7.
 - Policy SCLP11.8.
 - Policy SCLP11.9.
- Supplementary Planning Guidance 6 Historic Parks and Gardens (Ref. 9.10).

9.2.9 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

e) Guidance

9.2.10 This assessment has been undertaken in accordance with the following guidance documents:

- Good Practice Advice in Planning Note 2: Managing Significance in decision-taking in the Historic Environment. Historic England, 2015 (Ref. 9.11).
- Conservation Principles, Policies and Guidance. Historic England (Ref. 9.12).
- Good Practice Advice in Planning Note 3: The Setting of Heritage Assets Historic England, 2017 (Ref. 9.13).
- Research and Archaeology: Framework for the East of England (2000, 2011 and draft updates 2018-19) (Refs. 9.14; 9.15; 9.16; 9.17) and
- National and Local Archaeological Standards and Guidance (Refs. 9.18; 9.19; 9.20; 9.21; 9.22; 9.23; 9.24; 9.25).

9.2.11 The requirements of these, as relevant to the terrestrial historic environment assessment, are set out in **Volume 1, Appendix 6L** of the **ES**.

9.3 Methodology

a) Scope of the assessment

9.3.1 The generic Environmental Impact Assessment (EIA) methodology is detailed in **Volume 1, Chapter 6** of the **ES**.

9.3.2 The full method of assessment for the terrestrial historic environment that has been applied for the Sizewell C Project is included in **Volume 1, Appendix 6L** of the **ES**.

9.3.3 This section provides specific details of the terrestrial historic environment methodology applied to the assessment of the proposed development.

9.3.4 A screening exercise, as detailed below, has been undertaken for the upgrades on the level crossings on the Saxmundham to Leiston branch line which has reviewed the works proposed. Where the works are considered to have potential likely significant effects, these have been assessed. The scope of assessment considers the impacts of the upgrade works and operational use of the branch line.

9.3.5 The location of the temporary construction compound on land to the east of the site boundary is assessed as part of the main development site

assessment in **Chapter 16** of **Volume 2** of the **ES**, and is referred to as main development site Area 3.

9.3.6 The scope of this assessment has been established through a formal EIA scoping process undertaken with the Planning Inspectorate (PINS). A request for an EIA Scoping Opinion was initially issued to the PINS in 2014, with an updated request issued in 2019 - see **Volume 1, Appendix 6A** of the **ES**.

9.3.7 Comments raised in the EIA Scoping Opinion received in 2014 and 2019 have been taken into account in the development of the assessment methodology. These are detailed in **Volume 1, Appendices 6A to 6C** of the **ES**.

b) **Consultation**

9.3.8 The scope of the assessment has also been informed by ongoing consultation and engagement with statutory consultees throughout the design and assessment process. A summary of the comments raised and SZC Co.'s responses are detailed in **Volume 1** of the **ES**.

9.3.9 Consultation was undertaken with Historic England and Suffolk County Council Archaeology Service (SCCAS) with regards to the suitability of the spatial scope and data search study area. Confirmation that the assessment and information was adequate was received from SCCAS, Historic England and East Suffolk Council (ESC) through the Stage 3 consultation and within the 2019 EIA Scoping Opinion.

9.3.10 The Settings Assessment Scoping Report in **Volume 1, Annex 6L.1** of the **ES** was also consulted on with SCCAS, Historic England and ESC and the results of that consultation have been incorporated into this assessment.

c) **Environmental Screening**

9.3.11 The proposed rail extension route has the potential to result in environmental effects which could be significant, and therefore these works have been considered in the environmental assessment.

9.3.12 An environmental screening exercise was undertaken to identify which of the level crossing upgrade works on the Saxmundham to Leiston branch line may give rise to environmental effects that could potentially be significant.

- 9.3.13 There are a small number of locations where land take is required outside the existing rail boundary, primarily existing roads and tracks, but including areas for welfare provision, temporary storage and light vehicle access. These are at:
- Knodishall level crossing.
 - Westhouse level crossing.
 - Saxmundham level crossing and
 - Leiston level crossing.
- 9.3.14 Temporary satellite compounds are proposed for these level crossings which would use geotextile matting for the parking of a construction vehicle and welfare van.
- 9.3.15 The limited scale of these areas, the previous disturbance from existing roads and tracks and the limited extents of intrusions anticipated means that effects on archaeological remains are not likely and would, even in the worst case, be of limited magnitude and could readily be mitigated.
- 9.3.16 The nature of the proposed level crossing works means that visibility is unlikely to extend any further than views of the existing railway line. As a result, change to setting would be insufficient to give rise to adverse effects unless works were located in particularly sensitive locations, such as within conservation areas, or immediately adjacent to assets of high heritage significance.
- 9.3.17 In order to better understand the potential for significant effects, an initial appraisal has been carried out. **Figure 9.1** illustrates the location of designated assets within a 250 metre (m) buffer area of the site boundary in order to identify any designated assets which may be immediately adjacent to the proposed level crossing upgrade locations. No assets were found to be immediately adjacent to the locations, or have the potential to be affected by the proposed level crossing upgrades.
- 9.3.18 All of the proposed level crossing upgrade works have therefore been screened out of the historic environment assessment, as they are not likely to give rise to significant effects on the historic environment.
- 9.3.19 **Table 9.2** provides a summary of the environmental screening exercise.

Table 9.2: Summary of environmental screening exercise.

Proposed Level Crossing Improvement	Summary of potential effects	Screened in or out of the assessment
Bratts Black House	Works would be undertaken within the existing rail land boundary and there would be no disturbance of archaeological assets. There are no designated heritage assets within 250m of the level crossing.	Screened out.
Knodishall	Additional land take would be restricted to highways land and a small area of arable cultivation to the south of the railway. If archaeological remains are present, disturbance would be limited and could readily be mitigated to a negligible effect by archaeological watching brief. There are no designated heritage assets within 250m of the level crossing.	Screened out.
West House	Additional land take within the site boundary would be restricted to the existing lane and a small area of arable cultivation to the south of the railway. If archaeological remains are present, disturbance would be limited and could readily be mitigated to a negligible effect by archaeological watching brief. The Grade II listed Westhouse Farmhouse (LB1227893) is 190m to the south-east of the level crossing. It is well screened from the level crossing by intervening farm buildings and planting and no discernible change to setting will arise.	Screened out.
Snowdens	Works would be undertaken within the existing rail land boundary and there would be no disturbance of archaeological assets. The Grade II listed Crossing Farmhouse (1287532) is located 230m to the north-east of the crossing. It is screened from the proposed works by high hedges and the intervening curtilage structures and no discernible change to setting would arise.	Screened out.
Saxmundham Road	Additional land take would be restricted to highways land and a small area of scrub, road verge and arable cultivation to the north of the railway. If archaeological remains are present, disturbance would be limited and could readily be mitigated to a negligible effect by archaeological watching brief. The Grade II listed Crossing Farm (LB1287532) is located 240m to the north-west of the crossing. These buildings are well screened from the level crossing by intervening planting and no discernible change to setting will arise.	Screened out.
Buckles Wood	Works would be undertaken within the existing rail land boundary and there would be no disturbance of archaeological assets. There are no designated heritage assets within 250m of the level crossing.	Screened out.

Proposed Level Crossing Improvement	Summary of potential effects	Screened in or out of the assessment
Summerhill	Works would be undertaken within the existing rail land boundary and there would be no disturbance of archaeological assets. The Grade II listed 24, Westward Ho is located 70m north-east of the crossing. It is partially screened by trackside trees and intervening hedges, and the asset is located a discernibly modern semi-urban context. Works would not present any discernible change to setting.	Screened out.
Leiston	Additional land take would be restricted to highways land existing hard standing within the former Garret's works. No intrusive works are required, and no disturbance of archaeological remains is anticipated. The level crossing is 90m north of the Leiston Conservation Area, and the closest listed building to the level crossing is the Grade II listed Greyshott House (LB 1216642). At this separation, the upgrade works will represent a minimal change to setting that would not give rise to any adverse change.	Screened out.

9.3.20 The screening exercise has also considered the potential for the proposed rail improvement works on the Saxmundham to Leiston branch line to result in environmental effects which could be significant. These works would be limited to the renewal of the track using new ballast, flat bottom continuously welded rail and concrete sleepers and would predominantly take place within the existing railway corridor. These works are non-intrusive and consistent with regular maintenance and refurbishment of the existing track, and no adverse effects are anticipated. Therefore, the rail improvement works on the Saxmundham to Leiston branch line have been screened out of further assessment.

d) Study area

9.3.21 The site and study area are illustrated in **Figure 9.2** and its geographical extent comprises:

- the site; and
- a 500m buffer from the site boundary (referred to throughout as the study area). This area is larger than the 250m identified for screening effects of the level crossing work, reflecting the greater perceptual change arising from the construction of a new railway as compared to minor alterations to an existing line.

- 9.3.22 An initial DBA - **Appendix 9B** of this volume - was undertaken for the rail options in 2015, covering rail route options presented at Stage 1 consultation. An irregular-shaped study area covering the two routes was agreed with SCCAS for this initial DBA, which extended to at least 500m from any part of the green rail route as proposed.
- 9.3.23 Following the selection of the green rail route as a preferred option, renewed searches of the Historic Environment Record (HER) and National Heritage List for England (NHLE) datasets for a 500m buffer from the green rail route were undertaken in August 2018, with the NHLE being checked again in January 2019. These ensured that the updated baseline information focused on the green rail route and this study area has been taken as the basis for the assessment presented in this chapter. The extent of these data searches were agreed through the formal EIA scoping process.
- 9.3.24 To inform the development of the scope of assessment of effects arising through change to setting, heritage assets which could be subject to significant adverse effects were identified from the wider settings study area considered in the Settings Assessment Scoping report in **Volume 1, Annex 6L.1** of this **ES** and agreed with Historic England, SCCAS and ESC.
- e) [Assessment scenarios](#)
- 9.3.25 The terrestrial historic environment assessment comprises the assessment of the entire construction, operation, and removal and reinstatement phases of the proposed development, rather than specific assessment years.
- f) [Assessment criteria](#)
- 9.3.26 As described in **Volume 1, Chapter 6** of the **ES**, the EIA methodology considers whether impacts of the proposed development would have an effect on any resources or receptors. Assessments broadly consider the magnitude of impacts and value/sensitivity of resources/receptors that could be affected in order to classify effects.
- 9.3.27 A detailed description of the assessment methodology used to assess the potential effects on the terrestrial historic environment arising from the proposed development is provided in **Volume 1, Appendix 6L** of the **ES**. A summary of the assessment criteria used in this assessment is presented in the following sub-sections.

i. Sensitivity (heritage significance)

9.3.28 Heritage assets that may be affected by the proposed development have been assigned a level of heritage significance (value or sensitivity) in accordance with the definitions set out in **Volume 1, Appendix 6L** of the **ES**. Heritage significance is rated within the range of high-medium-low-very low.

9.3.29 The assessment of assigning the levels of sensitivity to receptors is set out in **Table 9.3**.

Table 9.3: Assessment of the value or sensitivity of receptors for terrestrial historic environment.

Heritage significance (value or sensitivity)	Summary rationale	Example asset class
High	Asset has significance for an outstanding level of archaeological, architectural, historic and/or artistic interest.	All designated heritage assets or non-designated assets of demonstrably schedulable quality.
Medium	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Locally listed buildings and buildings of merit. Regionally significant non-designated archaeological sites.
Low	Asset has significance for elements of archaeological architectural, historic or artistic interest.	Locally-significant archaeological site.
Very low	Due to its nature of form / condition / survival, cannot be considered as an asset in its own right.	Non-extant HER record.

ii. Magnitude

9.3.30 The magnitude of impact has been based on the consequences that the proposed development would have on the heritage significance of the historic environment resource and has been considered in terms of high-medium-low-very low, as set out in **Table 9.4** and detailed in **Volume 1, Appendix 6L** of the **ES**.

9.3.31 Potential changes have also been considered in terms of duration, whether the impact is permanent, temporary or reversible, adverse (negative) or

beneficial (positive), and whether the change is likely to give rise to cumulative effects. Although it is recognised that the proposed development described in this assessment is temporary, any potential loss of heritage significance resulting from disturbance of buried archaeological remains associated with construction activity would be permanent.

9.3.32 The criteria for the assessment of magnitude of impact are shown in **Table 9.4**.

Table 9.4: Assessment of magnitude of impact for terrestrial historic environment.

Magnitude	Summary rationale (negative)	Summary rationale (positive)
High	Loss of significance of an order of magnitude that would result from irreversible total or substantial demolition/disturbance of a heritage asset or from the disassociation of an asset from its setting. This would generally be considered substantial harm.	Sympathetic restoration of an at-risk or otherwise degraded heritage asset and/or its setting and bringing into sustainable use with robust long-term management secured.
Medium	Loss of significance arising from partial disturbance or inappropriate alteration of asset which will adversely affect its importance. Change to the key characteristics of an asset's setting, which gives rise to lasting harm to the significance of the asset but which still allows its archaeological, architectural or historic interest to be appreciated. Impacts of this magnitude would generally be considered less than substantial harm on the heritage significance of an asset.	Appropriate stabilisation and/or enhancement of a heritage asset and/or its setting that better reveal the significance of the asset or contribute to a long-term sustainable use or management regime.
Low	Minor loss to or alteration of an asset which leave its current significance largely intact. Minor and/or short-term ¹ changes to setting which do not affect the key characteristics and in which the historical context remains substantially intact. Impacts of this magnitude would generally be considered less than substantial harm on the heritage significance of an asset.	Minor enhancements to a heritage asset and/or its setting that better reveal its significance or contribute to sustainable use and management.

¹ Short-term is defined within this project and technical discipline as being of less than approximately 2 years' duration, medium term of 2-10 years and long-term of 10-25 years duration. Any effects anticipated to persist for over 25 years would normally be considered permanent.

Magnitude	Summary rationale (negative)	Summary rationale (positive)
Very low	Minor alteration of an asset which does not affect its significance in any discernible way. Minor and/or short term or reversible change to setting which does not affect the significance of the asset. Impacts of this magnitude would generally be considered of limited harm to heritage significance.	Minor alteration of an asset which does not affect its significance in any discernible way. Minor and/or short term or reversible change to setting which does not affect the significance of the asset.

iii. Effect Definitions

9.3.33 The classification of the effect is judged on the basis of the magnitude of impact to the assessed heritage significance of the resource, and a narrative discussion is then given to support the conclusion. These effects may be adverse (negative) or beneficial (positive).

9.3.34 The definitions of effect for the terrestrial historic environment are shown in **Table 9.5**.

Table 9.5: Classification of effects.

		Heritage significance (sensitivity)			
		Very low	Low	Medium	High
Magnitude	Very Low	Negligible	Negligible	Minor	Minor
	Low	Negligible	Minor	Minor	Moderate
	Medium	Minor	Minor	Moderate	Major
	High	Minor	Moderate	Major	Major

9.3.35 Following the classification of an effect as presented in **Table 9.5**, a clear statement and rationale is provided as to whether the effect is 'significant' or 'not significant'. As a general rule, major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

9.3.36 The assessment of the predicted significance of the effects is reported following incorporation of environmental measures embedded within the design, as set out within **Section 9.5** of this chapter.

g) Assessment methodology

i. Existing baseline

9.3.37 Heritage assets were identified through:

- a search of the records held at the National Record of the Historic Environment, the Suffolk County Council (SCC) and HER. The data search also included Portable Antiquities Scheme (PAS) information, but these records are only referred to in broad terms given their sensitive nature. These searches were both conducted in February 2014 and an updated data search was undertaken in August 2018;
- a search of the NHLE, which contains designated data. An initial search carried out in February 2014 and updated in January 2019;
- analysis of the Historic Landscape Characterisation (HLC) data for Suffolk, conducted in February 2014;
- a review of the two available Suffolk National Mapping Programme (NMP) data sets which had already been amalgamated into the Suffolk HER (February 2014 and updated in January 2019);
- a review of the available Light Detecting and Ranging data from Environment Agency Geomatics obtained in April 2018;
- a search of historical maps and documentation at the Ipswich branch of the Suffolk Record Office, conducted in 2014 to 2015; and
- aerial photography was not consulted further as this had already been considered by the NMP.

9.3.38 In addition to the desk-based research that was undertaken, site investigations were carried out at the site in order to identify both known and previously unrecorded heritage assets (e.g. historic landscape features, extant earthworks). These surveys included:

- site visit and walkover (described within the DBA) in **Appendix 9B** of this volume;
- detailed geophysical magnetometry survey in **Appendix 9C** of this volume; and

- evaluation trenching in **Appendix 9D** of this volume.
- 9.3.39 The full list of identified archaeological and historical sites, features and finds identified within the study area is presented in the Gazetteer of Heritage Assets (the ‘gazetteer’) in **Appendix 9A** of this volume, and illustrated on **Figures 9.2** and **9.3**.
- 9.3.40 Direct effects on heritage assets are those which result from physical damage or disturbance which gives rise to a loss of heritage significance. Consequently, it is only those assets which might be physically disturbed by (i.e. within the footprint of) the proposed development which are potentially subject to direct effects. As archaeological features are not always evident, a DBA, provided in **Appendix 9B** of this volume, was undertaken for the rail route options in 2014 to examine the potential locations of archaeological heritage assets compared to the proposed development layout, and to ascertain the potential for heritage assets to be affected. An updated data search was undertaken in 2018 to ensure that the baseline information held was current and relevant prior to further fieldwork.
- 9.3.41 As conclusions from DBAs are predictive, there are some cases where the potential presence of heritage assets or their significance remains difficult to state with confidence, although professional experience and judgement can be applied. The results of further survey work, comprising geophysical survey provided in **Appendix 9C** of this volume in 2015 and 2019 and evaluation trenching provided in **Appendix 9D** of this volume in 2019, has also been incorporated into the assessment of direct effects for the proposed development.
- 9.3.42 Indirect effects have been defined as those which result in change to heritage significance but do not give rise to physical damage or disturbance to the asset. In this context, these effects would generally arise through change to the settings of heritage assets. Historic England guidance (Ref. 9.13) sets out a methodology for considering any effects on the significance of heritage assets arising from changes to their setting. This is summarised in **Volume 1, Appendix 6L** of this volume.
- 9.3.43 The heritage assets identified within the data search comprise a number of different asset types with differing characteristics. The Settings Assessment Scoping report in **Volume 1, Annex 6L.1** of this volume has regard to the specific nature of the setting of each asset within the settings study area and considers factors such as visibility of the proposed

development in views of and from heritage assets as well as other potential perceptual changes such as increased traffic movements and noise.

h) Assumptions and limitations

9.3.44 The following limitations have been identified in this assessment:

- All assessment considers development within the site parameters as set out in the description of development at **section 2.3** of **Chapter 2** of this volume of the **ES** and as illustrated in **Figure 2.1**;
- DBA is a predictive tool and relies on a series of assumptions and extrapolations to develop an understanding of the potential extent and character of archaeological remains within the site;
- geophysical survey is based on taking physical measurements that may have a number of causes, and conclusions from this type of survey remain predictive, but can allow inferences to be drawn on the basis of the nature and morphology of discrete anomalies; and
- evaluation trenching tests inferences made on the basis of desk-based and geophysical survey. While this approach considers a sample area of a site, it allows a clear understanding of the location, nature and significance of heritage assets which is considered robust.

9.4 Baseline environment

9.4.1 This section presents a description of the baseline environmental characteristics within the site and in the surrounding area.

9.4.2 Further detail can be found in **Appendices 9A to 9D** of this volume.

a) Current baseline

i. Rail extension route

9.4.3 The current baseline environmental information is drawn from the Rail Route Options DBA in **Appendix 9B** of this volume, subsequent geophysical survey, and archaeological evaluation trenching.

9.4.4 The full list of identified archaeological and historical sites, features and finds identified within the study area is presented in the gazetteer in

Appendix 9A of this volume. The gazetteer refers to heritage assets by their HER parish number or NHLE number.

9.4.5 Heritage records for the study area are illustrated on **Figures 9.2** and **9.3**.

Site description and topography

9.4.6 The site slopes gradually from the south-west (22m Above Ordnance Datum (AoD)) to north-east (10m AoD), and largely comprises parts of seven agricultural fields.

9.4.7 Geological mapping shows that the study area overlies sedimentary bedrock comprising Neogene and Quaternary Rocks, which formed up to 23 million years ago in shallow seas with mainly siliciclastic sediments deposited as mud, silt, sand and gravel (Ref. 9.26).

9.4.8 Within the site boundary, bedrock is overlain principally by glacial sand and gravel formed up to 3 million years ago in cold periods with Ice Age glaciers scouring the landscape and depositing moraines of till with outwash sand and gravel deposits from seasonal and post-glacial meltwaters.

Designated heritage assets

9.4.9 There are no designated heritage assets within the site.

9.4.10 The study area contains one Scheduled Monument – Leiston Abbey (second site) and moated site (SM 1014520), referred to throughout this chapter as ‘the Abbey’. Within the scheduled Abbey site, there are four listed buildings, the Grade I listed St Mary’s Abbey (LB 1215753), and the Grade II listed Retreat House (LB 1215754) Abbey Farm, Guesten Hall (LB 1268290) and Abbey Farm Barn (LB 1216380).

9.4.11 Other listed buildings in the study area comprise post-medieval farmhouses, such as Hill Farmhouse (LB1287643) and Fisher’s Farm (LB 1216275), and Wood Farmhouse (LB 1227752), which are all listed at Grade II, and the Grade II* listed Leiston House Farmhouse (LB 1287646) which represent elements of the agricultural post-medieval landscape; and the Grade II listed 24, Westward Ho (LB 1287528), a large suburban house.

9.4.12 Designated heritage assets are presented at **Appendix 9A** of this volume and on **Figure 9.2**.

Non-designated heritage records

- 9.4.13 Five HER monument records are located within the site boundary. These include a record for the former Aldeburgh branch railway line (now the Saxmundham to Leiston branch line) (ADB 226), which is still in occasional use; the southern site boundary is defined by this railway to the west of Wood Farm. There have been chance finds of tile and metalwork (LCS 011, LCS 012 and LCS Misc), and medieval ditches were uncovered during evaluation trenching (LCS 228).
- 9.4.14 A number of further HER records are located within the study area. The heritage monument records comprise a variety of heritage features ranging from undated burnt flint scatters and Roman coins to a former World War Two (WWII) military airfield. These records are discussed in more detail in the site chronology section.
- 9.4.15 The HER includes 19 records of previous archaeological investigations undertaken across the study area including geophysical survey, evaluation trenching and the archaeological monitoring of construction works for other developments within the vicinity.
- 9.4.16 There is an ancient and semi-natural woodland at Buckle's Wood to the west of the site.
- 9.4.17 Non-designated heritage records are listed at **Appendix 9A** of this volume and illustrated on **Figure 9.3**.

Historic landscape character

- 9.4.18 The HLC study for the site shows the area predominantly comprises the character types random fields and Irregular co-axial fields of pre-18th century enclosure. The central part of the site comprises Post-1950 agricultural landscape representing boundary loss from the earlier random field systems.
- 9.4.19 The HLC defines pre-18th century enclosure as being common across Suffolk and refers to land that was enclosed before the 1700s, in contrast to other parts of the country where land was enclosed in the 18th and 19th centuries following common field farming in the medieval period (Ref. 9.27). These earlier enclosed landscapes in Suffolk can date primarily to the late-medieval period and are of historic significance (Ref. 9.28).

- 9.4.20 The landscape within the area affected by the proposed development is characterised by the survival of the basic field and settlement pattern from at least the early 19th century. There has, however, been extensive past change deriving mainly from agricultural intensification and industrialisation. These changes are characterised by the loss of field boundaries, the construction of the former Aldeburgh branch railway line (now the Saxmundham to Leiston branch line) (ADB 226) and the spread of development around Leiston. This landscape may reflect earlier patterns of land tenure and land use to at least the post-Dissolution reorganisation of the lands of Leiston Abbey.
- 9.4.21 Historic mapping, including the 1840 tithe map which pre-dates the Inclosure Act 1845, indicates a degree of reorganisation and amalgamation of the fields over time. The larger field, to the south of Buckleswood Road, was nine smaller fields in 1840, but is now one field. The most northern field has also been amalgamated from smaller fields, although the northern, eastern and southern boundaries remain the same as the tithe mapping.
- 9.4.22 Hedgerows which could be considered of historic interest are present across the site, particularly along the edges of Buckleswood Road, and along the southern and northern edges of the north-eastern fields within the site boundary (including Lover's Lane). These hedgerows reflect boundaries shown on the tithe mapping, and may mark the boundary of the landholdings of Leiston Abbey. They are considered as heritage assets of low heritage significance for historic and aesthetic interest resulting from their contribution to historic landscape character. In that Leiston-cum-Sizewell parish included a large proportion of tithe-exempt land which is not shown in detail on the tithe mapping, it is likely that there are further hedgerows of the same date across the centre of the site which would be of equivalent heritage significance.
- 9.4.23 Aesthetic interests are limited by the historic loss of field boundaries, and particularly hedgerows and hedgerow trees. There are few other features that can be attributed to these early origins and the archaeological interest of the historic landscape is limited. Consequently, the historic landscape within the site is considered as of low heritage significance.
- 9.4.24 The HLC areas are illustrated on **Figure 9.4**.

Archaeological and historical background

Prehistoric (Neolithic, Bronze Age and Iron Age)

- 9.4.25 There are presently no HER records for archaeological material dating from the Palaeolithic or Mesolithic period within the site boundary or study area. The potential for remains of these early prehistoric periods to be present within the site is considered to be restricted. However, the types of settlement and activity associated with earlier prehistory in this area tend not to be readily apparent on aerial photography or geophysical survey and so this reduced potential may be more apparent than real.
- 9.4.26 There are HER records of Mesolithic activity to the east of the study area, particularly on the well-drained Sandlings and the wetland margins in the coastal marshes (Ref. 9.15).
- 9.4.27 There are no HER records of prehistoric activity within the site. Within the study area, there are PAS records dating to the Neolithic and Bronze Age.
- 9.4.28 Evaluation trenching at the site provided in **Appendix 9D** of this volume, uncovered a wide area of prehistoric features (ditches, pits and postholes) and artefacts across the northern part of the site, largely dating to the Late Bronze Age to Early Iron Age, but with some Neolithic and Late Iron Age artefacts also present. A possible trackway/metalled surface was identified within a trench (T119) within the northern part of the site. This possible trackway/metalled surface consists of two flanking ditches with a cobbled surface between them and may relate to the geophysical anomaly in the wider area between Aldhurst Farm and a stream to the south-east to the north of Leiston. Two trenches within the southern half of the site contained small quantities of Iron Age pottery.
- 9.4.29 The prehistoric features identified within the evaluation would generally be of low to medium heritage significance for archaeological interest.

Romano-British

- 9.4.30 There are no confirmed records of Romano-British activity from within the site recorded in the Suffolk HER.
- 9.4.31 Evidence for Romano-British activity within the study area largely comprises artefact scatters and chance finds recorded by the HER and PAS north and north-west of Leiston. A kiln was found in a garden along

Abbey Road (LCS 142), 200m south of the eastern end of the proposed rail extension route; ceramic roofing and flue tiles have been found in the wider vicinity to the south of the site, suggesting a villa or building either in the southern part of the study area or immediately to the south of the study area.

- 9.4.32 Evaluation trenching in 2019 provided in **Appendix 9D** of this volume, found a single pit containing a sherd of probable Roman pottery. Other scattered Roman artefacts were found in the northern part of the site including a fragment of Roman brick or tile alongside a sherd of pottery although these were residual finds rather than sealed. The observed remains dating to this period are of low heritage significance.

Early-medieval and medieval

- 9.4.33 There is limited evidence for activity dating from the early-medieval period within the study area, although artefact scatters include possible late-Saxon to medieval pottery (c.850AD to 1100AD) (LCS 027). The settlements of Leiston and Theberton are both recorded in the Domesday survey of 1086, which records manorial holdings at the time of the Norman Conquest in 1066. The settled manorial geography, which appears to have provided the basis for the later medieval settlement pattern, is likely to have been established during the early-medieval period. The HLC characterisation of the land into random fields of pre-18th century enclosure date, again suggests the medieval origins for the landscape within the study area.
- 9.4.34 Evidence of medieval activity can be found close to the site. In addition to a small number of scattered small finds dating to the medieval period found during field walking (e.g. LCS Misc, LSC 013), the second site of Leiston Abbey, which includes Leiston Abbey Scheduled Monument (SM 1014520) and associated Listed Buildings, lies to the north of the route. While the monastic site itself would not have encroached onto the site, there would have been wider monastic landholdings which are hinted at in the extent of tithe-exempt² land excluded from the Tithe Maps of Leiston and Theberton. These would have comprised primarily agricultural land, but there is a potential for evidence of associated industrial activities.

² Tithes were a tax which required a tenth of all agricultural produce to be paid annually to support the local church and clergy. Tithe maps were maps of all titheable lands in a parish made in the early 19th century. Tithe exempt lands include lands belonging to some monastic orders.

9.4.35 Evaluation trenching provided in **Appendix 9D** of this volume, found a single sherd of Saxon pottery from a colluvial layer in one of the trenches within the north-east part of the site. A collection of medieval deposits were identified with Area 2, which were assessed within the interim fieldwork report as potentially being structural and/or part of internal floor layers within a structure beyond the excavation area. Further features were found in the surrounding trenches including a possible small enclosure containing medieval pottery within Area 3. The observed remains dating to early-medieval and medieval periods are of low to medium heritage significance for archaeological interest for informing the study of medieval agricultural settlement and activity.

Post-medieval and modern

9.4.36 The basic settlement geography established in the medieval period remained through the post-medieval period, with the former monastic site at Leiston becoming a secular manorial centre. Change to the agricultural landscape is best evidenced by a long-established trend of hedgerow loss and the amalgamation of smaller fields into larger units better suited for mechanised cultivation. Wade Martins and Williamson (Ref. 9.28), looking at general trends within Suffolk, dated the majority of these changes to the later 19th century. Where the tithe mapping and the first and second edition Ordnance Survey mapping can be compared, however, the pattern of rationalisation and amalgamation of earlier field systems also seems to be consistent with Wade Martins and Williamson's model.

9.4.37 Heritage assets within the study area from this period primarily comprise agricultural or industrial features and buildings, including marl or gravel pits and enclosure period field boundaries (e.g. LCS 220).

9.4.38 The majority of the modern period saw a general continuity of land use from the post-medieval period, with no major changes to the established patterns of settlement or land use.

9.4.39 There are some observed features of modern date, primarily those associated with the military airfield at RAF Leiston (THB 015). Work commenced at this airfield in 1942 and it was occupied by the 357th and 358th Fighter Groups of the Eighth Air Force USAAF, flying offensive missions over occupied Europe. Following the cessation of hostilities, RAF Leiston reverted to use as an RAF technical training centre, until it was closed in 1953.

- 9.4.40 There is no evidence for the presence of anti-invasion defences within the study area, although possible practice trenches were uncovered during evaluation trenching at Aldhurst Farm (LCS 180). It is likely that this area immediately behind the coastal ‘crust’ (the heavily fortified defensive line along the coast), was never as heavily fortified as the coastal strip and that any defensive military features present would be associated with RAF Leiston. It is unlikely that any related, but as yet unknown, remains are present with the site.

Previous impacts

- 9.4.41 Arable cultivation during the 20th century is likely to have disturbed the upper layers of any buried archaeology. Repeated ploughing, particularly subsoil ploughing, can be expected to have disturbed near-surface features. More substantial features, such as ditches and pits, are likely to be relatively well-preserved. It is also possible for ploughing and natural processes to result in the development of colluvial deposits, which may preserve earlier features.
- 9.4.42 Impacts from the construction of existing roads which cross the site, the railway at the southern site boundary, and potentially other small-scale features such as unmapped farmers tips or sand/gravel pits will have disturbed any subsurface remains at this location.
- 9.4.43 Many of the former field boundaries within the site have been removed and infilled, although some are visible either as cropmarks (caused by differential growth of crops over archaeological features) or soilmarks (differential subsoils brought to the surface during ploughing) on aerial photographs or as magnetic anomalies within the geophysical surveys.

Archaeological heritage assets within the site subject to potential direct effects

- 9.4.44 The DBA, geophysical survey and evaluation trenching confirm that buried archaeological remains of pre-modern origin are present within the site. The areas of highest potential for the survival of archaeological remains within the site can be summarised as:
- Evaluation trenching uncovered a wide area of prehistoric features and artefacts across the northern end of the site and it is likely that further remains may also be present. Such remains would be of low to medium heritage significance.

- A collection of medieval deposits were found within Area 2, provided in **Appendix 9D** of this volume, likely representing a structure, with a possible associated enclosure in the immediate vicinity. It is likely that further associated remains may be present in the vicinity. These would be of low to medium heritage significance for archaeological interest for informing the study of early-medieval agricultural settlement and activity.
- Elements of field systems dating to the post-medieval period, and potentially earlier, to the northern and southern parts of the site. These are best considered as of low heritage significance, but may contribute to the setting of designated heritage assets such as Leiston Abbey and the listed farmhouses at Hill Farm and Fisher’s Farm.

Heritage assets subject to potential indirect effects

9.4.45 The following assets were scoped into the assessment following discussion with consultees and the settings scoping appraisal in **Volume 1, Annex 6L.1** of the **ES**:

- Scheduled Monument (SM 1014520), Grade I and Grade II listed buildings at Leiston Abbey (LB 1215753, LB 1215754, LB 1216380 & LB 1268290), which could also be subject to change to setting arising from the main development site- see **Volume 2, Chapter 16** of the **ES**.
- Fisher’s Farmhouse, Grade II (LB 1216275).
- Wood Farmhouse, Grade II (LB 1227752).

Scheduled Monument (SM 1014520), Grade I and Grade II Listed Buildings at Leiston Abbey (LB 1215753, LB 1215754, LB 1216380 & LB 1268290)

Heritage significance and contribution of setting

9.4.46 This asset group comprises the remains of the former Premonstratensian Abbey of Leiston. The Leiston Abbey complex comprises a number of heritage assets, both designated and non-designated. These are:

- Leiston Abbey (second site) and moated site (SM 1014520).
- St Mary’s Abbey, Grade I (LB 1215753).

- Retreat House, Grade II (LB 1215754).
- Barn at Abbey Farm, Grade II (LB 1216380).
- The Guesten Hall at Abbey Farm, Grade II (LB 1268290).
- Related non-designated assets, the most visible of which comprise the field system around the Abbey (which relates to the agricultural improvement of the land around Abbey Farm in the post-medieval period), but which may also include features associated with the use of the Abbey as an estate centre (such as craft-working sites or ancillary structures).

9.4.47 While these heritage assets comprise a coherent group, the heritage significance of individual heritage assets within this group varies, and the designations reflect that some assets are recognised as being of higher value. The designated elements of the group are individually of high heritage significance for a combination of archaeological, architectural and historic interests, while the various non-designated assets are of low or medium heritage significance. For the purposes of this assessment, and to avoid unnecessary repetition, the description of the setting and the characterisation of potential change is discussed in terms of the asset group as a whole, but effects are considered against individual heritage assets.

9.4.48 Leiston Abbey was founded in 1182 by Ranulph de Glanville for the Premonstratensian order. The Premonstratensians valued austerity and seclusion and founded all of their monasteries in rural locations. The original site was located in the coastal marshes south of Minsmere (SM 1015687); however, due to flooding, the Abbey was moved to a second site (SM 1014520 & LB 1215753), north of the village of Leiston, in c.1363. A ditch on the site of the second Abbey is interpreted as a former moat, which likely predates the creation of the Abbey at this location. Architectural elements are believed to have been taken from the original Abbey and used in the construction of the second site: 12th – early 14th century stonework is evidenced within the mid-14th century church. A fire in 1380 damaged buildings on the second site, with the exception of the church. The Abbey was suppressed in 1536, was granted to the Duke of Suffolk and, henceforth, used as a farmstead.

NOT PROTECTIVELY MARKED

- 9.4.49 The Retreat House (LB 1215754) stands in the south aisle of the Abbey church and was formerly a farmhouse, built in the 17th century. The house has seen 19th and 20th century extensions and rebuilding in the late 20th century. The Barn at Abbey Farm (LB 1216380) is a 15th century agricultural barn, believed to be part of the original Abbey buildings. The Guesten Hall at Abbey Farm (LB 1268290) is a late 14th or 15th century building, probably originally used as a monastic guest house. As with the Retreat House, the Guesten Hall was rebuilt in the late 20th century.
- 9.4.50 The ruins of St Mary's Abbey church and the remains of the buildings around its cloister are in the guardianship of English Heritage and are publicly accessible.
- 9.4.51 The non-ruinous standing buildings are presently in a variety of uses related to residential accommodation, practice and performance space for the Pro Corda (musical) charity. The Retreat House (LB 1215754), Barn at Abbey Farm (LB 1216380) and Guesten Hall (LB 1268290) form a discrete and private courtyard space set back from the publicly accessible ruins, though some accommodation is provided within parts of the St Mary's Abbey buildings which have remained in residential use.
- 9.4.52 The ruins of St Mary's Abbey church and the scheduled associated buildings are visible in glimpsed and passing views from the roads and fields around the asset as a tightly-grouped collection of structures, which is visible above hedgerows and woodland planting or through gaps in hedgerows.
- 9.4.53 The clearest views of the ruins are from the south and west along the B1122 (Abbey Road); longer views from this direction are more sporadic as a result of intervening planting. In closer views, the ruins can be seen in a generally agricultural/rural context. Views from the assets are varied, and primarily relate to views of other elements of the asset group or views into the farmland around the asset group, which serve to place the assets into a rural context.
- 9.4.54 Within the asset group, there is a sense of calm and seclusion which accords with the perceptions of the former use of the Abbey. This is most marked in the vicinity of the courtyard formed by the Retreat House (LB 1215754), Barn at Abbey Farm (LB 1216380) and Guesten Hall (LB 1268290) buildings and in parts of the Abbey ruins (SM 1014520 and LB 1215753) where traffic noise from the B1122 (Abbey Road) is less audible,

although even in the parts of the ruins closest to the road, traffic noise is not particularly intrusive.

9.4.55 The principal contribution of the setting of the asset group is to historic interest, placing it into a rural, agricultural context which affords a sense of seclusion that corresponds with perceptions of the function of the Abbey and allows the surviving architectural interest of the Abbey to be appreciated. The principal contribution of the setting to architectural interest is to present a series of views which offer a number of opportunities to appreciate the interest of specific architectural details, of individual buildings and of the composition of the group as a whole.

9.4.56 The setting also has the potential to add to the archaeological interests of the asset group through the presence of related, but as yet undiscovered, archaeological heritage assets, which have the potential to contribute to the understanding of the asset group.

Grade II listed Fisher's Farmhouse (LB 1216275)

Heritage significance and contribution of setting

9.4.57 Fisher's Farmhouse (LB 1216275) is an 18th century timber-framed building. As a Grade II listed building it is of high heritage significance for architectural and historic interest. It is surrounded by hedges which are higher to the west, north and east, but which appear to have been maintained to afford clear views into the field immediately to the south of the house. This setting provides a clear visual link between the farmhouse and the adjacent arable land, which also provides a regionally-distinctive context. These views enhance the historic interest of the asset. The architectural values of the house are most clearly appreciated in relatively close views from within the hedges around the house and do not specifically relate to the wider landscape.

Grade II listed Wood Farmhouse (LB 1227752)

Heritage significance and contribution of setting

9.4.58 Wood Farmhouse (LB 1227752) is a 17th century farmhouse with some later fabric. As a Grade II listed building it is of high heritage significance for architectural and historic interest and is set within a farmstead with a number of other buildings of varying ages and heritage significance, though none as significant as the house itself. This setting contributes to the

historic and architectural interest of the asset through reflecting its agricultural origins and a group of structures in a distinctive local vernacular style. Views out from this group of buildings are limited by hedgerows around the farmstead and the house is not clearly visible from outside the group. The assets are located on the outskirts of the settlement of Leiston, and while visual links to the surrounding agricultural land contribute to historic interest, this positive contribution is limited.

b) **Future baseline**

- 9.4.59 There are no committed development(s) or forecasted changes that would materially alter the baseline conditions during the construction, operation or removal and reinstatement phases of the proposed development, and no change to the assessment of receptors is anticipated.

9.5 Environmental design and mitigation

- 9.5.1 As detailed in **Volume 1, Chapter 6** of the **ES**, a number of primary mitigation measures have been identified through the iterative EIA process and have been incorporated into the design and construction planning of the proposed development. Tertiary mitigation measures are legal requirements or are standard practices that will be implemented as part of the proposed development.

- 9.5.2 The assessment of likely significant effects of the proposed development assumes that primary and tertiary mitigation measures are in place. For historic environment, the following primary and tertiary mitigation measures have been embedded into the design and construction management of the proposed rail extension route and rail improvement works.

a) **Primary mitigation**

- 9.5.3 Primary mitigation is often referred to as embedded mitigation and includes modifications to the location or design to mitigate impacts; these measures become an inherent part of the proposed development.

- 9.5.4 Change to setting arising from visibility of the proposed development can give rise to loss of or harm to historic and architectural interests, and perceptual change to existing field boundaries and land use can give rise to harm to historic landscape character.

i. Rail extension route

9.5.5 The landscaping strategy has been designed to minimise potential impacts to a number of receptors. The landscaping measures include the provision of landscape bunds, grassed areas and other areas of proposed planting. Further details can be found in **Chapter 2** of this volume, and on **Figure 2.1**. Key aspects which would serve to minimise the impact on setting of heritage assets and historic landscape character include:

- existing woodlands, scrub and hedgerows within the site and adjoining the site boundaries would be retained where possible;
- two landscape bunds approximately 2m in height would be provided on either side of the proposed rail extension route. On the north side, the landscape bund would run along the length of the proposed rail extension route (for approximately 1.8km), from the new rail junction with the Saxmundham to Leiston branch line at the western end to the B1122 (Abbey Road) to the east. At its eastern end, west of the B1122 (Abbey Road), the landscape bund would widen onto land between the proposed rail extension route and the footpath diversion within the northern boundary of the site; and
- the second landscape bund is proposed to the south of the proposed rail extension route, at the eastern end, and would be approximately 2m in height and 500m in length.

9.5.6 Design has sought to minimise visibility of the proposed rail extension route from Leiston Abbey, with the route following a line downhill of a slight crest. This topographical feature would be accentuated by landscaping, through the landscape bunds, which would respond to the existing contours of the landscape to further reduce visibility of the proposed rail extension route and to provide a measure of acoustic screening.

ii. Saxmundham to Leiston branch line upgrades

9.5.7 As screening identified that no significant adverse effects would arise from the proposed rail improvement works, no primary mitigation has been identified on the branch line.

b) Tertiary mitigation

- 9.5.8 Tertiary mitigation will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices.
- 9.5.9 The **Code of Construction Practice (CoCP)** (Doc Ref. 8.11) sets out best-practice measures for the reduction of potential impacts from construction activities on setting. These include measures identified in **Chapters 4 and 6** of this volume to minimise noise, lighting and visual impacts. These have been considered as tertiary mitigation where appropriate.
- 9.5.10 As part of the **CoCP**, the temporary satellite compounds on the Saxmundham to Leiston branch line would use geotextile matting for the parking of a construction vehicle and welfare van.
- 9.5.11 NPS EN-1 requires mitigation of any loss of archaeological interest through development. Consequently, archaeological mitigation may be required in cases where effects are assessed as less than significant. However, for the purposes of this assessment, all archaeological mitigation is considered as secondary mitigation, as it would need to be secured via a DCO requirement, and is discussed within section 9.7. The effects of any loss of archaeological significance presented in section 9.6 are considered in the absence of mitigation.

9.6 Assessment

a) Introduction

- 9.1.1 This section presents the findings of the terrestrial historic environment assessment for the construction, operation and removal and reinstatement of the proposed rail extension route.
- 9.6.1 This section identifies any likely significant effects that are predicted to occur and **section 9.7** of this chapter then highlights any secondary mitigation and monitoring measures that are proposed to minimise any adverse significant effects (if required).

b) Construction

i. Direct effects on heritage assets

Archaeological heritage assets

9.6.2 The HER records within the site comprise the line of the former Aldeburgh branch railway, which is still in existence as the Saxmundham to Leiston Branch line (MSF35003) as well as chance finds of pottery and metalwork, which are no longer present, but have helped inform the potential for as yet unknown remains. These cannot therefore be considered to be heritage assets but they are suggestive of the presence of further remains which may hold heritage significance.

9.6.3 DBA, geophysical survey and evaluation trenching have indicated the presence of previously unrecorded archaeological remains within the site boundary that form elements of asset groups of low to medium heritage significance. These groups that are either known to be present, or can be reasonably predicted on the basis of the existing evidence, comprise:

- a wide area of prehistoric features and artefacts across the northern end of the site and it is likely that further remains may also be present, of low to medium heritage significance;
- a collection of medieval deposits within Area 2 provided in **Appendix 9D** of this volume, some of which likely representing a structure, with a possible associated enclosure in the immediate vicinity. It is likely that further associated remains may be present in the vicinity. These would be of low heritage significance; and
- elements of the pre-modern field system surviving as existing boundaries and archaeological remains.

9.6.4 There is no evidence to suggest the presence of as yet unknown high heritage significance remains within the site boundary.

9.6.5 Intrusive groundworks would take place across the site, including topsoil stripping and sub-soil disturbance during the construction of the proposed rail extension route. Invasive works of this nature would adversely affect any surviving sub-surface archaeological remains, reducing or removing their ability to be further interpreted, resulting in the loss of archaeological interest. Any archaeological remains within the site boundary would be

disturbed by the proposed rail extension route. The total loss of archaeological remains would be an impact of high magnitude, resulting in a moderate to major adverse effect which would be **significant** in the absence of further mitigation.

- 9.6.6 Where the removal of archaeological remains represents a partial loss of larger landscape scale heritage receptors, parts of which may survive outside the site boundary, the impact would be of medium magnitude, resulting in a minor to moderate adverse effect, which in the case of a moderate effect would be **significant** in the absence of further mitigation.

ii. [Effects arising through change to the setting of heritage assets](#)

- 9.6.7 Change to setting is generally considered to be an operational phase effect, however, in this case, the construction works may be of sufficient duration and present a sufficient increase in magnitude of impact over those occurring during the operation of the proposed development that these effects need to be considered separately.

[Scheduled Monument \(SM 1014520\), Grade I and Grade II Listed Buildings at Leiston Abbey \(LB 1215753, LB 1215754, LB 1216380 & LB 1268290\)](#)

[Predicted change](#)

- 9.6.8 Construction of the proposed rail extension route could potentially harm buried archaeological remains associated with the Abbey. However, these are likely to comprise relatively minor and peripheral elements of the monastic landholding such as former field boundaries; these works are outside the area where any elements of a monastic precinct would be expected.

- 9.6.9 The construction of the proposed rail extension to the south of the Abbey complex would introduce new visible and perceptual elements to the setting of the Abbey, particularly from elevated viewpoints in the Abbey ruins (SM 1014520 & LB 1215753) and from upper floors of the Retreat House (LB 1215754). This visibility would be intermittent, with views precluded from many parts of the asset group. During construction, there may be limited audibility of the works, however, these are anticipated to be below the level which would change the perception of the Abbey as a quiet place within a rural landscape. **Chapter 4** of this volume contains further details on aspects of noise, and included Leiston Abbey as a monitoring site (MS39)

within the baseline. When considered from a heritage perspective, it is anticipated that the change in noise level would not affect the ability to understand or appreciate the assets interests. Visibility and noise would vary through the construction programme as different activities are carried out.

- 9.6.10 There will be a degree of screening from the underlying landform to the south of the asset group, which would be enhanced by the sympathetic landscaping in this area. During this landscaping, bare-earth would be visible while waiting for the bunds to become green, although this would be comparable to visibility of normal agricultural activity.
- 9.6.11 Construction activities would be visible to a limited degree to the south of the Abbey, and works to the proposed level crossing on the B1122 (Abbey Road) would be visible from some parts of the asset group. Visibility from the Guesten Hall (LB 1268290) and Barn (LB 1216380) would be very limited.
- 9.6.12 The proposed level crossing on the B1122 (Abbey Road) to the south of the Abbey would also mean that visitors travelling by road would have to pass, or cross, an element of the construction infrastructure, altering the revealed views of the Abbey that occur as the viewer travels north along the B1122 (Abbey Road) from Leiston.
- 9.6.13 These changes would be experienced to varying degrees through the construction period, and any effect would be time-limited.

Significance of effect

- 9.6.14 The assets within the group are of high heritage significance. No discernible loss of the Abbey's archaeological interest would arise from the construction of the proposed rail extension route. The architectural interest of the structures within the Abbey would also remain unaffected. The perception of construction works to the south of the Abbey through change to views, noise environment and the changed appearance of the Abbey in the approach from Leiston would result in a discernible loss of historic interest arising from its connection to Leiston and the intervening rural landscape, although this adverse change would be experienced for a limited period only.

- 9.6.15 The list entry for St Mary's Abbey (LB 1215753) comprises the above-ground remains, which are also part of the scheduled monument (SM 1014520), and these are therefore considered here as a single asset of high heritage significance. The Abbey Ruins (SM 1014520 / LB 1215753) would be subject to less than substantial harm to heritage significance, and a low magnitude of adverse impact to heritage significance. This would give rise to a moderate adverse effect which would be **significant**.
- 9.6.16 Perceptibility of the proposed rail extension route from the Guesten Hall (LB 1268290) and Barn (LB 1216380) which are heritage assets of high significance would be limited and consequently there would be no impact on heritage significance. Similarly, the contribution of the setting of the Retreat House (LB 1215754), which is also of high heritage significance, to its heritage significance derives primarily from its relationship to the ruins and other buildings within the group rather than its wider context, and there would be no impact on heritage significance. No harm to heritage significance would arise and **no effect** would arise.

Grade II listed Fisher's Farmhouse (LB 1216275)

Predicted change

- 9.6.17 The construction of the proposed rail extension route would introduce a new visible and audible element into the surrounding landscape. Construction activity would be visible in views south from the house. These changes would be experienced to varying degrees through the construction, and be more perceptible during the earlier phases, although any effect would be time-limited.

Significance of effect

- 9.6.18 The visible change and limited increase in noise arising from the construction of the proposed rail extension route would not affect the relationship of Fisher's Farmhouse (LB 1216275), an asset of high heritage significance, to the immediately surrounding arable land and the asset would remain in a discernible regionally-distinctive rural context. The proposed rail extension route would not affect views of or from the asset which contribute to its architectural interest.
- 9.6.19 There would be no impact on heritage significance and **no effect** would arise.

Grade II listed Wood Farmhouse (LB 1227752)

Predicted change

- 9.6.20 Construction activity would be difficult to discern from the asset (LB1227752) and would not be present in views of the asset which contribute to architectural interest. The construction activity would not affect the relationship of Wood Farmhouse to the immediately surrounding arable land which is, in any case, restricted by surrounding hedgerows and surrounding buildings within the farm complex.

Significance of effect

- 9.6.21 During the construction of the proposed development there would be no change to the high heritage significance of Wood Farmhouse and **no effect** would arise.

iii. Effects arising through change to historic landscape character

Predicted change

- 9.6.22 The historic and aesthetic interests of the historic landscape character, which is considered to be of low heritage significance, would be eroded by the construction of the proposed rail extension route, including by the loss of sections of hedgerows of potential historic importance across the centre of the site, although those towards the edges would be retained where possible. A degree of amalgamation of the fields within the site has already occurred.
- 9.6.23 Construction activity would introduce new visual and audible elements to an otherwise agricultural landscape. This would affect historic and aesthetic interest within and in the immediate area of the proposed rail extension route. Visible impacts across the historic landscape would be greatest during initial construction works before the soil bunds are in place and while construction operations are clearly visible. Impacts would reduce during the construction phase as the soil bunds ‘green up’ behind the existing, and any replanted, hedgerows.

Significance of effect

- 9.6.24 Impact to the historic landscape character of the area as a whole would be of overall low magnitude, to an asset of low heritage significance. This would give rise to a minor adverse effect, which would be **not significant**.

iv. Inter-relationship effects

- 9.6.25 The archaeological remains on the site are not sensitive to changes predicted within this **ES** other than the direct disturbance considered at **section 9.6** in this chapter and consequently no inter-relationship effect is anticipated.

- 9.6.26 Any visual effects would arise as a result of effects on valued views which represent a subset of the changes already considered within the assessments of effects arising as a result of change to setting and historic landscape character. Similarly changes in noise environment are already considered, insofar as these are appropriate, in the assessments of effects arising as a result of change to setting. There would consequently be no further inter-related effects.

c) Operation

i. Direct effects on archaeological heritage assets

- 9.6.27 Any disturbance and or removal of archaeological heritage assets within the site would have occurred during the construction phase; no further effects are anticipated during the operation of the proposed rail extension route.

ii. Effects arising through change to the setting of heritage assets

Scheduled Monument (SM 1014520), Grade I and Grade II Listed Buildings at Leiston Abbey (LB 1215753, LB 1215754, LB 1216380 & LB 1268290)

Predicted change

- 9.6.28 The operation of the proposed rail extension route to the south of the asset group would introduce new visible and perceptual elements to the setting of the group, particularly from elevated viewpoints in the Abbey ruins (SM 1014520 and LB 1215753) as illustrated in **Figures 6.5** and **6.12** (wireframe), and from upper floors of the Retreat House (LB 1215754). This visibility would be intermittent, with views precluded from many parts of

the asset group, but with visibility increasing as trains passed. Visibility at ground level from the asset group would vary as the visitor moves around the abbey complex, but intervening vegetation would largely obstruct views to the south.

- 9.6.29** Trains would be visible and audible as they pass to the south of the Abbey. The proposed level crossing on the B1122 (Abbey Road) would be visible from some parts of the asset group and the proposed rail extension route would be clearly visible cutting across the existing field pattern to the east of the B1122 (Abbey Road) including from a number of locations in the Abbey ruins (SM 1014520), and particularly from the elevated viewpoint at the former refectory stairs. However, this would be seen in the context of existing road infrastructure. Visibility from the Guesten Hall (LB 1268290) and Barn (LB 1216380) would be very limited as a result of intervening structures and planting.
- 9.6.30** The proposed level crossing on the B1122 (Abbey Road) to the south of the Abbey would also mean that visitors travelling by road would pass, or cross, an element of the infrastructure, albeit one that is a common feature in the area around Leiston. This would adversely affect historic interest by changing the viewer's experience of the Abbey as being in a secluded location and altering the perceptual relationship of the Abbey and Leiston.
- 9.6.31** There will be a degree of screening from the underlying landform to the south of the abbey site, which would be enhanced by the grassed spoil bunds. This landscaping would also provide a degree of attenuation of the noise from the trains.
- 9.6.32** The limited number of rail movements means that perceptibility of the rail operations would be intermittent and infrequent, with primary and tertiary mitigation, such as continuous welding of tracks and locomotives at normal rather than full power, reducing noise generation. The noise assessment anticipates receptors, which include Leiston Abbey (MS39), being exposed to noise levels which are either not noticeable, or can be heard but would not cause change in behaviour or attitude. When considering from a heritage perspective, it is anticipated that the change in noise level would be perceptible, but not be at a level which would significantly affect the ability to understand or appreciate the assets interests. Operational noise would be limited by ensuring that trains would not normally stop in the areas south of the Abbey or immediately east of the B1122 (Abbey Road),

reducing the duration of any noise events and avoiding increased noise from acceleration and braking.

Significance of effect

- 9.6.33 The assets are of high heritage significance. No discernible loss of the Abbey's archaeological interest would arise. The architectural interest of the structures within the Abbey would also remain unaffected. Any impact would arise from the perceptibility of rail movements to the south of the Abbey and the changed perception of the relationship between the town of Leiston and the Abbey.
- 9.6.34 Perceptibility of the proposed rail extension from the Guesten Hall (LB 1268290) and in views of the Guesten Hall (LB 1268290) would be limited as a result of screening from adjacent non-designated buildings and planting. Any effect on this asset would therefore arise from sequential glimpsed views of the changes as the viewer approaches or passes by the asset and by intermittent noise of rail movements. Limited harm would arise to the heritage significance of the Guesten Hall. Any impact to the setting of this heritage asset of high significance would be of a very low magnitude, giving rise to a minor adverse effect, which is considered to be **not significant**.
- 9.6.35 Similarly, perceptibility of the proposed rail extension route from, and in views of, the Barn at Abbey Farm (LB 1216380) would be limited. Limited harm would arise to the heritage significance of the Barn at Abbey Farm. and any impact on significance of this asset of high heritage significance would be of a very low magnitude. This would give rise to a minor adverse effect, which is considered to be **not significant**.
- 9.6.36 Perceptual change arising from the proposed rail extension route would be greatest in views from the southern part of the Abbey ruins, as visibility is clearest and noise from the proposed development would be most audible. However, there are a number of locations within the Abbey ruins (LB 1215753) and the scheduled monument (SM 1014520) from which these changes would not be readily perceived. In addition, these parts of the asset group are those where existing noise levels from the B1122 Abbey Road are already greatest. Change to setting of this asset of high significance would be medium-term, temporary and give rise to less than substantial harm to the significance of the heritage asset. Impact would be of a low magnitude resulting from the diminution of historic interest. This

would result in a moderate adverse effect, which is considered to be **significant**.

- 9.6.37 The proposed rail extension route would not be visible from Retreat House (LB 1215754) at ground level, and would be visible only from the upper storeys of the house. In these views, visibility would be limited, and limited harm would arise to the significance of the heritage asset which is of high significance. Any impact to this asset would be of a very low magnitude, giving rise to a minor adverse effect, which would be **not significant**.

Grade II listed Fisher's Farmhouse (LB 1216275)

Predicted change

- 9.6.38 Trains passing along the proposed rail extension route would be visible in views south from the house although the physical structures of the proposed rail extension route would be less visible.

- 9.6.39 The proposed rail extension route would be visible in views northwards towards the house from a short stretch of Buckleswood Road to the west of Wood Farm. Passing trains would also be audible from Fisher's Farmhouse, although not to the degree that would give rise to a change in the perception of the asset as a farmhouse in a regionally distinctive rural setting.

Significance of effect

- 9.6.40 The visible change and increase in noise arising from the operation of the proposed rail extension route would not affect the relationship of Fisher's Farmhouse (LB 1216275), an asset of high heritage significance, to the immediately surrounding arable land and the asset would remain in a discernible regionally-distinctive rural context. The proposed rail extension route would not affect views of or from the asset which contribute to its architectural interest. The heritage significance of the asset would not be harmed and **no effect** would arise.

Grade II listed Wood Farmhouse (LB 1227752)

Predicted change

- 9.6.41 The proposed rail extension route would be difficult to discern from the asset (LB1227752) and would not be present in views of the asset which

contribute to architectural interest. The presence of the proposed rail extension route would not affect the relationship of Wood Farmhouse to the immediately surrounding arable land which is, in any case, restricted by the limited visibility.

Significance of effect

- 9.6.42 Wood Farmhouse is an asset of high heritage significance. During the operation of the proposed rail extension route limited harm would arise to the heritage significance of Wood Farmhouse. Any impact would be of a very low magnitude, reflecting temporary visual and audible change. This would give rise to a minor adverse effect which would be **not significant**.

iii. Effects arising through change to historic landscape character

Predicted change

- 9.6.43 The proposed rail extension route would cut across the existing field boundaries, and create a discernible linear feature. Despite these changes, it would still be possible to 'read' the historic landscape and any loss of archaeological value would be limited.

Significance of effect

- 9.6.44 During the operation of the proposed rail extension route, any change would be of medium-term temporary duration, and limited harm would arise to the significance of the historic landscape character reflecting the alteration of some historic field boundaries and the superimposition of a new linear feature. The magnitude of impact to the heritage significance of the historic landscape character would be medium on an asset of low heritage significance. This change would give rise to a minor adverse effect that is considered to be **not significant**.

iv. Inter-relationship effects

- 9.6.45 Any visual effects would arise as a result of effects on valued views which represent a subset of the changes already considered within the assessments of effects arising as a result of change to setting and historic landscape character. Similarly changes in noise environment and air quality are already considered, insofar as these are appropriate, in the assessments of effects arising as a result of change to setting. There would consequently be no further inter-related effects.

- d) Removal and reinstatement
 - i. Direct effects on archaeological heritage assets

9.6.46 Any disturbance and or removal of archaeological heritage assets within the site would have occurred during the construction of the proposed development. No further effects are anticipated during removal and reinstatement.

- ii. Effects arising through change to setting of heritage assets

Scheduled Monument (SM 1014520), Grade I and Grade II Listed Buildings at Leiston Abbey (LB 1215753, LB 1215754, LB 1216380 & LB 1268290)

Predicted change and effect

9.6.47 While construction-related activity may be visible or audible at times during removal and reinstatement, works would mostly take place within the screening bunds and mature screening planting, with progressive removal of the bunding during the return of the site to agricultural use. These works would be perceived as the progressive removal of the development, presenting a short-term and temporary change in setting that would not diminish heritage significance. The complete removal of the proposed rail extension route and reinstatement of the land once it is no longer required for the construction of the Sizewell C Project, would result in the reversal of any change to setting arising from noise of rail movements, and the reversal of much of the visual change in the setting of the assets. Any adverse effects to the heritage assets within the Leiston Abbey group as a result of the proposed rail extension route operation would be reversed and there would be **no effect** on heritage significance of these assets.

Grade II listed Fisher's Farmhouse (LB 1216275)

Predicted change and effect

9.6.48 While construction-related activity may be visible or audible at times during the removal and reinstatement phase, works would mostly take place within the screening bunds, with progressive removal of the bunding during the return of the site to agricultural use. These works would be perceived as the progressive removal of the development, presenting a short-term and temporary change in setting that would not diminish heritage significance. The removal of the proposed rail extension route and reinstatement of the

land on the completion of the construction of the Sizewell C main development would result in the reversal of any change to setting, and the gradual reversal of much of the visual change in the setting of the asset. These residual changes would reverse any changes due to construction and operation, and there would be no lasting effect. Visible change during work to restore the agricultural landscape would be short-term, temporary and **no effect** would arise.

Grade II listed Wood Farmhouse (LB 1227752)

Predicted change and effect

9.6.49 The removal of the proposed rail extension route and reinstatement of the land on the completion of the construction of the Sizewell C main development would result in the reversal of any audible change to setting, and the gradual reversal of the very limited visual change in the setting of the asset. These works would be perceived as the progressive removal of the development, presenting a short-term and temporary change in setting that would not diminish heritage significance. These residual changes would reverse any changes due to construction and operation, and there would be no lasting effect. Visible change during work to restore the agricultural landscape would be short-term temporary and **no effect** would arise.

iii. Effects arising through change to historic landscape character

9.6.50 While construction-related activity would be visible at times during removal and reinstatement works would mostly take place within the screening bunds and mature screening planting, with progressive removal of the bunding during the return of the site to agricultural use. The final removal of the proposed development, the return of the site to agricultural use and the restoration of sections of hedgerows which were removed at construction would effectively reverse any perceptual change in the historic landscape. **No effect** would arise.

iv. Inter-relationship effects

9.6.51 Any visual effects would arise as a result of effects on valued views which represent a subset of the changes already considered within the assessments of effects arising as a result of change to setting and historic landscape character. Similarly changes in noise environment and air quality

are already considered, as far these are appropriate, in the assessments of effects arising as a result of change to setting. There would consequently be no inter-related effects.

9.7 Mitigation and monitoring

a) Introduction

9.1.1 Primary and tertiary mitigation measures which have been accounted for as part of the assessment are summarised in **section 9.5** of this chapter. Where required, secondary mitigation measures have been proposed.

9.7.1 This section describes the proposed secondary mitigation measures for terrestrial historic environment as well as describes any monitoring required of specific receptors/resources or for the effectiveness of a mitigation measure.

b) Mitigation

9.7.2 It has been established that there is a potential for further remains dating to Roman and medieval periods within the site as set out in **section 9.6** of this chapter, which would be of low to medium heritage significance. In the absence of further mitigation this could result in a **significant effect**.

9.7.3 Secondary mitigation in this case would comprise the adoption of an agreed scheme of archaeological investigation to ensure that the archaeological interest of any significant deposits and features within the site could be appropriately investigated, recorded and disseminated preserving the archaeological interest of these remains. This would reduce the magnitude of impact on buried archaeological remains of low and medium heritage significance from the proposed rail extension route to low, resulting in a minor adverse effect, which is considered to be **not significant**.

9.7.4 An overarching archaeological written scheme of investigation (WSI) has been produced for the Sizewell C Project - **Appendix 16H** of **Volume 2** of the **ES**. An individual site-specific WSI would be produced to supplement this and would be agreed with SCCAS.

9.7.5 Publication and popular dissemination of any key results would allow any informative and historic value to be fully realised, and details would be set out within the individual site-specific WSI.

9.7.6 Additional mitigation is proposed via the Section 106 agreement to provide for enhancements to the visitor experience of the two Leiston Abbey sites. This would enhance the historic interest of these sites by allowing visitors to better engage with these assets and mitigate against the harm caused by the loss of historic interest arising from the perceptual presence of the proposed development during the construction period. It is envisaged that the works funded by this agreement would provide a lasting benefit that would persist into the operational period, complementing the creation and retention of an off-road link between the two assets. This off-road link is further described in **Volume 2, Chapter 16** and **Volume 2, Appendix 15** of the **ES**.

c) **Monitoring**

9.7.7 Monitoring of the agreed scheme of archaeological investigation would be carried out by SCCAS during the implementation of the scheme, the details of which are set out within the individual site-specific WSI.

9.8 **Residual effects**

9.8.1 The following tables (**Tables 9.6, 9.7** and **9.8**) present a summary of the terrestrial historic environment assessment. They identify the receptor/s likely to be impacted, the level of effect and, where the effect is deemed to be significant, the tables include the mitigation proposed and the resulting residual effect.

9.8.2 In general, mitigation through recording would be effective in retaining much of the archaeological interest of a heritage asset. However, to reflect the basic principle, acknowledged in NPS EN-1, that a retained record is not as valuable as archaeological interest retained in an asset which is actively conserved, this mitigation would serve as partial mitigation, reducing the magnitude of any adverse effect to low. In all cases identified in this assessment, this mitigation would be sufficient to ensure that no residual significant adverse effects would arise as a result of disturbance of archaeological remains.

Table 9.6: Summary of effects for the construction phase

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological	Loss of	None	Major adverse	Agreed WSI.	Minor

NOT PROTECTIVELY MARKED

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
remains associated with Romano-British activity within the site.	archaeological interest through material disturbance.		effect.		adverse effect (not significant).
Archaeological remains associated with medieval activity within the site.	Loss of archaeological interest through material disturbance.	None	Moderate adverse effect (significant).	Agreed WSI.	Minor adverse effect (not significant).
Leiston Abbey (second site) and moated site (SM 1014520) / St Mary's Abbey, Grade I (LB 1215753).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.	Moderate adverse effect (significant).	Section 106 agreement to provide for enhancements to the visitor experience.	Minor adverse effect (not significant).
Retreat House, Grade II (LB 1215754).	No impact.	Retention of established vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.	No effect.	None required.	No effect.
Barn at Abbey Farm, Grade II	No impact.	Retention of established	No effect.	None required.	No effect.

NOT PROTECTIVELY MARKED

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
(LB 1216380).		vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.			
The Guesten Hall at Abbey Farm, Grade II (LB 1268290).	No impact.	Retention of established vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.	No effect.	None required.	No effect.
Fisher's Farmhouse (LB 1216275).	No impact.	Retention of established vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.	No effect.	None required.	No effect.
Wood	No impact.	Retention of	No effect.	None required.	No effect.

NOT PROTECTIVELY MARKED

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Farmhouse (LB 1227752).		established vegetation. Introduction of appropriate landscape proposals. Best-practice noise mitigation during construction.			
Historic landscape character.	Potential loss of heritage significance through change to use of site.	Retention of hedgerows where possible.	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).

Table 9.7: Summary of effects for the operational phase

Receptor	Impact	Primary or Tertiary Mitigation	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological remains associated with Romano-British activity within the site.	No impact.	None	No further effects.	None required.	No further effects.
Archaeological remains associated with medieval activity within the site.	No impact.	None	No further effects.	None required.	No further effects.
Leiston Abbey (second site) and moated site (SM	Potential loss of heritage significance through	Retention of established vegetation. Introduction of	Moderate adverse effect (significant).	Section 106 agreement to provide for enhancements to	Minor adverse effect (not significant).

NOT PROTECTIVELY MARKED

Receptor	Impact	Primary Tertiary Mitigation	or	Assessment of effects	Additional Mitigation	Residual Effects
1014520) / St Mary's Abbey, Grade I (LB 1215753).	change to setting.	appropriate landscape proposals.			the visitor experience.	
Retreat House, Grade II (LB 1215754).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals.	of	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).
Barn at Abbey Farm, Grade II (LB 1216380).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals.	of	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).
The Guesten Hall at Abbey Farm, Grade II (LB 1268290).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals.	of	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).
Fisher's Farmhouse (LB 1216275).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals.	of	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).
Wood Farmhouse (LB 1227752).	Potential loss of heritage significance through change to setting.	Retention of established vegetation. Introduction of appropriate landscape proposals.	of	Minor adverse effect (not significant).	None required.	Minor adverse effect (not significant).
Historic	Potential loss	Retention	of	Minor	None required.	Minor

Receptor	Impact	Primary Tertiary Mitigation	or	Assessment of effects	Additional Mitigation	Residual Effects
landscape character.	of heritage significance through change to use of site.	established vegetation. Introduction of appropriate landscape proposals.	of	adverse (not significant).		adverse (not significant).

Table 9.8: Summary of effects for the reinstatement and restoration phase

Receptor	Impact	Primary Tertiary Mitigation	or	Assessment of effects	Additional Mitigation	Residual Effects
Archaeological remains associated with Romano-British activity within the site.	No impact.	None		No further effects.	None required.	No further effects.
Archaeological remains associated with medieval activity within the site.	No impact.	None		No further effects.	None required.	No further effects.
Designated heritage assets.	No impact.	n/a		n/a	n/a	n/a
Leiston Abbey (second site) and moated site (SM 1014520) / St Mary's Abbey, Grade I (LB 1215753).	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.
Retreat House, Grade II (LB 1215754).	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.
Barn at Abbey Farm, Grade II (LB 1216380).	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.
The Guesten Hall at Abbey Farm,	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.

NOT PROTECTIVELY MARKED

Receptor	Impact	Primary Tertiary Mitigation	or	Assessment of effects	Additional Mitigation	Residual Effects
Grade II (LB 1268290).						
Fisher's Farmhouse (LB 1216275).	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.
Wood Farmhouse (LB 1227752).	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.
Historic landscape character.	No impact.	Reinstatement to former use.		No effects.	None required.	No effects.

References

- 9.1 Ancient Monuments and Archaeological Areas Act 1979.
<http://www.legislation.gov.uk/ukpga/1979/46> [Accessed September 2019]
- 9.2 The Planning (Listed Buildings and Conservation Areas) Act 1990.
<http://www.legislation.gov.uk/ukpga/1990/9/contents> [Accessed September 2019]
- 9.3 Infrastructure (Decisions) Regulations 2010.
<https://www.legislation.gov.uk/ukdsi/2010/9780111490266/contents>
[Accessed September 2019]
- 9.4 The Hedgerow Regulations 1997.
<http://www.legislation.gov.uk/uksi/1997/1160/contents/made> [Accessed September 2019]
- 9.5 The Protection of Military Remains Act 1986.
<http://www.legislation.gov.uk/ukpga/1986/35/contents> [Accessed September 2019]
- 9.6 DECC (2011) Overarching National Policy Statement (NPS) for Energy (NPS EN-1)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf
[Accessed July 2019]
- 9.7 DECC (2011) National Policy Statement for Nuclear Power Generation (NPS EN-6) <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> [Accessed July 2019]
- 9.8 ESC (2013) Suffolk Coastal District Council Core Strategy and Development Management Policies
<https://www.eastsuffolk.gov.uk/planning/local-plans/suffolk-coastal-local-plan/existing-local-plan/core-strategy-and-development-management-policies/> [Accessed July 2019]
- 9.9 ESC (2019) Suffolk Coastal District Council Final Draft Local Plan
<https://www.eastsuffolk.gov.uk/planning/local-plans/suffolk-coastal-local-plan/local-plan-review/final-draft-local-plan/> [Accessed July 2019]

- 9.10 Suffolk Coastal District Council (1995) Supplementary Planning Guidance (SPG) 6 Historic Parks and Gardens <https://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Supplementary-Planning-Guidance/SPG6-Historic-parks-and-gardens.pdf> [Accessed September 2019]
- 9.11 Historic England, (2015). Good Practice Advice in Planning Note 2: Managing Significance in decision-taking in the Historic Environment. <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/> [Accessed July 2019]
- 9.12 Historic England (2008) Conservation Principles, Policies and Guidance. <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/conservationprinciplespoliciesandguidanceapril08web/>. [Accessed July 2019]
- 9.13 Historic England, (2017). Good Practice Advice in Planning Note 3: The Setting of Heritage Assets. <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/> [Accessed July 2019]
- 9.14 Jenny Glazebrook (ed.). (1997). Research and Archaeology: a Framework for The Eastern Counties 1. Resource assessment. East Anglian Archaeology Occasional Papers 3. http://eaareports.org.uk/publication/occ_pap3/. [Accessed March 2019].
- 9.15 Nigel Brown, Jenny Glazebrook (eds). (2000). Research and Archaeology: a Framework for the Eastern Counties 2. Research agenda and strategy. East Anglian Archaeology Occasional Papers 8. http://eaareports.org.uk/publication/occ_pap8/. [Accessed March 2019]
- 9.16 Maria Medlycott (ed.). (2011). Research and Archaeology Revisited: a revised framework for the East of England, East Anglian Archaeology Occasional Papers 24. http://eaareports.org.uk/publication/occ_pap24/. [Accessed March 2019]
- 9.17 East Anglian Archaeology (2019). Regional Research Framework Review. <http://eaareports.org.uk/algao-east/regional-research-framework-review/> [Accessed March 2019]

- 9.18 Chartered Institute for Archaeologists (CIfA). (2017). Standard and guidance for archaeological desk-based assessment. https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_3.pdf / [Accessed July 2019].
- 9.19 Chartered Institute for Archaeologists (CIfA). (2014). Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment. https://www.archaeologists.net/sites/default/files/CIfAS&GCommissioning_1.pdf. [Accessed July 2019].
- 9.20 Chartered Institute for Archaeologists (CIfA). (2014). Standard and guidance for archaeological field evaluation. https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf. [Accessed July 2019].
- 9.21 Chartered Institute for Archaeologists (CIfA). (2014). Standard and guidance for archaeological geophysical survey. https://www.archaeologists.net/sites/default/files/CIfAS%26GGeophysics_2.pdf. [Accessed July 2019].
- 9.22 Gurney, D. (2003). Standards for Field Archaeology in the East of England. http://eaareports.org.uk/publication/occ_pap14/. [Accessed July 2019].
- 9.23 Schmidt et al. (2016). EAC Guidelines for the use of Geophysics in Archaeology http://old.european-archaeological-council.org/files/eac_guidelines_2_final.pdf. [Accessed July 2019].
- 9.24 Historic England (2011) Environmental Archaeology (https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental_archaeology/). [Accessed July 2019].
- 9.25 Historic England (2015) Geoarchaeology (<https://historicengland.org.uk/images-books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/heag067-geoarchaeology/>). [Accessed July 2019].
- 9.26 British Geological Society. Geology Viewer. 2019. (Online). Available from: <https://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>. (Accessed 04 March 2019).

- 9.27 Suffolk County Council (2017). The Suffolk Historic Landscape Characterisation Map
- 9.28 Wade Martins, S. and Williamson, T. Roots of Change: Farming and the landscape in East Anglia c.1700-1870. 1999. Exeter, Agricultural History Review, Supplement Series 2, British Agricultural History Society pp 22-3