

East Anglia THREE

Appendix 25.1

Potential Archaeological Receptors

Environmental Statement

Volume 3

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25 ONSHORE ARCHAEOLOGY AND CULTURAL HERITAGE

25.1 Introduction

25.1.1 Project Background

1. Wessex Archaeology was commissioned by East Anglia Offshore Limited to carry out an Archaeology and Cultural Heritage Baseline Assessment, to be submitted as a Technical Appendix to an Environmental Statement (ES), in support of a planning application for the onshore Development Area of the East Anglia THREE offshore windfarm (hereafter 'the Site', Figure 1). The Site makes landfall at Bawdsey, National Grid Reference (NGR) 653184, 239194 then proceeds westwards for around 37km to the converter station location at Bramford (NGR) 609508, 246080.
2. Since the production of the Preliminary Environmental Information Report the Development Consent Order (DCO) for the East Anglia ONE Offshore Windfarm has been approved. The East Anglia THREE offshore cable corridor would follow a similar offshore cable corridor to that proposed within the East Anglia ONE DCO and therefore, to minimise disruption to local communities, it is proposed that the ducting for the onshore cable route be laid at the same time as the cables are laid for East Anglia ONE.
3. Due to changes to Development Area extent between the PEIR and the ES a number of assets no longer fall within the revised Study Area. These are still listed for reference in Appendix 25.2 and may still be included in the text below.

25.1.2 The Site

4. The Site consists of the onshore electrical transmission works of the proposed East Anglia THREE offshore windfarm project, consisting of the onshore cable route and substation. Additionally there are a number of temporary access routes and Construction Consolidation Sites (CSS) which may be required during construction works. The approximately 37km route makes landfall at Bawdsey before heading north-westerly across and along the River Deben, passing to the north of Ipswich and terminating at the convertor station location just to the west of Bramford.
5. The eastern end of the route commences in the parish of Bawdsey, lying just to the south of the village and to the north of the mouth of the Deben. It then passes briefly through marshland within Alderton and Ramsholt parishes before crossing the Deben into Falkenham parish. It then passes through Kirton, straddles the boundary between Newbourne and Hemley and travels into Waldringfield parish before crossing Martlesham Creek in the parish of that name, just to the south of Woodbridge. After Woodbridge it passes through the parishes of Great and Little

Bealings, Playford, Culpho, Tuddenham St Martin, Westerfield, Akenham, and Claydon before traversing the A14. It crosses the River Gipping at the boundary with Little Blakeham before turning south-westwards into Branford parish and the proposed convertor location site.

6. The majority of the route is agricultural and rural in nature though a number of roads cross the route.
7. The Site is situated within the low-lying and gently undulating landscape of Suffolk, which rises gently from Bawdsey cliffs at an elevation of around 10m above Ordnance Datum (aOD) to around 50m aOD at the convertor station location. Areas of higher ground are often small and localised and long-distance views easily obscured by intervening features.
8. Across such a wide area the geology of the Site naturally varies, its position at the limit of the Anglian ice sheet and the riverine environment influencing the more recent geological deposits, which will most likely be encountered during construction works. Bedrock deposits of Reg Crag sands are recorded at the eastern end of the route at Bawdsey. The Study Area moving westwards is then dominated by the Thames Group clay and silts to Kirton with further deposits of Red Crag from here into Culpho. The route from Tuddenham to Claydon is once again predominantly recorded as the Thames Group deposits until it reaches the Newhaven Chalk deposits around Claydon, Little Blakenham and Bramford. The underlying deposits at the convertor station site is mapped clay, silt and sand of the Thanet Sand Formation and Lambeth Group while superficial deposits of Lowestoft Formation are recorded both here and further eastwards. This till deposit was formed from material washed down during seasonal and post glacial meltwaters from the Anglian icesheet. Other superficial deposits of sand and gravel and tidal flats are recorded within the eastern part of the Study Area.

25.2 Methodology

9. The methodology employed for the preparation of this assessment, including the study areas, sources and assessment methods as well as terminology used in the report, is described in detail below.
10. In summary, the recorded historic environment resource within a 500m Study Area around the proposed cable route and substation area was considered in order to provide the context for the discussion and interpretation of the known and potential resource. Results from a review of the historic aerial photographs undertaken for East Anglia ONE within a 500m radius of the proposed development were also

incorporated. Additionally, a Zone of Theoretical Visibility (ZTV) was created within a 4km radius from the converter station location (extended to 10km for all Registered Parks and Gardens), within which designated heritage assets of highest significance were identified.

25.2.1 Scope of Document

11. This assessment was requested by the Client in order to determine, as far as is possible from existing information, the nature, extent and significance of the historic environment and to assess the potential impact of development on the heritage assets that embody that significance.

25.2.2 Terminology Used Within this Report

12. The following terminology used in this assessment follows definitions contained within Annex 2 of NPPF as well as within other guidance and legislative documents and has been collated in tabulated format for convenience.

Table 25.1: Glossary of Terms

Term	Definition
Archaeological interest	There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
Conservation (for heritage policy)	The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.
Designated heritage assets	World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Park and Gardens, Registered Battlefields and Conservation Areas designated under the relevant legislation.
Heritage asset	A building monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage assets include designated heritage assets and assets identified by the local planning authority (including local listing).
Historic environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
Historic environment record	Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.
Setting of a heritage asset	The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

Significance (for heritage policy)	The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
Value	An aspect of worth or importance

25.2.3 Chronology

13. The chronology of archaeological periods used in this chapter is summarised in **Table 25.2.**

Table 25.2: Archaeological Period Chronology

Archaeological Period	Date Range
Palaeolithic	c.970,000 – 9500 BC
Early Post-glacial	9500 – 8500 BC
Mesolithic	8500 – 4000 BC
Neolithic	4000 – 2200 BC
Bronze Age	2200 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – 410
Saxon	AD 410 – 1066
Medieval	1066 – 1500
Post-medieval	1500 – 1800
19th century	1800 – 1899
Modern	1900 – present day

25.2.4 Aims

14. The specific aims of this assessment are to:

- Outline the known and potential heritage assets within the Site based on a review of existing information within a Study Area extending 500m from the site boundary;
- Identify additional known designated heritage assets of specified classes within the Zone of Theoretical Visibility (ZTV) for the converter station location;
- Assess the significance of known and potential heritage assets through weighted consideration of their valued components;

- Assess the impact of potential development or other land changes on the significance of the heritage assets and their setting; and
- Make recommendations for strategies to mitigate potential adverse impacts arising from the proposed development.

25.2.5 Study Area

15. A 500m Study Area around the Site was considered in order to provide a context for the discussion and interpretation of the known and potential resource within the Site. The recorded historic environment resource within the Study Area was acquired for this assessment from sources listed below.

25.2.6 Sources

16. A number of publicly accessible sources of primary and synthesised information were consulted, including:
 - The Suffolk Historic Environment Record (HER), comprising a database of all recorded archaeological sites, find spots, and archaeological events within the county;
 - National heritage datasets including the National Heritage List for England (NHLE), Images of England, PastScape, Viewfinder, National Monument Record Excavation Index, and Parks and Gardens UK;
 - Historic manuscripts, surveyed maps, and Ordnance Survey (OS) maps; and
 - Relevant primary and secondary sources. Both published and unpublished archaeological reports relating to excavations and observations in the area around the Site were studied.
17. A bibliography of documentary, archive, and cartographic sources consulted is included in the References section of this report.

25.2.7 Setting

18. The aim of the setting analysis was to establish whether the Site constituted or contributed to the setting of any monuments within the wider landscape.

25.2.7.1 Guidance

19. Setting is defined in Annex 2 of the NPPF as ‘the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.’

20. The assessment was carried out in accordance with the relevant guidance from Historic England (formerly English Heritage) including *Historic Environment Good Practice Advice in Planning. Note 3: The Setting of Heritage Assets* (English Heritage 2015) and *Seeing History in the View* (English Heritage 2011).

25.2.7.2 Viewshed Analysis

21. In addition to the 500m Study Area, Additionally, a Zone of Theoretical Visibility (ZTV) was created within a 4km radius from the converter station location (extended to 10km for all Registered Parks and Gardens), within which designated heritage assets of highest significance were identified.
22. All designated heritage asset within the 500m Study Area were included in the Viewshed Analysis. In addition, the settings of non-designated heritage assets, including Historic Landscape Character and locally listed buildings, were considered.

25.2.8 Assessment Criteria

23. Assessment of the significance of a site sets out to identify how particular parts of a place and different periods in its evolution contribute to, or detract from, identified heritage values associated with the site. This approach considers the present character of the site based on the chronological sequence of events that produced it, and allows management strategies to be developed that sustain and enhance the significance of heritage assets.
24. Significance (for heritage policy) is defined in NPPF Annex 2 as:
‘the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.’
25. NPPF requires the level of the assessment to be proportionate to the significance of the asset (NPPF Para. 128). However, there is no single accepted guidance for the assigning of different levels of the overall significance to heritage assets. As a result, based on professional judgement and available guidance, the following criteria were developed in order to determine the significance of heritage assets (**Table 25.3**).

Table 25.3: Summary of Factors for Determining Significance of Heritage Assets

Significance	Factors determining significance
International	World Heritage Sites Assets of recognised international importance Assets that contribute to international research objectives

Significance	Factors determining significance
National	Scheduled Ancient Monuments Grade I and Grade II* Listed Buildings Grade I and Grade II* Registered Parks and Gardens Undesignated assets of the quality and importance to be designated Assets that contribute to national research agendas
Regional	Grade II Listed Buildings Grade II Registered Parks and Gardens Conservation Areas Assets that contribute to regional research objectives
Local	Locally listed buildings Assets compromised by poor preservation and/or poor contextual associations Assets with importance to local interest groups Assets that contribute to local research objectives
Negligible	Assets with little or no archaeological/historical interest
Unknown	The importance of the asset has not been ascertained from available evidence

26. Current national guidance for the assessment of the significance of heritage assets is based on criteria provided by Historic England (formerly English Heritage) in the document *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* (English Heritage 2008a). Within this document significance derives from the sum of values (aesthetic, communal, evidential and historical) attached to heritage assets:

- Evidential value - deriving from the potential of a place to yield evidence about past human activity;
- Historical value - deriving from the ways in which past people, events and aspects of life can be connected through a place to the present. It tends to be illustrative or associative;
- Aesthetic value - deriving from the ways in which people draw sensory and intellectual stimulation from a place; and
- Communal value - deriving from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory. Communal values are closely bound up with historical (particularly associative) and aesthetic values, but tend to have additional and specific aspects.

27. It should be noted that not all aspects of a heritage assets will contribute to its significance and high value assets are not necessary highly sensitive to all impacts.

25.3 Planning Background

25.3.1 Introduction

28. There is national legislation and guidance relating to the protection of, and proposed development on or near, important archaeological sites or historical buildings within planning regulations as defined under the provisions of the Town and Country Planning Act 1990. In addition, local authorities are responsible for the protection of the historic environment within the planning system.
29. The following section provides details of the national, regional and local planning and legislative framework governing the treatment of archaeological remains within the planning process.

25.3.2 National Planning Policy

30. National Policy Statements (NPS) form the principal policy framework within which decisions on Nationally Significant Infrastructure Projects (NSIP) are made.
31. Those NPS of specific relevance to the project comprises the EN-1 Overarching Energy NPS and EN-3 Renewable Energy Infrastructure both designated in July 2011.
32. The National Planning Policy Framework (NPPF) was published by the Department for Communities and Local Government (DCLG) in March 2012, replacing Planning Policy Statement 5.
33. NPPF Section 12: Conserving and enhancing the historic environment sets out the principal national guidance on the importance, management and safeguarding of heritage assets within the planning process.
34. The aim of NPPF Section 12 is to ensure that Regional Planning Bodies and Local Planning Authorities, developers and owners of heritage assets adopt a consistent and holistic approach to their conservation and to reduce complexity in planning policy relating to proposals that affect them.
35. To summarise, government guidance provides a framework which:
 - Recognises that heritage assets are an irreplaceable resource;
 - Requires applicants to provide proportionate information on the significance of heritage assets affected by the proposals and an impact assessment of the proposed development on that significance;

- Takes into account the desirability of sustaining and enhancing the significance of heritage assets and their setting;
 - Places weight on the conservation of designated heritage assets; and
 - Requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and impact, and to make this evidence (and any archive generated) publicly accessible.
36. This assessment has also been undertaken with reference to the following guidance documents:
- Department for Communities and Local Government (2013), Planning Practice Guidance for Renewable and Low Carbon Energy;
 - English Heritage (2005), Wind Energy and the Historic Environment (currently being revised);
 - English Heritage (2008b), Climate Change and the Historic Environment;
 - English Heritage (2008a), Conservation Principles; Policy and Guidance for the Sustainable Management of the Historic Environment;
 - English Heritage (2011), Seeing History In The View, A Method for Assessing Heritage Significance Within Views; and
 - English Heritage (2015), *Historic Environment Good Practice Advice in Planning. Note 3: The Setting of Heritage Assets*; and
 - Chartered Institute for Archaeologists (2014), *Standards and guidance for historic environment desk-based assessment*.

25.3.3 Local Plan

37. The Development Area for the proposed onshore cable route falls within the administrative boundaries of Suffolk Coastal District Council and Mid Suffolk District Council. The ZTV also includes assets within Babergh District.
38. Suffolk Coastal District Council formally adopted its Core Strategy in July 2013 to provide a framework for planning in the district until 2027. This has no specific policies in regard to the historic environment but refers to NPPF Section 12 for guidance. Policies AP1 Conservation Areas – Control of Development and Enhancement and AP4 Parks and Gardens of Historic or Landscape Interest from the

previous Suffolk Coastal Local Plan (saved policies July 2013) still remain in force until replacement by policies in other development plan documents.

39. Mid Suffolk District Council formally adopted its Core Strategy in 2008 and have since undertaken a focused review (adopted 2012) which emphasises a presumption in favour of sustainable development, which includes protecting and enhancing the historic environment.
40. Babergh District Council have formally adopting Part 1 of their New Babergh Local Plan (Core Strategy & Policies, adopted February 2014), however until replaced by further Development Plan Documents (DPD) a number of policies relating to the historic environment outlined in the Babergh Local Plan Alteration No. 2 (2006) still remain in force.

25.3.3.1 Supplementary Planning Guidance

41. The Conservation Area of Tuddenham St Martin lies within the Study Area for which a conversation area appraisal has been adopted (Suffolk Coastal District Council 2001).

25.4 National and Local Historic Environment Policies

25.4.1 National Planning Policy

Policy Ref.	Title	Scope
n/a	Ancient Monuments and Archaeological Areas Act 1979 (as amended)	Scheduled Monuments and Archaeological Areas of Importance (AAIs or their equivalent) are afforded statutory protection and the consent of SoS (DCMS), as advised by English Heritage (now Historic England), is required for any works.
n/a	Planning (Listed Buildings and Conservation Areas) Act 1990	Works affecting Listed Buildings and Conservation Areas are subject to additional planning controls administered by Local Planning Authorities (LPAs). EH are a statutory consultee in works affecting Grade I or II* Listed Buildings.
NPPF	Conserving and enhancing the historic environment. Para. 128	In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
NPPF	Conserving and enhancing the historic environment. Para. 129	Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.
NPPF	Conserving and enhancing the historic environment.	When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should

Policy Ref.	Title	Scope
	Para. 132	be.
NPPF	Conserving and enhancing the historic environment. Para. 135	The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
NPPF	Conserving and enhancing the historic environment. Para. 137	Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably
NPPF	Conserving and enhancing the historic environment. Para. 139	Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.
NPPF	Conserving and enhancing the historic environment. Para. 141	Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible
n/a	Hedgerow Regulations 1997 (amended 2002)	Under the Hedgerow Regulations 1997, as amended by The Hedgerows (England) (Amendment) Regulations 2002, hedgerows are deemed to be historically Important if they are over 30 years old and if: A hedgerow incorporating, or associated with, an archaeological feature or site which is: a) Included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or b) Recorded at the relevant date in a Sites and Monuments Record c) A hedgerow that forms an integral part of a pre-1845 field system, or a pre-1870 enclosure field system

Policy Ref.	Title	Scope
		In practice hedgerows are deemed Important under the above regulations if they can be demonstrated to exist on the appropriate pre-1845 parish tithe or enclosure map.
EN-1 Overarching Energy NPS	Historic environment. Para. 5.8.8	As part of the ES (see Section 4.2) the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, English Heritage or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact.
EN-1 Overarching Energy NPS	Historic environment. Para. 5.8.9	Where a development site includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact.
EN-3 Renewable Energy Infrastructure NPS	National designations. Para. 2.5.33	In sites with nationally recognised designations (Sites of Special Scientific Interest, National Nature Reserves, National Parks, the Broads, Areas of Outstanding Natural Beauty and Registered Parks and Gardens), consent for renewable energy projects should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits.
EN-3 Renewable Energy Infrastructure NPS	National designations. Para. 2.5.34	In considering the impact on the historic environment as set out in Section 5.8 of EN-1 and whether it is satisfied that the substantial public benefits would outweigh any loss or harm to the significance of a designated heritage asset, the IPC should take into account the positive role that large-scale renewable projects play in the mitigation of climate change, the delivery of energy security and the urgency of meeting the national targets for renewable energy supply and emissions reductions.

25.4.2 Local Planning Policy:

25.4.2.1 Babergh

Babergh Local Plan 2011-2031: Core Strategy & Policies (February 2014)		
Policy Ref.	Title	Scope
CS15	Implementing Sustainable Development in Babergh	<p>Proposals for development must respect the local context and character of the different parts of the district, and where relevant should demonstrate how the proposal addresses the key issues and contributes to meeting the objectives of this Local Plan. All new development within the district, will be required to demonstrate the principles of sustainable development and will be assessed against the presumption in favour of sustainable development – as interpreted and applied locally to the Babergh context (through the policies and proposals of this Local Plan), and in particular, and where appropriate to the scale and nature of the proposal, should:</p> <p>i) respect the landscape, landscape features, streetscape / townscape, heritage assets, important spaces and historic views;...</p> <p>... Proposals for development must ensure adequate protection, enhancement, compensation and / or mitigation, as appropriate are given to distinctive local features which characterise the landscape and heritage assets of Babergh’s built and natural environment within designated sites covered by statutory legislation, such as AONBs, Conservation Areas, etc. and local designations such as Special Landscape Areas and County Wildlife Sites, and also local features and habitats that fall outside these identified areas. In particular proposals should protect and where possible enhance the landscape and heritage areas including habitats and features of landscape, historic, architectural, archaeological, biological, hydrological and geological interest. Adaptation or mitigation will be required if evidence indicates there will be damaging impacts if a proposal is otherwise acceptable and granted planning permission.</p>
Babergh Local Plan Alteration No. 2 (2006)		
Policy Ref.	Title	Scope
CN06		Proposals for the alteration (including part demolition), extension or change of use of buildings of Special Architectural or Historic Interest (including curtilage structures), or for the sub-division of, or

		<p>new work within the curtilage or setting of a listed building should:</p> <ul style="list-style-type: none"> • preserve the historic fabric of the building, and ensure that all proposals to remove by demolition, or alter any part of the building are justified in terms of preserving the special character of the building and will cause the minimum possible impact; • retain all elements, components, and features which form part of the building’s special interest and respect the original scale, form, design and purpose of the architectural unit; • not conceal features of importance or special interest; • be of an appropriate scale, form, siting and detailed design to harmonise with the existing building and its setting; • retain a curtilage area and/or setting which is appropriate to the listed building and the relationship with its surroundings; • include fenestration which respects the character of the building; • retain traditional thatch roof coverings; • use materials and components which are natural or handmade, and which complement or harmonise with those on the building and the area. This will include: lime plasters and lime mortars; natural clay or slate roofs; bricks; handmade timber windows and doors; • use appropriate detailing, finishes, and colours, both internally and externally; • respect those features which contribute positively to the setting of a listed building including space, views from and to the building and historic layout; and • comply with Annex C of PPG 15
CN08		<p>Proposals for the alteration, extension or change of use of an existing building, or for the erection of new buildings in a conservation area or which have an impact on views into or out of a conservation area should:</p> <ul style="list-style-type: none"> • preserve or enhance the character of the conservation area or its setting; • retain all elements and components, including spaces, which contribute to the special character of the area; • be of an appropriate scale, form, and detailed design to harmonise with its setting;

		<ul style="list-style-type: none"> • include fenestration which respects its setting; • use materials and components that complement or harmonise with the character and appearance of the area; and • ensure that natural features such as trees and hedges are retained and integrated into any development proposals.
CN14		Development in or adjacent to parks and gardens of historic or landscape significance (listed in the National Register of statutorily protected historic parks and gardens) which would lead to the erosion of their character, appearance or setting will be refused
CN15		Development in or adjacent to an historic park or garden, listed in the Suffolk Register of locally important sites, will be expected to preserve or enhance the character of the area. Proposals that lead to the erosion of their character, appearance or setting will be refused.

25.4.2.2 Mid Suffolk District Council

Core Strategy Development Plan Document (Adopted September 2008)		
Policy Ref.	Title	Scope
SO4		To protect, manage, enhance and restore the historic heritage / environment and the unique character and identity of the towns and villages by ensuring that new developments are appropriate in terms of scale and location in the context of settlement form and character
CS 5	Mid Suffolk's Environment	<p>All development will maintain and enhance the environment, including the historic environment, and retain the local distinctiveness of the area.</p> <p>To protect, manage and enhance Mid Suffolk's biodiversity and geodiversity based on a network of: Designated Sites (international, national, regional and local) Biodiversity Action Plan Species and Habitats, geodiversity interests within the wider environment Wildlife Corridors and Ecological Networks and where appropriate increase opportunities for access and appreciation of biodiversity and geodiversity conservation for all sections of the community.</p> <p>Emphasis will be given to the creation new habitats particularly along the Gipping, Upper Waveney and Deben river valley's in connection with flood management schemes and to contribute towards green tourism opportunities.</p>

		<p>Landscape: The Council will protect and conserve landscape qualities taking into account the natural environment and the historical dimension of the landscape as a whole rather than concentrating solely on selected areas, protecting the District's most important components and encourage development that is consistent with conserving its overall character.</p> <p>Design: Development will be of a high quality design that respects the local distinctiveness and the built heritage of Mid Suffolk, enhancing the character and appearance of the district. It should create visual interest within the street scene and where appropriate encourage active uses at ground floor level, creating uses of public space which encourage people to walk and cycle.</p> <p>Historic Environment: The Council will introduce policies in the other DPDs of the Local Development Framework to protect, conserve and where possible enhance the natural and built historic environment including the residual archaeological remains. These policies will seek to integrate conservation policies with other planning policies affecting the historic environment.</p>
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25.4.2.3 Suffolk Coastal District Council

Suffolk Coastal District Local Plan - Core Strategy and Development Management Policies 2013		
Policy Ref.	Title	Scope
n/a	Historic Environment, para. 3.150	In relation to the built environment, the designation of conservation areas, scheduled ancient monuments, historic parklands and the listing of buildings are all issues that can be addressed outside of the Local Plan process. The role of the Core Strategy in relation to these topics will be to provide general advice supporting their retention and enhancement whilst minimising any significant adverse impacts upon them. Section 12 of the NPPF supports this aim and will be applied rigorously. More generally, decisions on development proposals affecting heritage assets will be informed as appropriate by Conservation Area Appraisals, information from the Historic Environment Record and Archaeological Assessments.
Suffolk Coastal Local Plan remaining 'Saved Policies' – July 2013		
Policy Ref.	Title	Scope
AP1	Conservation Areas - Control of Development and Enhancement	To protect the character of the Conservation Areas, as shown on the Proposals Map, and to ensure that new buildings, alterations or other development preserve or enhance them, the District Council will, in the control of development within, or affecting, each Conservation Area, pay special attention to the following matters:

		<p>(i) the building materials used, to ensure that they are consistent with the general character of the respective area;</p> <p>(ii) the form, scale, design and detailing of new buildings, alterations to existing buildings, and the space around buildings (including landscape schemes, roads and fencing), which should be in harmony with, and relate satisfactorily to, their surroundings;</p> <p>(iii) other development, including street furniture, road, footpath and other surfaces, lighting and advertisement displays, should be in keeping with the respective Conservation Area; wherever practicable, electricity, telephone and other cable systems should be placed underground, or in suitably concealed locations;</p> <p>(iv) natural features, including trees, should be preserved wherever possible; schemes of landscaping and tree planting will normally be required;</p> <p>(v) Supplementary Planning Guidance;</p> <p>(vi) the traffic implications arising from the proposed development.</p> <p>The District Council will normally seek the submission of detailed plans and drawings of proposed development instead of granting planning permission in outline form.</p> <p>As resources permit, the District Council will support and formulate proposals for the enhancement of Conservation Areas.</p>
AP4	Parks and Gardens of Historic or Landscape Interest	<p>The District Council will encourage the preservation and/or enhancement of parks and gardens of historic and landscape interest and their surroundings. Planning permission for any proposed development will not be granted if it would have a materially adverse impact on their character, features or immediate setting.</p>

25.5 Baseline Resource

25.5.1 Introduction

42. The following section provides a brief summary of the archaeological and historical development of the Site and the Study Area, compiled from sources listed above. The aim is to establish the known and potential resource which could be affected by the development.
43. All heritage assets identified are listed in Appendix 25.2. The Suffolk Historic Environment Record (SHER) and National List entries are listed by number within the text:
- **1-80** Listed Buildings;
 - **81-83** Scheduled Monuments and Registered Parks and Gardens;
 - **84-581** Archaeological records; and
 - **582-593** Archaeological records identified during RSK walkover survey.
44. Entries are given a **WA** prefix in the text for ease of reference. Designated heritage assets are labelled in red text on the figures, while HER records are labelled black and features identified during the walkover survey are labelled in blue. An illustration of the identified heritage assets is provided in *Volume 2, Figures 25.1-25.12*.

25.5.2 Previous Studies

45. There are few previous intrusive archaeological investigations within the Site area, however several sections of the cable route have been subject to the South-east Suffolk survey where areas were fieldwalked, identified concentrations of artefacts potentially indicative of archaeological activity as well as isolated finds. Additionally a number of areas along the route have also been systematically metal-detected and these finds identified and recorded. A small area of archaeological investigation does lie along the route adjacent to Martlesham roundabout where Neolithic and Iron Age pits and some Bronze Age pottery were identified (**WA350, 351, 354**).
46. An aerial photographic survey was undertaken for East Anglia ONE by (ARS Ltd. 2012). This identified a number of previously unrecorded features and extended the extent of some of the already known cropmarks. Features identified include a number of areas of likely post-medieval or modern quarrying as well as some of areas of medieval or post-medieval ridge and furrow. Some areas of field systems were also located.

47. An archaeological evaluation has been undertaken on the convertor station location for East Anglia ONE, consisting of 27 trenches this located two post-medieval field boundaries still visible on the 19th century tithe map (ASE 2013).
48. Further archaeological investigations have been carried out within the Study Area, as well as additional areas of fieldwalking and metal-detector surveys. The results of these assessments and investigations will be discussed below, as appropriate.
49. There are also a number of events where no archaeology is recorded, these include desk-based assessments and archaeological monitoring with negative results. These have not been numbered but are listed in *Appendix 25.2 Section 1.3*.

25.5.3 Statutory and Local Heritage Designations

50. The designated heritage assets are labelled in red text on the accompanying figures.

25.5.3.1 Site

51. There are no designated heritage assets within the Site itself however a number of designated heritage assets lie within the wider area, including several in close proximity to the cable route.

25.5.3.2 Study Area

52. There are 78 Listed Buildings within the Study Area which encompasses ten Grade II* and 68 Grade II Listed Buildings; there are no Grade I properties included. Additionally there is the Grade II Registered Park and Garden of Bawdsey Manor (**WA81**) and two Scheduled Monuments.
53. The Listed Buildings includes eight churches (**WA8, 11, 14, 24, 46, 50, 64, 86**) all of which have elements dating to the 13th or 14th century. The rural and agricultural nature of the area is also reflected with a large number of Listed farmhouses (**WA12, 19, 26, 38, 42, 45, 55, 62, 65, 69, 73, 76-80, 84-85**) and associated agricultural buildings (**WA32, 57, 59, 72, 74-75**). The majority of which are originally 16th or 17th century. There are also a number of larger, higher status houses and halls such as the 16th century Seckford Hall (**WA33**) as well as the former medieval manor houses of Culpho Hall, Tuddenham Hall, Akeham Hall and Claydon Hall (**WA53, 54, 63, 66**).
54. More modern development is seen in a number of 18th and 19th century properties such as Rise Hall (**WA65**) as well as the limekiln to the south of Claydon (**WA67**).
55. The gardens and pleasure grounds at Bawdsey Manor (**WA82**) are associated with the late 18th early 19th century county house, which lies just to the south of the

Study Area. The house and grounds were sold to the Air Ministry in 1939, who used it as radar research station and air defence until 1986.

56. The Scheduled Monuments include the 19th century hump-backed bridge at Great Bealings (**WA82**) and a Bronze Age barrow on Waldringfield Heath (**WA87**).

57. The Conservation Area of Tuddeham St Martin lies within the Study Area, encompassing the traditional core of the village (Suffolk Coastal District Council 2001). Due to the below nature of the works at this point it is not considered to be impacted on by the proposed project.

58. The onshore cable route would also cross the following statutory designated sites:

- Bawdsey Cliffs Site of Special Scientific Interest (SSSI) designated for its geological interest;
- The Deben Estuary Special Protection Area (SPA), Ramsar and SSSI; and
- Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB).

25.5.3.3 Wider Context

59. A considerable number of additional designated heritage assets are located within the Site's wider context, within 4km radius, this was extended to 10km for Registered Parks and Gardens. These assets were subject to the Viewshed Analysis.

60. The designated heritage assets within the ZTV are illustrated in *Figure 25.13* and listed in *Appendix 25.2, Section 1.4*.

61. The Viewshed Analysis identified that some of these assets were located within the ZTV. These assets are discussed below. However, those designated heritage assets identified in the Viewshed Analysis as **not visible** have been scoped out from further discussion.

62. The eligible designated assets within the Site's wider context which have been identified as theoretically visible from the Site, and thus meriting further assessment, comprise the following:

- Two Registered Parks and Gardens;
- 52 Listed Buildings, six Grade I, three Grade II* and 43 Grade II; and
- One Scheduled Monument.

63. The designated heritage assets within the ZTV are therefore highlighted as theoretically sharing intervisibility with the Site. However, potential intervisibility does not necessarily indicate that the Site forms part of the setting(s) of these designated assets.
64. No World Heritage Sites or Historic Battlefields were identified by the Viewshed Analysis within the ZTV.

25.5.4 Archaeological and Historical Context

65. The following section provides a brief summary of the archaeological and historical development of the Site and the Study Area, compiled from the sources listed above. The potential for the likelihood of as yet unrecorded archaeological remains within the Site is informed by the consideration of the known heritage assets recorded within the 500m Study Area surrounding the Site, in conjunction with the geology and topography of the area.
66. The archaeological records obtained from Suffolk HER and other sources are illustrated in *Figure 25.1-25.12* and listed in *Appendix 25.2*.

25.5.4.1 Palaeolithic and Mesolithic

67. The nature of early prehistoric occupation and activity is that it is peripatetic in nature with seasonal exploitation of resources, such occupation and activity sites are often ephemeral and poorly preserved within the archaeological record. Riverine environments are rich in resources and are often associated with early prehistoric activity. It should be noted that due to changes in sea-level since the last glaciation that not only will some environments have been more accessible in the past but that due the changing dynamics of such environments deposits may be differently preserved or destroyed.
68. Suffolk contains some nationally important and significant sites contributing to our understanding of the Lower Palaeolithic due to its location at the limits of the ice sheets (Austin 1997, 5). Much of the Palaeolithic material is however located within specific geological deposits such as river terrace gravels and glacial tills and material is often found in secondary contexts (*ibid.*). Within the revised Study Area there is a single record of Palaeolithic material; that of some possible Palaeolithic material located during early 20th century excavations at Coe's Pit (**WA543**), within the parish of Bramford, near the western end of the route.
69. A number of Mesolithic sites also lie within the county, although many of these have been isolated findspots with few excavations of sites with material in situ (Austin 1997, 9). Mesolithic material has been identified at several locations within the

Study Area (**WA254, 353, 370, 396, 458 and 537**), though no sites have been clearly identified.

25.5.4.2 Neolithic and Bronze Age

70. A number of findspots and scatters of flintwork have been identified in the Study Area (**WA233, 248, 256, 283, 324, 353, 369, 418, 492**). Neolithic pottery was discovered during the late 19th century Rookery Mound excavations (**WA396**) and Neolithic features located during both the Blood Hill, Bramford excavations (**WA560**) as well during work in connection with the Martlesham by-pass (**WA350** and **372** (not clear whether second HER record is a duplicated entry).
71. A number of cropmarks in the region have also been identified as potential remains of Neolithic funerary monuments (**WA407, 409, 573, 135**).
72. Within the Study Area a large number of Bronze Age artefacts have been recovered, particularly from metal detecting (**WA106, 107, 110, 138, 270, 345, 354, 369, 431, 439, 441, 446, 458, 483, 487, 493, 505, 525, 534**). These indicate a general spread of activity throughout the Study Area and some of the flint scatters may be evidence of nearby archaeological sites or features.
73. Relatively little Bronze Age occupation has been recognised within the Study Area though such activity has been located at Kirton Lodge Farm (**WA180**), Rookery mound (**WA396**) and Blood Hill (**WA560**), the last site including two Early Bronze Age inhumation graves.
74. During this period agricultural production and forest clearance is known to have increased (Brown and Murphy 1997, 16). A number of cropmarks within the Study Area potentially relate to field systems constructed during the Bronze Age and later Prehistoric period (**WA135, 202, 206 208 210, 212, 213, 217, 219, 226, 247, 250, 262, 272, 289, 292, 301, 306, 312, 334, 412**). Other circular features and ring ditch features identified from aerial images may indicate Bronze Age barrows which may have functioned both as funerary monuments but also as territorial and landscape markers (Woodward 2000, 49-72)(**WA197, 217, 220, 221, 223, 242, 257, 317, 323, 411, 413, 417**). Though interpretation from such evidence is difficult and such features can also be understood as hut circles, more indicative of Iron Age settlement activity (**WA135, 160, 214, 221, 264, 273, 288**).
75. Much prehistoric material is not chronologically distinctive and such material located within the Study Area may relate indicate activity from the Neolithic to the Iron Age (**WA101, 139, 144, 146, 150, 151, 154, 155, 190, 198, 228, 231, 249, 266, 267, 281,**

282, 293, 303, 305, 309, 319, 336, 346, 361, 371, 377, 386, 406, 416, 444-446, 462, 592).

25.5.4.3 Iron Age and Romano-British

76. A number of Iron Age finds have been located throughout the Study Area (**WA86, 299, 136, 143, 157, 266, 277, 291, 406, 432, 447, 452 484, 504, 505, 507, 514, 523, 531, 532, 564, 570**), some of this material apparently in conjunction with Roman material, perhaps indicative of continuity between communities (**WA337, 342 456**). It is also probable that some the undated field systems and trackways (see section above) may relate to activity within either or both of these periods.
77. Iron Age features have been revealed during work on the Martlesham by-pass (**WA351**) and to the south-west of Woodbridge (**WA373**). Iron Age material was recovered from the Rookery Mound site (**WA396**) though it is not clear whether in situ features were found. Finds and features suggesting settlement from the Iron Age into the Romano-British period was also discovered during the construction of the Claydon by-pass. (**WA544**). A possible Iron Age pit was located during work at Notcutts Nursery in Martlesham (**WA346**) and Iron Age activity was also encountered at the Blood Hill excavations (**WA560**).
78. Though there is currently no evidence for formal, planned Roman towns in Suffolk though a number of small urban settlements are known (Hegarty and Newsome 2005, 48). Much of the economic and administrative activity within the county are thought to have been focused on the road network (*ibid.*) and a length of Roman road just to the west of Bramford passes through the Study Area (**WA552**). It represents a section of the route from Camulodunum (Colchester) to Venta Icenorum (near Norwich), passing through the known Roman settlement of Coddensham which lies some 4.8km to the north of the Study Area.
79. Felixstowe, which lies just to the south of the eastern end of the Study Area was a known Roman port and 2nd to 4th century material has been discovered in the area of Brackenbury Fort. Walton which lies within Felixstowe is also the location of a late 3rd century Saxon Shore fort.
80. The largest and most sophisticated villa complex known in Suffolk, Castle Hill, lies just to the south of Study Area in Whitton, in north-west Ipswich. Excavations have activity dating from the 1st to the 4th centuries with indications that the villa was occupied mainly in the second half of this period (Wessex Archaeology 2003).
81. Large numbers of reported Roman artefacts within the Study Area (89) are likely to, at least partly, reflect the greater prevalence of metal artefacts at this time and their

subsequent discovery by metal detectorists (see *Volume 3, Appendix 25.2*).

However, many of the more concentrated scatters of metal finds and pottery are presumably indicative of nearby occupation and one pottery scatter in particular is noted as being within a darker areas of soil, perhaps an occupation horizon (**WA329**).

82. At least two hoards have been recovered within the Study Area (**WA472** and **494**), dating to the 4th and 3rd centuries. A possible saltern (salt-making) site has also been reported near to the eastern bank of the River Deben (**WA169**).

25.5.4.4 Saxon and Medieval

83. Saxon occupation and settlement sites are often poorly represented within the archaeological record due to their relatively low visibility in comparison with sites of other periods (Hegarty and Newsome 2005, 60), however regionally and nationally important sites dating to this period are known from the region. *Gipeswic* (Ipswich) East Anglia's trading capital developed significantly in the 6th and 7th century before further expanding in the 8th century (Plunkett 2005, 129-132 148-150).
84. The results of the South-east Suffolk survey suggested that Anglo-Saxon settlement was concentrated within the hinterland of the tributaries of the River Deben and on the lighter soils (Wade 1997, 47). With cemetery activity and likely associated occupation known at Akenham, Tuddenham St Martin, Playford and the Bealings (Plunkett 2005, 33). A number of pottery scatters located during the South-east Suffolk survey, as well as other findspots, may be indicative of nearby settlements and other activity and show a distribution throughout the Study Area (see *Volume 3, Appendix 25.2*).
85. The village of Bawdsey, which lies at the eastern end of the route is thought to originate in the late Anglo-Saxon period (**WA112**). Records in the Domesday survey of a vill at Peyton (**WA158**) and churches at Hemley (**WA193**), Kirton (**WA209**), Newbourne (**WA258**), Martlesham (**WA320**), Great Bealings (**WA419**) and Akeham (**WA495**) would also seem to imply late Saxon communities. Waldringfield, Little Bealings, Playford, Culpho and Tuddenham are also listed. An evaluation at Paper Mill Lane in Claydon, also listed in the survey, identified as a potential sunken-featured building or *grubenhau* (**WA549**).
86. Brooches have been found in association with human remains in two locations within the Study Area, indicating possible cemetery sites at Martlesham and Akeham (**WA367** and **488**).
87. Medieval settlement and other activities are known throughout the Study Area, though largely rural in nature and this is reflected in the large numbers of artefacts

and pottery scatters located (108), potentially indicative of yet unknown sites (see *Volume 3, Appendix 25.2*). A number of the Listed Buildings within the Study Area, in particular many of the churches, including St Botolph's in Culpho (**WA455**), and former manor houses date to this period (see **Section 25.1.5.3**). Several field systems identified from aerial photographs are thought to potentially date to this period (**WA177, 179, 246, 260, 272, 327, 390, 398, 420**).

88. Additional evidence for medieval occupation has been identified at Bawdsey (**WA109**) while a house platform to the south of St Mary's church, Great Bealings may be the location of the demolished medieval Bealings Hall (**WA421**). A medieval well was discovered at Blood Hill (**WA567**). Possible moated sites (**WA498, 500**) adjacent to late Georgian Rise Hall (**WA65**) and (**WA510**) the 17th century Claydon Hall (**WA66**) may indicate the location of earlier medieval buildings.
89. Bullen Green, which lies adjacent to the convertor station location, is thought to be potentially medieval in origin (**WA580**). This is likely an area of common grazing land, created from woodland clearance (assarting).

25.5.4.5 Post-medieval and 19th Century

90. Much of the proposed cable route is through largely rural areas, these will have been largely unoccupied throughout the later medieval, post-medieval and modern periods. The post-medieval HER records reflect the nature of the landscape use, with areas of ridge and furrow noted (**WA166, 187, 589, 584**), as well as extractive pits (**WA148, 173, 186, 316**) trackways and field systems seen in aerial photographs and thought to potentially date to this time (**WA177 179 181 201, 246, 260, 272, 297, 310, 327, 390, 420**). The number of findspots and scatter reported is substantially less than for other periods, though there may be some bias in collection (see *Volume 3, Appendix 25.2*).
91. Several areas of Ancient Woodland are noted in the HER, such a designation indicates woodland that has existed since 1600 (**WA294, 572, 576, 577, 581**), such areas of woodland are likely to have developed naturally, rather than being deliberately planted.
92. Much of the land along the lower Deben area is reclaimed land, which includes much of the eastern end of the study Area. Large-scale land reclamation is thought to have taken place in the post-medieval period (Hegarty and Newsome 2005, 76-81). Sea defences and flood banks are recorded along the areas of the Deben within the Study Area as far as westwards as Martlesham Creek (**WA132, 161, 162, 251, 340**). Other features that relate to the riverine nature of the landscape such as bridges (**WA157, 207, 269, 358**), a mill (**WA269**) and a steam powered barge (**WA550**) are

also recorded. Oyster beds cut into the inter-tidal saltmarsh for the cultivation of shellfish are depicted on the 1903 OS map (**WA164**).

93. Possible kiln sites are indicated either side of the Creek at Martlesham based on field names (**WA300** and **332**) as well as the designated lime kiln site in Claydon (**WA67**). Another lime kiln site is noted in the HER near the outskirts of Claydon (**WA526**) though a review of the historic map evidence suggests this is not in use until the 19th century. A brick kiln is shown on the 1838 OS map near Great Bealings (**WA404**) and another to the north of Martlesham Creek (**WA296**), an artefact scatter of brick and tile is also recorded for this last location.
94. In addition to the designated post-medieval buildings within the Study Area (see **Section 25.1.5.3**) the 17th century Bramford Hall (**WA562**) and an 18th century barn near Akenham (**WA499**) are locally listed. A possible dovecote site (**WA355**) and post-medieval garden features (**WA359, 399**) and park pale (**WA385**) are also noted in the HER.

25.5.4.6 Modern

95. Most of the modern entries within the HER for the Study Area relate to defensive structures and installations relating the First (WWI), Second (WWII) and the Cold War. The majority lie at the coastal end of the cable route around Bawdsey, though entries are seen throughout the Study Area (see *Volume 3, Appendix 25.2*).
96. Of particular note is nationally important Bloodhound Missile Site near Bawdsey (**WA114**), first part of the ROTOR programme which sort to improve Britain's radar coverage after the WWII it was reopened in 1979 as a surface to air (SAM) missile site against the rising tension of the Cold War.
97. The vulnerability and importance of the costal location during the WWII can be seen with bomb craters recorded along the length of the Study Area (**WA104, 165, 401**).
98. Modern decoy ponds associated with trapping wildfowl are noted in the Study Area (**WA168, 243**) as are two modern hulks (**WA128** and **331**), an earthwork bank (**WA352**) and a line of posts (**WA129**), potentially related to the river defences.
99. The earliest depiction of the Site reviewed for this study is the 1611 Speed's map of Suffolk which indicates that the majority of the settlements along the route were well established by this time. The tithe mapping for the various parishes along the route indicate the Site contains a mixture of arable and pasture fields with a number of the plots within Bawdsey, Alderton, Ramsholt and Falkenham indicating former marshland. An area of woodland and a 'nut ground' orchard are listed within the route that passes through Great Bealings. While a number of field names in Little

Bealings, Tuddenham St Martin, Westerfield and Bramford suggest the presence of clay extraction pits and kilns.

25.5.5 Historic Landscape Character

100. The Historic Landscape Character (HLC) for the Study Area was carried out jointly by the District Council and the County Council. This has been assessed in detail as part of the East Anglia ONE proposal (RSK 2012) but as, with the exception of the convertor stations, the majority of the development will have only a very limited impact on the HLC only a summary is provided here.
101. The Study Area is rural in nature with only a few small villages along the route and little urban encroachment. The majority of the cable route corridor comprises of pre-18th century enclosure reflecting piecemeal medieval and post-medieval enclosure and land reclamation of former coastal marsh. Many of these earlier field systems have seen subsequent 20th century boundary loss. 18th century and later enclosure is also seen, typically forming more regular field systems and resulting from the enclosure of former commons and greens. Small areas of woodland, parkland, wetland and inter-tidal land are also seen.
102. The convertor station site lies within an area characterised as ‘ancient plateau claylands’. These include areas of scattered Ancient Woodland, a dispersed medieval settlement pattern, early irregular fields and later more regular areas of enclosure, often of woods and greens. There is some boundary loss visible within the area immediately surrounding the convertor station location and the obviously intrusive sub-station.
103. Field boundaries, particularly those considered ‘important’ under the 1997 Hedgerow Regulation Act were assessed in detail for East Anglia ONE (RSK 2012), however given the nature of the project the impact of the proposed development on these assets is considered to be low and easily mitigated. As a result they are not presented in detail for this assessment.

25.5.6 Setting

104. The methodology employed to assess the settings of heritage assets and the relevant guidance followed in order to provide an accurate assessment are discussed in detail in **Section 25.1.2.7**.
105. The designated assets within the ZTV identified as theoretically visible from the Site comprised the following (*Figure 25.13*):
 - Two Registered Parks and Gardens;

- 52 Listed Buildings, six Grade I, three Grade II* and 43 Grade II; and
 - One Scheduled Monument.
106. The Grade II Listed Bullenhall Farmhouse (**WA078**), though lying only some 450m to the east of the convertor station location, was assessed as not being within the ZTV.
107. The site visit undertaken for East Anglia ONE established that only 15 of the Listed Buildings and the two Registered Parks and Gardens could be considered as potential sensitive receptors to the development due to existing screening.
108. These consisted of the six Grade I Listed properties of:
- Hintlesham Hall (**LB1036917**);
 - Church of St Mary (Burstall, **LB1036948**);
 - Church of St Peter (Elmsett, **LB1194594**);
 - Church of St Mary (Flowton, **LB1251233**);
 - Church of St Mary (Little Blakenham, **LB1251408**); and
 - Church of St Mary (Nettlestead, **LB1263028**).
109. The Grade II* Listed property of:
- Church of All Saints (Chattisham, **LB1351620**).
110. And the eight Grade II Listed properties of:
- Mulberry Hall (**LB1036947**);
 - Canes Farmhouse (**LB1036949**) (**WA80**);
 - Hintlesham Priory (**LB1193814**);
 - Lovetofts Farmhouse (**LB1250929**);
 - Bleak Hall (**LB1251669**);
 - Tye Farmhouse (**LB1263018**);
 - Fidgeons Farmhouse (**LB1293253**); and
 - Church Of St Nicholas (Hintlesham, **LB1351644**).

111. Churches typically have setting the significant aspects of which comprise the immediate curtilage and the settlement within which they are situated. Additionally they may serve as landmarks in the wider landscape. Farmhouses and houses derive much of their setting from their curtilage and also the fields, parkland and gardens within which they are situated.
112. Of the Listed Buildings identified as potential sensitive receptors only the Grade II Listed Fidgeon's Farmhouse (**LB1293253**) was identified to have any significant views incorporating the convertor station location due to its siting on a slight rise, giving it deliberate views across the attendant farmland. Within this view the existing sub-station and associated pylons have already visually intruded.
113. The Registered Park and Gardens of Chantry Park (**RPG1000271**) (Grade II) and Shrubland Hall (**RPG1000155**) (Grade I) were also identified as potential sensitive receptors however no meaningful visibility could be determined between the potential convertor station location and the designated assets. Neither were views to the potential convertor station location considered to form a meaning part of the setting of these assets.

25.6 Assessment of Geophysical Survey Data

25.6.1 Introduction

114. The Site is located approximately 2.6km to the west of Bramford, Sussex and 6.45km to the WNW of Ipswich city centre. The proposed development area lies adjacent to an existing electrical substation; a total of 24.4ha was surveyed (*Figure 25.14*).
115. The Site comprises four arable fields and a small area of a pasture field to the west of Bullenhall Farm, near Bullen Lane. The survey areas are defined by field boundaries on the most part with some of the southern and eastern extents defined by the limits of the proposed development. The Site lies within an area of undulating relief with the height rising from around 45m above Ordnance Datum (aOD) towards the edges of the site to a little over 55m aOD towards the centre. No watercourses are recorded running through the Site but a number of unnamed streams are recorded nearby that flow into the River Gipping further to the east.
116. The soils underlying the Site are likely to be a mixture of typical calcareous pelosols of the 411d (Hanslope) association and typical stagnogley soils of the 711t (Beccles 3) association (SSEW 1983). Soils derived from such geological parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.
117. The detailed magnetometer survey was conducted using a Bartington Grad601-2 dual fluxgate gradiometer system. The survey was conducted in accordance with English Heritage guidelines (2008c).
118. The geophysical survey was undertaken by RSK in 2013. The data was provided to Wessex Archaeology to be reprocessed and reinterpreted. Full details of their methodology used can be found in their survey report (RSK 2013) but a summary of their methodology will be outlined below.

25.6.2 Method

119. Individual survey grid nodes were established at 20m x 20m intervals using a Leica 1200 RTK GNSS instrument, which is precise to approximately 0.01m and therefore exceeds English Heritage recommendations (2008c).
120. The magnetometer survey was conducted using a Bartington Grad601-2 fluxgate gradiometer instrument, which has a vertical separation of 1m between sensors. Data were collected at 0.125m intervals along transects spaced 1m apart with an effective sensitivity of 0.03nT, in accordance with EH guidelines (2008b). Data were collected in the zigzag method.

121. Data from the survey was subject to several data correction processes by Wessex Archaeology. These comprise a zero mean traverse function ($\pm 15\text{nT}$ thresholds) applied to correct for any variation between the two Bartington sensors used, and a de-step function to account for variations in traverse position due to varying ground cover and topography. The deslope and multiply functions were used to correct minor grid edge discontinuities and reduce noise in the data. These four steps were applied to all survey areas, with no interpolation applied.

25.6.3 Geophysical Survey Equipment and Data Processing

25.6.3.1 Survey Methods and Equipment

122. The magnetic data for this project was acquired using a Bartington 601-2 dual magnetic gradiometer system. This instrument has two sensor assemblies fixed horizontally 1m apart allowing two traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 1m separation, and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.
123. The gradiometers have an effective resolution of 0.03nT over a $\pm 100\text{nT}$ range, and measurements from each sensor are logged at intervals of 0.25m. All of the data are stored on an integrated data logger for subsequent post-processing and analysis.
124. Wessex Archaeology undertakes two types of magnetic surveys: scanning and detail. Both types depend upon the establishment of an accurate 20m or 30m site grid, which is achieved using a Leica Viva RTK GNSS instrument and then extended using tapes. The Leica Viva system receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02m in real-time and therefore exceed the level of accuracy recommended by English Heritage (2008c) for geophysical surveys.
125. Scanning surveys consist of recording data at 0.25m intervals along transects spaced 10m apart, acquiring a minimum of 80 data points per transect. Due to the relatively coarse transect interval, scanning surveys should only be expected to detect extended regions of archaeological anomalies, when there is a greater likelihood of distinguishing such responses from the background magnetic field.
126. The detailed surveys consist of 20m x 20m or 30m x 30m grids, and data are collected at 0.25m intervals along traverses spaced 1m apart. These strategies give 1600 or 3600 measurements per 20m or 30m grid respectively, and are the recommended methodologies for archaeological surveys of this type (EH, 2008).

127. Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. Data may be collected at up to 0.125m intervals along traverses spaced up to 0.25m apart, resulting in a maximum of 28800 readings per 30m grid, exceeding that recommended by English Heritage (2008c) for characterisation surveys.

25.6.3.2 Post-Processing

128. The magnetic data collected during the detail survey are downloaded from the Bartington system for processing and analysis using both commercial and in-house software. This software allows for both the data and the images to be processed in order to enhance the results for analysis; however, it should be noted that minimal data processing is conducted so as not to distort the anomalies.

129. As the scanning data are not as closely distributed as with detailed survey, they are georeferenced using the GPS information and interpolated to highlight similar anomalies in adjacent transects. Directional trends may be removed before interpolation to produce more easily understood images.

130. Typical data and image processing steps may include:

- Destripe – Applying a zero mean traverse in order to remove differences caused by directional effects inherent in the magnetometer;
- Destagger – Shifting each traverse longitudinally by a number of readings. This corrects for operator errors and is used to enhance linear features;
- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data);
- Deslope – This is used to remove a linear trend from a dataset. It is most typically used to remove grid edge discontinuities that sometimes result from applying the zero mean traverse function; and
- Multiply – This function multiplies data by a positive or negative constant value. It is most commonly used to normalise a data set where differences in sensor height can result in varying background texture between grids.

131. Typical displays of the data used during processing and analysis:

- XY Plot – Presents the data as a trace or graph line for each traverse. Each traverse is displaced down the image to produce a stacked profile effect. This type of image is useful as it shows the full range of individual anomalies; and
- Greyscale – Presents the data in plan view using a greyscale to indicate the relative strength of the signal at each measurement point. These plots can be produced in colour to highlight certain features but generally greyscale plots are used during analysis of the data.

25.6.4 Geophysical Interpretation

132. The interpretation methodology used by Wessex Archaeology separates the anomalies into four main categories: archaeological, modern, agricultural and uncertain origin/geological.
133. The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided into three groups, implying a decreasing level of confidence:
 - Archaeology – used when there is a clear geophysical response and anthropogenic pattern;
 - Probable archaeology – used for features which give a clear response but which form incomplete patterns; and
 - Possible archaeology – used for features which give a response but which form no discernible pattern or trend.
134. The modern category is used for anomalies that are presumed to be relatively modern in date:
 - Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin; and
 - Modern service – used for responses considered relating to cables and pipes; most are composed of ferrous/ceramic material although services made from non-magnetic material can sometimes be observed.
135. The agricultural category is used for the following:
 - Former field boundaries – used for ditch sections that correspond to the position of boundaries marked on earlier mapping;

- Agricultural ditches – used for ditch sections that are aligned parallel to existing boundaries and former field boundaries that are not considered to be of archaeological significance;
 - Ridge and furrow – used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow;
 - Ploughing – used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries; and
 - Drainage – used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.
136. The uncertain origin/geological category is used for features when the form, nature and pattern of the anomaly are not sufficient to warrant a classification as an archaeological feature. This category is further sub-divided into:
- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential;
 - Trend – used for low amplitude or indistinct linear anomalies; and
 - Superficial geology – used for diffuse edged spreads considered to relate to shallow geological deposits. They can be distinguished as areas of positive, negative or broad bipolar (positive and negative) anomalies.

25.6.5 Results

25.6.5.1 Introduction

137. The gradiometer survey has been successful in identifying anomalies of likely, probable and possible archaeological interest across the Site, along with numerous linear and curvilinear trends. Results are presented as a series of greyscale and XY plots, and archaeological interpretations, at a scale of 1:2000 (Figures 25.15 to 25.20). The data are displayed at -2nT (white) to +3nT (black) for the greyscale image and $\pm 25\text{nT}$ at 25nT per cm for the XY trace plots.
138. The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous/burnt or fired objects, and magnetic trends (*Figures 25.17 and 25.20*). Full definitions of the interpretation terms used in this report are provided in **Section 25. 1.6.4**.

139. Numerous ferrous anomalies are visible throughout the detailed survey dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.

25.6.5.2 Gradiometer Survey Results and Interpretation

140. The anomalies of greatest archaeological interest are a group of positive anomalies around 4000; several of these anomalies appear to form a near perfect circle in the data. The stronger ditch sections on the north-eastern side of this ring have strong magnetic values over +3nT but these weaken to less than +0.5nT on the south-western side. This difference in strength of response appears to be defined by a relatively modern drainage/boundary feature at 4007 that cuts through the ring ditch. This may indicate that agricultural activity to one side of this possible boundary resulted in greater destruction of the archaeological deposits here. It is possible that other features may have existed nearby but have been almost entirely ploughed out. The ring ditch is considered to be archaeological although not enough of it is clearly visible to allow it to be identified as either a round barrow or a roundhouse. The strongest regions are classed as archaeology and the weaker regions are classed as probable archaeology or are defined as a trend.
141. There are few other anomalies of interest elsewhere with only two anomalies classed as probable archaeology at 4001 and 4002; both of these features are positive short ditch sections with values over +3nT. Neither one of them appears to relate to a modern agricultural feature although it is unclear what function they may have served.
142. There are numerous linear ditch sections spread throughout the data at 4003 to 4010; all of these features have positive values around +2nT and are aligned parallel to existing field boundaries. These features are considered to represent ditch sections but are likely to relate to recent agricultural activity given their layout. They have all been classed as possible archaeology as a result.
143. In addition to these ditches there are a number of ceramic field drains visible in the data such as around 4012. They are not considered to be of archaeological significance.
144. The remaining anomalies include weak linear trends of uncertain origin such as those around 4010 and 4011, spreads of increased magnetic response (4013) and numerous small positive anomalies of possible archaeological interest scattered throughout the data. It is not possible to further comment on the possible significance of these features as there is no significant patterning in their spatial distribution to enable any further interpretation.

25.6.5.3 Gradiometer Survey Results and Interpretation: Modern Services

145. There are several modern services visible in the data at 4014 to 4019. The service at 4014 appears to represent a cable whereas the services at 4015 to 4017 appear to represent a pipe. The responses at 4018 and 4019 are more unusual; they may represent cables but as 4019 appears to terminate in the middle of the field there is some uncertainty as to its identity.
146. Gradiometer data will not be able to locate and identify all services present on site and cannot inform as to whether they are in active use or not. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g. CAT and Genny) should be used to confirm the location of buried services before any trenches are opened on site.

25.6.6 Conclusions

147. The detailed gradiometer survey has been successful in detecting anomalies of likely, probable and possible archaeological interest within the site, in addition to numerous linear trends and several modern services.
148. The most promising feature identified in the data is a partial ring ditch; this feature is only clearly visible on one side and appears as a very faint trend on its other side. This difference in measurable contrast is defined by a linear ditch that cuts through this ring ditch; this linear may define a former field boundary and the land to one side of it has been ploughed more deeply than the other resulting in greater impact on the buried remains. Due to the feature appearing incomplete it is not possible to recognise any features that could identify it as a round barrow or a roundhouse. This feature is considered to be of archaeological interest.
149. There appears to be some former field divisions or drainage ditches visible in the data along with some other agricultural features including ceramic field drains. Along with the ploughing trends the bulk of the features detected appear to relate to agricultural activity in this area.
150. The relative dimensions of the modern services identified by the gradiometer survey are indicative of the strength of their magnetic response, which is dependent upon the materials used in their construction and the backfill of the service trenches. The physical dimensions of the services indicated may therefore differ from their magnetic extents in plan; it is assumed that the centreline of services is coincident with the centreline of their anomalies, however. Similarly, it is difficult to estimate the depth of burial of the services through gradiometer survey.

151. It should be noted that small, weakly magnetised features may produce responses that are below the detection threshold of magnetometers. It may therefore be the case that more archaeological features may be encountered than have been identified through geophysical survey. The very weak responses of half of the ring ditch discussed above illustrate this point. It is possible that other similar features exist in this area of land that fell below the detection threshold and have therefore gone undetected.

25.7 Evaluation Results

25.7.1 Introduction

152. Nineteen 30m long trenches were excavated at the proposed East Anglia THREE convertor station location in order to provide a minimum of 5% coverage across the site. The aims of the evaluation were to verify the previous geophysical survey, characterise the nature of any archaeological remains and inform any future mitigation strategy.

25.7.2 Results

153. A north-west – south-east aligned ditch was observed within four trenches in the western part of the site. This feature was approximately 1.2m wide but only 0.5m deep and contained frequent roots. The ditch could be seen to correspond to a former field boundary forming the western boundary of Bullen Green which is visible on the 1838 tithe map and still shown as in extant in the 1970s.
154. Just to the east of this feature and on a similar alignment was another ditch, observed in two of the trenches, within this was a sherd of late medieval or early post-medieval pottery. This ditch was approximately 1.2m wide and 0.6m deep and seems to correspond with a boundary shown on the 1838 tithe map but absent by the 1882 OS first edition.
155. The only other feature observed, within the eastern part of the site, was a vertical sided machine cut feature with a flat base that was of modern date.

25.8 Summary of Heritage Assets

25.8.1 Introduction

156. The planning policies listed in **Section 25.1.3** aim to promote development proposals that will preserve, conserve and, where possible and appropriate, enhance the historic environment; and that will seek to avoid or mitigate against harm.
157. In line with national and local planning policies, development proposals which have the potential to affect designated and non-designated heritage assets and their

settings will be permitted only where it can be demonstrated, along with sufficient evidence, that the asset would be conserved and, where appropriate, enhanced.

158. A description of the significance of heritage assets directly affected by the proposed development, based on the current level of available information, is presented below in line with current planning policy (NPPF Ch.12 Para.128).

25.8.2 Known Heritage Assets within the Site

25.8.2.1 Designated Heritage Assets

159. No designated heritage assets fall within the Site area however as noted in **Section 25.1.5.5** a number of hedgerows which may be considered to be historically important, as defined by the Hedgerow Regulations 1997 (amended 2002) are traversed by the scheme.

25.8.2.2 Non-designated Heritage Assets

160. There are 84 archaeological records from both the Suffolk HER and the previous RSK walkover survey that fall within the cable route corridor. While artefacts and scatters can indicate potential for a period they do not necessarily always imply a precise conjunction with the presence of buried archaeological remains. It should be noted that the level of precision in recorded findspots is likely to vary and within the ploughsoil finds will be displaced. There is the additional factors of isolated loss and the importation of spoil or other material into an area. In particular pottery and other ceramic material is often associated with the process of manuring during the medieval and post-medieval periods to enrich the soil.
161. Records within the Site include a number of Neolithic, Bronze and prehistoric findspots (**WA101, 107, 249, 309, 324, 354, 377, 432, 433, 493, 505, 592**) as well as Iron Age and Romano-British finds (**WA145, 238, 307, 363, 375, 382, 403, 428, 432, 433, 461, 505, 530, 539**). The only confirmed site is that previously exposed for the Martlesham by-pass where four Neolithic pits (**WA350**) and an Iron Age pit (**WA351**) were discovered, there must be considered to be potential for other prehistoric features and activity to be present within this area. Two urns were found near Bridge Farm to the north of Little Bealings in 1840 (**WA425**) and further activity could lie in this area.
162. A number of Anglo-Saxon and medieval findspots and scatters are also present all through the cable route area (**WA99, 113, 275, 276, 321, 328, 374, 377, 382, 432, 433, 444, 505, 571**) and the landscape of the Deben valley is known to have been used throughout this period. While the historic core of many of the villages can be assumed to lie in the vicinity of their medieval churches further settlement and

- activity may lie within their hinterlands. In particular the find of a brooch in conjunction with a probably human phalange (**WA367**) may indicate a burial or cemetery site just to the south of the where the route cross the A12 at Martlesham.
163. The route of the cable crosses the River Deben and associated areas of marshland and reclaimed land. In doing this it passes through several post-medieval flood banks (**WA132, 161, 162, 340**). Post-medieval industry is also located along the route in the form of possible quarry (**WA173, 218, 316**) and kiln sites (**WA300, 332**).
 164. Modern activity in the area of the cable route is concentrated at Bawdsey where the remains of a pillbox (**WA98**), gun emplacement (**WA100**), beach scaffold (**WA582**) and the anti-aircraft 'diver' battery (**WA103**) are situated. Three possible bomb craters have also been identified from aerial photographs in this area (**WA104**). Further WWII remains are seen at Woodbridge (**WA341, 356**). WWII remains in particular often have a more immediate historical interest and a higher heritage value for many people.
 165. Additionally a large number of cropmarks have been identified along the cable route, such features are not directly dated though form and association suggest dates from the Neolithic to the post-medieval period. A number of these form circular features, typically known as ring ditches, these can be the remains of prehistoric hut circles or barrows. A possible ring ditch lies to the south-west of Hemley (**WA214**), interpreted as hut circle, while within a complex of cropmarks north of Waldringfield are six possible ring ditches (**WA253**). Just to the north of this, where the route crosses Waldringfield road and within another large area of cropmarks (**WA306**) a ring ditch is visible on aerial photographs, cut by the modern road (**WA317**). An oval cropmark just to the east of the convertor station location may be a Neolithic long barrow (**WA573**) and a possible ring ditch has also been identified by the geophysical survey. In the vicinity of Newbourne a number of possible barrows lie adjacent to the route (**WA220, 224, 240**).
 166. Enclosures, which can define settlements or delineate activity areas or contain livestock, typically date to the later prehistoric period. These are seen to the north of Kirton, both adjacent to the access track (**WA199**) and across the cable route itself (**WA215**). This strongly suggests possible settlement in this area. Another enclosure has been identified in Hemley parish (**WA212**), just to the south-west of the village and adjacent to a possible ring ditch (**WA214**).
 167. To the north of Falkenham and alongside Kirton a number of possible field systems have been identified (**WA181, 176, 210**) these are not clearly dateable though one area of cropmarks (**WA201**) are likely to relate to post-medieval drainage and

exploitation of a coprolite pit. An area of cropmarks also lies in Hemley parish close to the border with Waldringfield (**WA213**). Further areas of cropmarks are located along the route in Newbourne (**WA246**), Waldringfield (**WA219, 247, 253**) and Martlesham (**WA306**). A trackway, visible on aerial photographs, will have been partially destroyed by the Martlesham by-pass (**WA376**).

168. A post-medieval field boundaries and a trackway traverse the route just to the south of Martlesham Creek (**WA297**). An area of likely post-medieval ridge and furrow was identified by the RSK walkover survey near Culpho (**WA584**), with a further area identified adjacent to the route near Claydon (**WA589**). Earthworks of possible archaeological interest were also recognised during the survey adjacent to the River Gipping (**WA591**).
169. A possible extractive pit has also been suggested near Kirton (**WA218**). The use and date of such features will depend on the geology, given the recorded geology for this location, if archaeological in nature the pit at Kirton would most likely be for sand for use in construction.
170. Groups of posts located within tidal areas (**WA311, 315, 322**) may relate to flood defences, docking for boats or fishing activities.
171. Near the eastern end of the Site the route crosses the Ancient Woodland of Millar's Wood (**WA572**) and the convertor station location lies immediately adjacent to two further areas of Ancient Woodland (**WA581**), straddling Bulling Green (**WA580**).

25.8.3 Potential Buried Archaeological Remains

25.8.3.1 Bawdsey, Alderton and Ramsholt (Figures 25.1-25.2)

172. This area is characterised by some prehistoric potential and the modern wartime installations and defences. Some medieval pottery scatters have been located though they are likely to relate to periphery activity and possible manuring to the south of the historic settlement core of Bawdsey.
173. The periods of greatest potential are therefore considered to be:
 - Prehistoric (moderate);
 - Medieval and post-medieval (moderate); and
 - Modern (high).

25.8.3.2 Falkenham and Kirton (Figures 25.3-25.4)

174. This area is characterised by some large areas of identified cropmarks to the north of Falkenham and the north-east of Kirton. These are undated suggest field systems of later prehistoric, medieval or post-medieval date. Possible later prehistoric settlement is indicated by potential enclosures in the vicinity of Corporation Farm.

175. The periods of greatest potential are therefore considered to be:

- Later prehistoric (moderate); and
- Medieval and post-medieval (moderate).

25.8.3.3 Newbourne and Hemley (Figure 25.4)

176. This area is characterised by cropmarks evidence along the area of the cable route that passes between Newbourne and Hemley. Here a number of ring ditches suggestive of Bronze Age funerary activity. Additionally other circular cropmarks are suggestive of later prehistoric occupation and some potential field systems of possible later prehistoric or Romano-British date. Flintwork is recorded to the north-east of Newbourne.

177. The periods of greatest potential are therefore considered to be:

- Neolithic (moderate);
- Bronze Age (moderate);
- Later prehistoric (moderate); and
- Iron Age and Romano-British (moderate).

25.8.3.4 Waldringfield (Figure 25.5)

178. Further areas of undated cropmark systems characterise this region, postulated to be of later prehistoric or Romano-British date. Scatters of Romano-British material have been located just on the northern edge of the village, as well as some Neolithic flint and possible prehistoric features have been discovered to the east of School Road.

179. The periods of greatest potential are therefore considered to be:

- Neolithic (moderate);
- Later prehistoric (moderate); and
- Romano-British (moderate).

25.8.3.5 Martlesham and Woodbridge (Figure 25.6-25.7)

180. In addition to field systems and trackways of portably later prehistoric or Romano-British date, adjacent to at the crossing point at Waldringfield Road there is some possible Bronze Age funerary activity identified from cropmark evidence. Work associated with the Martlesham by-pass located Neolithic and Iron Age activity and a substantial flintwork scatter also lies to the north of the A12 suggest that more activity dating to these periods may lie in this area. A Saxon brooch was found in the vicinity of a probable human phalange suggesting a potential burial of cemetery site to the south of the A12, other Saxon artefacts have also been found in this area and in the south of the parish.

181. The periods of greatest potential are therefore considered to be:

- Bronze Age (high);
- Neolithic (high);
- Iron Age (high);
- Saxon (high); and
- Romano-British (moderate).

25.8.3.6 Great Bealings and Little Bealings (Figure 25.7)

182. Within the portion of the route that passes through these parishes, a number of finds of Roman metalwork have been recorded suggesting possible Romano-British activity in the area. Two urns were located near Bridge Farm, though their date is unknown, such finds are typically later prehistoric or Romano-British in date. Since the route passes near the recorded location for these objects there is the potential for further funerary activity in this area. Due to the proximity of the village of Little Bealings to the route, there is also considered to be potential for peripheral medieval and post-medieval activity relating to the settlement.

183. The periods of greatest potential are therefore considered to be:

- Later prehistoric (moderate);
- Romano-British (high); and
- Medieval and post-medieval (moderate).

25.8.3.7 Playford, Culpho and Tuddenham St Martin (Figure 25.8)

184. Due to the proximity of the village and Conversation Area of Tuddenham St Martin and the former manor site of Culpho to the route, there is considered to be potential for peripheral medieval and post-medieval activity relating to the settlement. A number of Roman finds also suggest some potential Romano-British activity.

185. The periods of greatest potential are therefore considered to be:

- Romano-British (moderate); and
- Medieval and post-medieval (moderate).

25.8.3.8 Westerfield, Akenham and Claydon (Figure 25.9-25.10)

186. Some undated earthworks were identified just to the north of Westerfield and adjacent to the River Gipping by the RSK walkover survey, though undated given the agricultural nature of this area they are most likely of medieval or post-medieval date. Further peripheral medieval and post-medieval activity is likely to the north of Akenham and three cottages are listed in the 1838 tithe apportionment in the vicinity of the route. Findspots of Bronze Age, Roman and Saxon artefacts in the area of Claydon and Akenham suggests potential for these periods.

187. The periods of greatest potential are therefore considered to be:

- Bronze Age (moderate);
- Romano-British (moderate);
- Saxon (moderate); and
- Medieval and post-medieval (moderate).

25.8.3.9 Great Blakenham, Little Blakenham and Bramford (Figure 25.11-25.12)

188. Along the cable route in this area there are two cropmarks indicating potential prehistoric monuments. The first of these is a double ring ditch by Pound Lane to the east of Little Blakenham. A possible Neolithic long barrow is also identified just to the west of Miller's Wood. Another possible ring ditch was also identified by the geophysical survey. Possible Romano-British activity is suggested by artefacts discovered in the vicinity of by Little Blakenham and more widely within Bramford parish and activity may also lie alongside the B1113 as it corresponds with the Roman route known as Pye Road. The presence of areas of Ancient Woodland in the area of the convertor station location would imply that much of this area was woodland and may have been largely enclosed in the post-medieval period, this idea is supported by the results of the ASE evaluation (2013). As such the potential for

medieval or post-medieval remains is considered to be relatively low. Though some later post-medieval field boundaries are likely to be present as indicated by the evaluation and geophysical survey results.

189. The periods of greatest potential are therefore considered to be:

- Neolithic (moderate);
- Later prehistoric (moderate); and
- Romano-British (moderate).

25.8.4 Heritage Assets within the ZTV

190. The designated heritage assets of national significance within the ZTV comprise two four Registered Parks and Gardens, firth-two Listed Buildings and a single Scheduled Monuments (Figure 25.13). It is considered that the settings of the majority of these designated assets will not be impacted by the proposed development and, consequently, they have been scoped out of any further assessment.

191. Only the Grade II Listed Fidgeon's Farmhouse (**LB1293253**) was identified to have any significant views incorporating the convertors location.

25.8.5 Assessment of Survival and Previous Impacts

192. Consultation of cartographic and documentary sources suggests that the majority of the development area has remained in a rural environment since at least the medieval period. Consequently, any damage to the potential buried archaeological remains would have been limited to past agricultural practices such as the construction of drainage systems, excavation of ponds and, in particular, ploughing. Some limited modern disturbance occurs along the route where modern roads and trackways are seen.

193. The lack of intrusive development along the route will have impacted the level and detail of known archaeological resource present in the area due to a paucity of modern archaeological investigations.

25.8.6 Summary

25.8.6.1 Introduction

194. Heritage Assets within the Site (Direct Impacts)

195. The following table (**Table 25.**) presents a summary of the known and potential remains within the Site which may be subject to direct impacts as a result of the proposed development.

196. The risk of encountering heritage assets has been given a rating, calculated using professional judgement based on the various datasets assessed during the course of the study. The survival rating has been determined following a review of previous impacts identified within the Site, based cartographic sources and other relevant Site information (e.g. HER event records).

Table 25.4: Summary of Known and Potential Remains Within the Site

Risk	Period	Area	Description	Significance	Value	Survival
High	Modern	Bawdsey, Alderton and Ramsholt	Area of Bawdsey cliffs characterised by WWII and later military defences and installations which often have high historical interest. Remains of the Bloodhound Missile Site are considered to be nationally important.	Regional to national	Evidential Historical	Extant
	Neolithic	Martlesham and Woodbridge	Work associated with the Martlesham by-pass located Neolithic activity and a substantial flintwork scatter which lies to the north of the A12 suggests that more activity dating to these periods may lie in this area. Such remains would be a value to regional research objectives	Regional	Evidential	Unknown
	Bronze Age	Martlesham and Woodbridge	Adjacent to at the crossing point at Waldringfield Road there is some possible Bronze Age funerary activity identified from cropmark evidence. Other undated cropmarks may relate to field systems of a later prehistoric date. Such remains would have a potential value to regional research objectives.	Regional	Evidential	Unknown
	Iron Age	Martlesham and Woodbridge	Work associated with the Martlesham by-pass located Iron Age activity and further remains may therefore be situated in this area. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
	Romano-British	Great Bealings and Little Bealings	A number of Roman finds suggest probable Romano-British activity in this area. It is also possible that the urns located near Bridge Farm may date to this period. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
	Saxon	Martlesham and Woodbridge	A possible Saxon burial or cemetery site is suggested by the finds to the south of the A12. Further artefacts found to the south-west of Woodbridge and in the south of the parish also suggest potential activity. Such remains would be a value to regional and potentially national research objectives.	Regional to national	Evidential	Unknown

Risk	Period	Area	Description	Significance	Value	Survival
Medium	Neolithic	Newbourne and Hemley	Possible Neolithic activity is indicated by a number of items of struck flint found in a gravel pit. Remains of this period would contribute to regional research objectives.	Regional	Evidential	Unknown
		Waldringfield	Some Neolithic flint and a possible prehistoric feature have been discovered to the east of School Road suggesting further activity in this area. Remains of this period would potentially contribute to regional research objectives.	Regional	Evidential	Unknown
		Great Blakenham, Little Blakenham and Bramford	A possible Neolithic long barrow is identified by cropmark evidence just to the west of Miller's Wood. Remains of this period and nature would contribute to regional research objectives.	Regional	Evidential	Unknown
	Bronze Age	Newbourne and Hemley	A number of potential ring ditches here have been observed where the route passes between Newbourne and Hemley, these are suggestive of Bronze Age funerary activity. Such remains would be a value to regional research objectives.	Regional	Evidential	Unknown
		Westerfield, Akenham and Claydon	Findspots of Bronze Age artefacts in the area of Claydon suggest potential for remains from this period. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
	Prehistoric	Bawdsey, Alderton and Ramsholt	Some scatters of flintwork suggest some potential for prehistoric activity in the area of Bawdsey cliffs. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
	Later prehistoric	Falkenham and Kirton	Possible later prehistoric settlement is indicated by potential enclosures in the vicinity of Corporation Farm. Other undated cropmarks may relate to field systems of this period. Such remains would be a value to local research objectives.	Local	Evidential	Unknown

Risk	Period	Area	Description	Significance	Value	Survival
		Waldringfield	Possible later prehistoric field systems are suggested by cropmark evidence. There is also potential for some of these to be Romano-British in date. Such remains would be a value to local research objectives.	Local	Evidential	Unknown
		Great Bealings and Little Bealings	A number of prehistoric finds discovered in the vicinity of Seckford Hall bungalow and Cherry Tree Farm suggest some prehistoric activity in this area. There is also potential that the urns found near Bridge Farm may date to this period. Such remains would be a value to local and perhaps regional research objectives.	Local to regional	Evidential	Unknown
		Great Blakenham, Little Blakenham and Bramford	A double ring ditch by Pound Lane to the east of Little Blakenham indicates potential later prehistoric activity. Geophysical survey results suggests a possible ring ditch within the Development Area. Such remains would be a value to local and perhaps regional research objectives.	Local to regional	Evidential	Unknown
	Later prehistoric, Romano-British	Falkenham and Kirton	Possible later prehistoric settlement and field systems are suggested by cropmark evidence. There is also potential for some of these to be Romano-British in date. Such remains would be a value to local and perhaps regional research objectives.	Local to regional	Evidential	Unknown
	Romano-British	Waldringfield	Scatters of Roman artefacts on the northern edge of the village suggest possible activity in this location. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
		Martlesham and Woodbridge	Finds of Roman pottery and coins as well as a number of undated cropmarks suggest potential Romano-British activity in this area. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown

Risk	Period	Area	Description	Significance	Value	Survival
		Playford, Culpho and Tuddenham St Martin	Roman pottery and coins, including a coin hoard suggest potential Romano-British activity in this area. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
		Westerfield, Akenham and Claydon	Findspots of Roman artefacts in the area of Claydon suggest potential for remains from this period. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
		Great Blakenham, Little Blakenham and Bramford	Possible Romano-British activity is suggested by artefacts discovered in the vicinity of by Little Blakenham and more widely within the area of the proposed convertor station. An area of the route also lies adjacent to a known Roman road. The significance of any such remains would depend on their character and value to local and regional research objectives.	Local to regional	Evidential	Unknown
	Saxon	Westerfield, Akenham and Claydon	Findspots of Saxon artefacts in the area of Claydon and Akenham suggest potential for remains from this period. Such remains would be a value to regional research objectives.	Regional	Evidential	Unknown
	Medieval and post-medieval	Bawdsey, Alderton and Ramsholt	Peripheral activity in adjacent to the settlement of Bawdsey is likely. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown
		Falkenham and Kirton	Undated cropmarks to the north of Falkenham and the north-east of Kirton may relate to medieval or post-medieval field systems and may be associated with these settlements. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown
		Great Bealings and Little Bealings	Due to the proximity of the village of Little Bealings to the route, there is also consider to be potential for peripheral medieval and post-medieval activity relating to the settlement. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown

Risk	Period	Area	Description	Significance	Value	Survival
		Playford, Culpho and Tuddenham St Martin	Due to the proximity of the village of Tuddenham St Martin and the former manor site of Culpho to the route, there is considered to be potential for peripheral medieval and post-medieval activity relating to the settlement. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown
		Westerfield, Akenham and Claydon	Some undated earthworks just to the north of Westerfield and adjacent to the River Gipping may be medieval or post-medieval in date. Further peripheral medieval and post-medieval activity is likely to the north of village of Akenham and cottages are listed on the tithe apportionment to the north-east of the village. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown
Low	Palaeolithic and Mesolithic	All areas	Though there is limited evidence for these periods within the Study Area sites from this period are often ephemeral and artefacts often in secondary contexts. If present any such remains would be a value to regional and national research objectives.	Regional to national	Evidential	Unknown
	Medieval and post-medieval	Newbourne and Hemley	Though the route at this point passes a distance from the known historic settlements there is potential for peripheral activity, most likely agricultural in nature. Post-medieval field boundaries have been identified by evaluation and geophysical survey at the convertor site location. Surviving remains would be of value to local research objectives.	Local	Evidential Historical	Unknown
		Waldringfield				
		Martlesham and Woodbridge				
Great Blakenham, Little Blakenham and Bramford						

Risk	Period	Area	Description	Significance	Value	Survival
Unknown	Palaeo-environmental	River Deben, Kirton Creek, Martlesham Creek, River Lark, River Fynn, River Gipping	As the route crosses a number of watercourses and areas of alluvial deposition along the route there is some potential for preserved palaeoenvironmental evidence. This may help indicate long term landscape changes and could be of value to regional or local research objectives	Uncertain	Evidential	Unknown
	Saxon and early medieval	Bawdsey, Alderton and Ramsholt Falkenham and Kirton Newbourne and Hemley Waldringfield Great Bealings and Little Bealings Playford, Culpho and Tuddenham St Martin	Isolated Saxon findspots are found throughout the Study Area and many of the settlements are likely to have originated at this time, however such activity is often indistinct and inconspicuous within the archaeological record. Any evidence uncovered would be of value to regional and potentially national research objectives	Regional to national	Evidential Historic	Unknown

Risk	Period	Area	Description	Significance	Value	Survival
		Great Blakenham, Little Blakenham and Bramford				

25.8.6.2 Heritage Assets Within the Wider Landscape

197. The assessment of the significance of the assets, the contribution of their settings to the significance and the anticipated impact of the proposed development upon the settings of the assets (and their significance) has been undertaken using professional judgement based on the various datasets assessed in the course of this assessment as well as in accordance with The Setting of Heritage Assets (English Heritage 2011a).
198. Only the Grade II Listed Fidgeon's Farmhouse (**LB1293253**) was identified as a sensitive receptor to the development.
199. Dependant on the construction methods employed, some consideration of the possible effects of vibration on heritage assets which lie adjacent to the route should be considered. Any potential impact of vibration on nearby designated or undesignated heritage assets will need to be assessed by a properly qualified company or individual. It is however worth noting that older domestic buildings may have less substantial foundations than modern examples.

25.9 Impacts

25.9.1 Introduction

200. The management and mitigation of change to the heritage resource resulting from development is based on the recognition within Government planning objectives that "...heritage assets are an irreplaceable resource..." (NPPF para. 126). Impacts to the historic environment and its associated heritage assets arise where changes are made to their physical environment by means of the loss and/or degradation of their physical fabric or setting, which in turn leads to a reduction in the significance of the historic environment record and its associated heritage assets.

25.9.2 Statement of impact

25.9.2.1 Designated Heritage Assets in the Wider Landscape

201. Impacts to the settings of designated heritage assets relate to temporary or permanent alterations resulting from development. In assessing the impact on setting it is necessary to identify whether the Site or views to the Site form a significant part of the setting of a heritage asset.
202. Only the Grade II Listed Fidgeon's Farmhouse (**LB1293253**) was identified as a sensitive receptor to the development however only minor adverse impacts are anticipated as a result of the development which could be substantially mitigated by the use of trees to provide screening.

203. Dependant on the construction methods employed vibration may impact on nearby heritage assets. Any potential impacts would need to be assessed by a properly qualified company or individual.
204. A number of historic field boundaries lie along the cable route. It is recommended that any sections of hedgerow that need could be removed are subsequently re-instated, thus mitigating any adverse impacts.

25.9.2.2 Archaeological Remains

205. Groundworks undertaken in relation to the proposed development have the potential to result in the damage to or loss of any buried archaeological features which may be present within their footprint. This could in turn result in a total or partial loss of significance of these heritage assets within the footprint of any intrusive groundworks.
206. Any adverse impact to buried archaeological features would be permanent and irreversible in nature. This potential adverse effect could be reduced through the implementation of an appropriate scheme of archaeological mitigation.

25.9.2.3 Historic Landscape Character

207. No significant impacts to the historic landscape character are anticipated.

25.10 Conclusions

208. The effect of the development proposals on the known and potential heritage resource will be a material consideration in determination of the planning application. This study has identified no overriding cultural heritage constraints which are likely to affect development.
209. This assessment has identified the Grade II Listed Fidgeon's Farmhouse (**LB1293253**) as a sensitive receptor to the development, however only minor adverse impacts are anticipated as a result of the development which could be substantially mitigated by the use of trees to provide screening.
210. This assessment has established that there is an archaeological interest within the Development Area. This is defined as the potential for the presence of buried archaeological remains, in particular relating to features associated with the Neolithic, Bronze Age, Iron Age, Romano-British and Modern periods. Additionally, though poorly visible within the archaeological record, there is considered to be some potential for Saxon remains be to present. However, due to a paucity of previous intrusive archaeological investigations within the Development Area, the full potential for and significance of any such archaeological remains could not be

accurately assessed on the basis of the available evidence. It is anticipated however, that some of these remains may be of national or regional significance.

211. Although some removal of hedgerows is anticipated as part of this proposed project, including several considered historically important as defined by the *Hedgerows Regulations 1997* (amended 2002), it is expected that these will be re-instated resulting in negligible adverse effects to the HLC.
212. Evaluation and geophysical survey undertaken for East Anglia ONE at the proposed convertor station location has identified post-medieval field boundaries and a possible prehistoric ring ditch.

25.11 References

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25.11.2 Online Resources

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www.domesdaymap.co.uk – Domesday survey information

<http://lbonline.english-heritage.org.uk/> - information on designated assets

<http://www.nationalarchives.gov.uk/> - documentary resources

<http://www.british-history.ac.uk/> - documentary resources

<http://oasis.ac.uk/england/> - data on sites, find-spots and excavations

<http://www.pastscape.org.uk/> - data on sites, find-spots and excavations

<http://www.magic.gov.uk> – map data and information on designated assets

Appendix 25.1 ends here