Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Environmental Statement

Volume 3

Appendix 21.1 - Onshore Archaeological Desk-Based (Baseline) Assessment

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Glossary of Acronyms

ADBA	Archaeological Desk Based Assessment
AD	Anno domini
ADS	Archaeology Data Service
BC	Before Christ
BDC	Broadland District Council
BP	Before present
CIfA	Chartered Institute for Archaeologists
DCMS	Department of Culture, Media and Sport
DCO	Development Consent Order
DEP	Dudgeon Offshore Wind Farm Extension Project
DPD	Development Plan Document
EIA	Environmental Impact Assessment
ES	Environmental Statement
ETG	Expert Topic Group
GI	Ground Investigation
GIS	Geographical Information System
GPA	Good Practice Advice
GNLP	Greater Norwich Local Plan
HE	Historic England
HLC	Historic Landscape Characterisation
JCS	Joint Core Strategy
km	Kilometre
LiDAR	Light Detection and Ranging
MW	Megawatts
NCC	Norfolk County Council
NCC HES	Norfolk County Council Historic Environment Service
NHER	Norfolk Historic Environment Record
NNDC	North Norfolk District Council
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NRHE	National Record of the Historic Environment
PPG	Planning Practice Guidance

RAF	Royal Air Force
RCZAS	Rapid Coastal Zone Assessment Survey
RFC	Royal Flying Corps
RNAS	Royal Naval Air Service
SEP	Sheringham Shoal Extension Offshore Wind Farm Extension Project
SM	Scheduled Monument
SNC	South Norfolk Council
SPD	Supplementary Planning Advice
WSW	West South West

Glossary of Terms

Order Limits	The area subject to the application for development consent, including all permanent and temporary works for SEP and DEP.
Dudgeon Offshore Wind Farm Extension Project (DEP)	The Dudgeon Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
DEP onshore site	The Dudgeon Offshore Wind Farm Extension onshore area consisting of the DEP onshore substation site, onshore cable corridor, construction compounds, temporary working areas and onshore landfall area.
Evidence Plan Process (EPP)	A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the EIA and HRA for certain topics.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.
Horizontal directional drilling (HDD) zones	The areas within the onshore cable corridor which would house HDD entry or exit points.
Jointing bays	Underground structures constructed at regular intervals along the onshore cable corridor to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The point at the coastline at which the offshore export cables are brought onshore, connecting to the onshore cables at the transition joint bay above mean high water
Onshore cable corridor	The area between the landfall and the onshore substation sites, within which the onshore cable circuits will be installed along with other temporary works for construction.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substation. 220 – 230kV.
Onshore Substation	Compound containing electrical equipment to enable connection to the National Grid.
PEIR boundary	The area subject to survey and preliminary impact assessment to inform the PEIR.
Separated Grid Option	Transmission infrastructure which allows each project to transmit electricity entirely separately.

Sheringham Shoal Offshore Wind Farm Extension Project (SEP)	The Sheringham Shoal Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
SEP onshore site	The Sheringham Shoal Wind Farm Extension onshore area consisting of the SEP onshore substation site, onshore cable corridor, construction compounds, temporary working areas and onshore landfall area.

21.1 ONSHORE ARCHAEOLOGICAL DESK-BASED (BASELINE) ASSESSMENT

21.1.1 Introduction

21.1.1.1 Project Overview

1. This Onshore Archaeological Desk-Based (Baseline) Assessment (ADBA) is an appendix to the Environmental Statement (ES) for the proposed Sheringham Shoal Offshore Wind Farm Extension Project (SEP) and Dudgeon Offshore Wind Farm Extension Project (DEP).
2. Equinor New Energy Limited (hereafter The Applicant) is proposing to extend the existing operational Dudgeon and Sheringham Offshore Wind Farms, named the Sheringham Offshore Wind Farm Extension Project (hereafter SEP) and Dudgeon Offshore Wind Farm Extension Project (hereafter DEP). SEP and DEP will consist of a number of offshore and onshore elements including the offshore wind turbines and subsea array cables, up to two offshore substations, offshore and onshore export cables, and a new area for up to two onshore substations to accommodate the connection of SEP and DEP to the transmission grid. A full description of SEP and DEP is provided within **Chapter 4 Project Description** of the ES.

21.1.1.2 Purpose of this Document

21.1.1.2.1 Aims

3. The aim of this ADBA is to outline, as far as possible from existing information, the nature, extent and significance of the archaeology and cultural heritage (historic environment) baseline resource within the proposed onshore study area and, where relevant, its immediate surroundings.

21.1.1.2.2 Objectives

4. The specific objectives of this baseline ADBA are:
   - To outline the known and potential heritage assets within the Development Consent Order (DCO) order limits, based on a review of existing information in order to provide an archaeological and historical baseline context within a defined study area.
   - To assess the significance of the known and potential heritage assets through a weighted consideration of their valued components and to provide a consideration of the contribution that setting has on the significance of heritage assets, where relevant.
   - To identify the potential impacts of the proposed SEP and DEP upon heritage assets and their setting as part of a high-level assessment.
5. More specific reference to and assessment of heritage significance and impact significance is detailed within **Chapter 21 Onshore Archaeology and Cultural Heritage** of the ES. The ADBA focuses predominantly on establishing the archaeology and cultural heritage baseline conditions within the DCO order limits.

21.1.1.3 Scope

6. This ADBA details the baseline environment with respect to onshore archaeology and cultural heritage where relevant to SEP and DEP. It incorporates relevant archaeological assessment data available to date, including desk-based research. Recommendations that arise from the result of this assessment are included as part of ES **Chapter 21 Onshore Archaeology and Cultural Heritage** and are beyond the scope of this document.

21.1.2 Methodology

21.1.2.1 Introduction

7. The following methodology has been designed in a manner consistent with good practice professional guidance outlined by the Chartered Institute for Archaeologists' (CIfA) *Standards and Guidance for historic environment desk-based assessment* (CIfA, 2020).

8. For the purposes of this ADBA, two principal study areas have been established, defined as follows:

- **Non-designated Heritage Assets study area**: defined by a 500m boundary around the DCO order limits.
- **Designated Heritage Assets study area**: defined by a 1km boundary around the DCO order limits.

9. In discussion with Norfolk County Council (NCC) Heritage Environment Service (HES) and Historic England (HE) at the Expert Topic Group (ETG) meeting held on 14th January 2020, the study areas have been considered appropriate for the size and location of the scheme, with the consideration that for non-designated heritage assets, the study area would be extended in areas that are deemed archaeologically rich or if there is an archaeologically significant asset that will need to be considered.

21.1.2.2 Sources

21.1.2.2.1 Documentary and Internet sources

10. The following documentary and internet sources were consulted in order to compile this ADBA:

- The Norfolk Historic Environment Record (NHER), including records of previous archaeological surveys and investigations (events) (data received 13th February 2020; re-ordered and refreshed 2nd December 2021).
- The National Record of the Historic Environment (NRHE) and the National Heritage List for England online maintained by HE (accessed May to August 2020 and December 2021 to January 2022).
- Regional, Local and Period Archaeological Studies and Journals.
- The Archaeology Data Service (ADS).
- Other documentary sources relevant to the archaeological and historical background of the study area.

21.1.2.2.2 Cartographic Sources

11. A number of historic maps have been reviewed by Air Photo Services Ltd. (APS, 2020 and 2022) in order to undertake a historic map regression of the study area, the results of which are presented in **Appendix 21.2** and **Appendix 21.3**. The results of the map regression have informed the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.2.2.3 Aerial Photographic Data

12. Aerial photographic imagery has been assessed by Air Photo Services Ltd. (APS, 2020 and 2022), the methodology and results of which are presented in **Appendix 21.2** and **Appendix 21.3**. The results of the assessment have informed the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.2.2.4 Light Detection and Ranging (LiDAR)

13. LiDAR data has also been assessed by Air Photo Services Ltd. (APS, 2020 and 2022), and is also presented in **Appendix 21.2** and **Appendix 21.3**. The results of the assessment have informed the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.2.2.5 Data Handling

14. Of the sources outlined in **Section 21.1.2.2.1**, those with spatial data were incorporated into a project geographic information system (GIS) using ArcGIS 10.7.1 so that they could be spatially analysed. The data were subsequently compiled into two gazetteers, one for designated heritage assets (**Annex 21.1.1**) and another for non-designated heritage assets, which also covers where monuments and find spots have been recovered/identified during specifically planned previous archaeological events (**Annex 21.1.2**).
15. Designated heritage assets were assigned a project-specific ID number in a numerical sequence between **1** and **276**, and non-designated heritage assets between **277** and **1,646**. At this baseline ADBA stage it is known that there are some duplicated records between the two datasets.
16. For the purposes of this report, the gazetteers are compiled and illustrated in British National Grid. Information from the sources summarised in **Section 21.1.2.2.1** of this document, relating to the archaeological and cultural heritage, informed the baseline establishment work, where relevant.

21.1.2.2.6 Chronology

17. Archaeological, cultural and historic material is generally studied within a framework of 'periods' or 'ages' that reflect the activities and cultural changes taking place over time. Dates are referred to as BC (before Christ), BP (before present) or AD (Anno domini) within the text. BP dates are used for periods of time older than circa 10,000 years ago whereas BC and AD affectively refer to calendar years.
    - Palaeolithic: 960,000 BP – 8,500 BC
    - Mesolithic: 8,500 – 4,000 BC

- Neolithic: 4,000 – 2,200 BC
- Bronze Age: 2,200 – 700 BC
- Iron Age: 700 BC – AD 43
- Romano-British: AD 43 – 410
- Early medieval (Saxon): AD 410 – 1066
- Medieval: AD 1066 – 1499
- Post-medieval: AD 1500 – 1799
- 19th Century: AD 1800 – 1899
- Modern: AD 1900 – present day.

21.1.2.2.7 Setting Assessment

18. A detailed setting assessment has been conducted for SEP and DEP to assess any potential impacts on the significance of heritage assets through a change in their setting as a result of the onshore and offshore infrastructure. The details of the setting assessment for the onshore infrastructure is presented in **Appendix 21.4** and for the offshore infrastructure in **Appendix 21.5**. The results from both assessments have informed the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.2.2.8 The Significance of Heritage Assets

19. The term significance, in relation to heritage policy, is identified in the National Planning Policy Framework (NPPF) (MHCLG, 2021, NPPF Annex 2: Glossary) 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*."

20. The assessment of the significance of heritage assets within this report has been undertaken in accordance with the criteria set out in *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* (English Heritage, 2008). The guidance provides a comprehensive framework for the sustainable management of the historic environment, wherein 'Conservation' is defined as the process of '*managing change to a significant place and its setting in ways that will best sustain its heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations*'. Within this document and more specifically the ES (**Chapter 21 Onshore Archaeology and Cultural Heritage**), significance is weighted by consideration of the potential for the asset to demonstrate the following value criteria:

    - **Evidential value**. Deriving from the potential of a place to yield evidence about past human activity (English Heritage, 2008: 28) and primarily associated with physical remains or historic fabric.

- **Historical value.** Deriving from the ways in which past people, events and aspects of life can be connected through a place to the present (English Heritage, 2008: 28). This can derive from particular aspects of past ways of life. Illustrative historical value provides a direct (often visual) link between past and present people, while associative historical value provides an association with notable families, persons, events or movements.
- **Aesthetic value**. Deriving from sensory and intellectual stimulation and including design value, i.e. "aesthetic qualities generated by the conscious design of a building, structure or landscape as a whole" (English Heritage, 2008: 30). It may include its physical form, and how it lies within its setting. It may be the result of design, or an unplanned outcome of a process of events.
- **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 (English Heritage, 2008: 31).

21. The significance of a heritage asset is typically derived from a combination of some or all of these values, and the setting of a heritage asset can contribute to, or detract from, any of these four values.

21.1.2.2.9 Heritage Walkover Survey

22. A heritage walkover survey was undertaken to inform this baseline ADBA (see **Annex 21.1.4**), and was targeted on areas flagged from the desk-based baseline review and the aerial photographic and LiDAR data assessment as being particularly sensitive (i.e. surviving historic earthworks and structures).

23. The aims of the walkover survey were to:

- Assess the potential for upstanding/above ground archaeological remains within identified sites (i.e. earthworks).
- Identify any currently unrecorded heritage assets.
- Identify the potential for unknown heritage assets (e.g. archaeology) within the landfall, onshore cable corridor and onshore substation.
- Assess for the potential impact from other modern developments along the cable corridor which may reduce the significance/preservation of known heritage assets.
- Undertake initial setting assessment work on identified key heritage assets.

24. The walkover survey was undertaken between 5th – 8th October 2020. A written and photographic record was compiled during the walkover survey on an 'asset by asset', and sometimes 'area by area', basis.

21.1.2.2.10 Assumptions and Limitations

25. Data used to compile this report primarily consists of secondary, pre-existing information derived from a variety of sources. The assumption is made that the secondary data, as well as that derived from other secondary sources, is reasonably accurate.

26. The records held by the sources used in this assessment are not a record of all surviving heritage assets, rather a record of the discovery of a range of archaeological and historical components of the historic environment for the study area. The information held within these sources is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

21.1.2.2.11 Copyright

27. This report may contain material that is non-Royal HaskoningDHV copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which is for non-public reproduction. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report within the public realm.

21.1.3 Legislation, Policy and Guidance

21.1.3.1 Legislation

21.1.3.1.1 Ancient Monuments and Archaeological Areas Act 1979 (as amended)

28. Under the terms of the Act, an archaeological site or historic building of national importance can be designated as a Scheduled Monument and is registered with the Department of Culture, Media and Sport (DCMS). Any development that might physically affect a Scheduled Monument is subject to the granting of Scheduled Monument Consent. HE advises the government on individual cases for consent and offers advice on the management of Scheduled Monuments.

29. There are 13 Scheduled Monuments within the study area (see **Section 21.1.4.2**).

21.1.3.1.2 Planning (Listed Building and Conservation Areas) Act 1990

30. Statutory protection for Listed Buildings and Conservation Areas, and their settings, is provided under the Planning (Listed Buildings and Conservation Areas) Act. A Listed Building is that which is seen to be of special architectural or historic interest, and a Conservation Area comprises an area of special architectural or historic interest, the character or appearance of which is desirable to preserve or enhance.

31. A Listed Building may not be demolished, altered or extended in any manner which would affect its character without Listed Building Consent being granted by either HE (who are responsible for Grade I and II* Listed Buildings, and proposals relating to demolition of Grade II Listed Buildings) or the relevant Local Planning Authority's Conservation Officer, or equivalent (who is/are responsible for Grade II Listed Buildings). There are three grades of listing (in descending order):

- Grade I: buildings of exceptional interest.

- Grade II*: particularly important buildings of more than special interest.
- Grade II: buildings of special interest, warranting every effort to preserve them.

32. There are 246 Listed Buildings and 12 Conservation Areas within the study area (see Section 21.1.4.4 and 21.1.4.5).

21.1.3.1.3 Historic England Register of Parks and Gardens

33. The Historic Buildings and Ancient Monuments Act 1953 makes provision for the compilation of a register of gardens and other land which is considered to be of special historic interest. The Act covers the designation of Registered Parks and Gardens and Registered Battlefields.

34. The Register of Parks and Gardens is held by Historic England which grades registered parks and gardens as Grade I, II* or II, along the same lines as listed buildings. The NPPF defines them as a designated heritage asset and as such their conservation is an objective of sustainable development and given great weight by planning authorities.

35. There are five Registered Parks and Gardens within the study area (see **Section 21.1.4.3**).

21.1.3.1.4 Hedgerow Regulations 1997, as amended by The Hedgerows (England) (Amendment) Regulations 2002

36. These regulations define which hedgerows within England are identified as important and protected against removal and various other works. Heritage-specific criteria for precluding removal of a hedgerow includes if the hedge forms a historic parish or township boundary; it incorporates an archaeological feature which is a Scheduled Monument; or is part of a field system forming part of a key landscape characteristic, such as a Registered Park and Garden.

37. In addition, there are also ecological criteria for classification of a hedgerow as “Important”; a figure showing all important hedgerows located within the DCO order limits is presented in the **Tree Preservation Order and Hedgerow Plan** (document reference 2.12).

38. Important hedgerows are identified and presented in **Appendix 21.2** and assessed in the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.3.1.5 National Planning Policy Framework

39. The NPPF was published in March 2012, replacing Planning Policy Statement 5, and was subsequently updated in 2018, 2019, and again in 2021. Provision for the historic environment is principally given in Section 16: Conserving and enhancing the historic environment, which directs Local Planning Authorities to set out “*a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats*” (MHCLG, 2021; 55).

40. The aim of NPPF Section 16 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.

41. 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 (which include World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields or Conservation Areas).
- 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.

42. Local planning authorities are urged to request applicants to describe the significance of any heritage assets affected by a proposed development, including any contribution to the assets' significance made by their setting. The level of detail required in the assessment should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

43. Further information and guidance on how national planning policy is to be interpreted and applied locally is provided in the Planning Practice Guide (PPG) under the section Historic Environment (MHCLG, 2019b).

21.1.3.1.6 National Policy Statements

44. This baseline ADBA was carried out in support of the ES Chapter (**Chapter 21 Onshore Archaeology and Cultural Heritage**) which has been undertaken in a manner consistent with the National Policy Statement (NPS) for energy infrastructure, including the Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change, 2011a) and the NPS for Renewable Energy Infrastructure (EN-3) (Department of Energy and Climate Change, 2011b).

45. EN-1 sets out national policy for energy infrastructure, and the importance of archaeological assessment in the development process.

46. EN-3, considered in conjunction with the overarching NPS (EN-1), provides the primary basis for decisions by the Planning Inspectorate on renewable energy infrastructure development applications. EN-3 sets out the importance of the historic environment and the ways in which it can be impacted by development and outlines guidance for application assessments, Planning Inspectorate decision-making and mitigation measures.

47. It is noted that the NPS for Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for Electricity Networks Infrastructure (EN-5) are in the process of being revised. A draft version of each NPS was published for consultation in September 2021 (Department for Business Energy and Industrial Strategy (BEIS), (2021a), BEIS, (2021b) and BEIS (2021c) respectively). A review of these draft versions has been undertaken in the context of the ES chapter (**Chapter 21 Onshore Archaeology and Cultural Heritage**).

21.1.3.1.7 Historic Environment Good Practice Advice

48. In 2015 and 2017, HE published new Historic Environment Good Practice Advice (GPA), which provides supporting information on heritage industry good practice, particularly looking at the principles of how national planning policy and guidance can be more effectively put into practice. The GPAs follow the main themes of the planning system and other key issues with respect to good decision-making affecting heritage assets. These include:

- The Historic Environment in Local Plans: Historic Environment Good Practice Advice in Planning Note 1 (HE, 2015a).
- Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning Note 2 (HE, 2015b).
- The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (HE, 2017).

21.1.3.1.8 Regional Policies

49. The study area is located within the Regional Planning Guidance area for East Anglia.

21.1.3.1.8.1 Regional Planning Guidance Note 6: Regional Planning Guidance for East Anglia to 2016 (Department of the Environment, Transport and the Regions, 2000)

50. The policies set out within the East Anglia Regional Planning Guidance and which are relevant to SEP and DEP with respect to archaeology and cultural heritage are presented below.

Policy 37: General management principles for conserving and enhancing the natural, built and historic environment.

51. To conserve and enhance the important aspects of East Anglia's natural, built and historic environment, development plans should reflect the following principles:

- the natural, built and historic environment should be conserved and enhanced by positive management and by protecting it from development likely to cause harm;
- all important aspects of the countryside, including individual features, special sites and the wider landscape should be protected for their own sake;
- regional and local distinctiveness and variety, based on a thorough assessment of local character and scrutinised in depth through the development plan system, should be conserved and enhanced whenever possible;
- planning for development should provide effective protection of the environment by integrating a site-based approach with a more broadly-based concern for and awareness of biodiversity and other environmental issues, including light and noise pollution;
- damaged and lost environmental features should be restored whenever possible; and
- a common approach should be taken to landscape and character issues which cross local planning authority boundaries.

Policy 38: Protection of designated areas

52. Development plans should give priority to protecting and enhancing areas designated at international or national level for their intrinsic importance in terms of nature conservation or landscape quality. They should also ensure that policies and proposals for areas covered by these designations are integrated with other strategies.

Policy 40: Conservation of East Anglia's built and historic environment

53. Development Plans should contain policies to protect the built and historic heritage and manage change in a way that respects local character and distinctiveness, by conserving and maintaining historic and archaeological resources, and by ensuring that new development respects and enhances local character

21.1.3.1.9 Local Policies

54. The study area transects four local authority districts, comprising North Norfolk, Broadland, South Norfolk, and Breckland.

21.1.3.1.9.1 North Norfolk: Local Development Framework – Core Strategy (North Norfolk District Council 2008, Updated 2012)

55. North Norfolk District Council is in the process of developing a new Local Plan which will guide development decisions in North Norfolk until 2036, and is currently in the consultation stage. Until it has been officially accepted, the North Norfolk Core Strategy (2008, updated 2012) is considered to contain the deciding planning policies for the borough, alongside the NPPF (2021).

56. This document sets out the key elements of the planning framework for North Norfolk, covering the period to 2021. Policies therein considered to be relevant to SEP and DEP with respect to archaeology and cultural heritage are as follows:

Policy EN 8: Protecting and Enhancing the Historic Environment.

57. Development proposals, including alterations and extensions, should preserve or enhance the character and appearance of designated assets, other important historic buildings, structures, monuments and landscapes, and their settings through high quality, sensitive design. Development that would have an adverse impact on their special historic or architectural interest will not be permitted.

21.1.3.1.9.2 Greater Norwich Development Partnership – Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk (adopted March 2011, amendments adopted January 2014)

58. The Greater Norwich JCS sets out the overarching strategy to growth across the Broadland District Council, Norwich City Council and South Norfolk Council area to 2026. It therefore forms part of the Broadland local plan. The policies set out within the Greater Norwich JCS and relevant to SEP and DEP with respect to archaeology and cultural heritage are outlined below.

59. Broadland District Council, Norwich City Council and South Norfolk Council are currently working together with Norfolk County Council to prepare the Greater Norwich Local Plan (GNLP), which will set out the development across the three Councils until 2038.

Policy 1: Addressing climate change and protecting environmental assets

60. The built environment, heritage assets, and the wider historic environment will be conserved and enhanced through the protection of buildings and structures which contribute to their surroundings, the protection of their settings, the encouragement of high-quality maintenance and repair and the enhancement of public spaces.

61. In addition to the policy above, two planning objectives which form part of the monitoring framework for the Broadland part of the Norwich Policy Area are also considered relevant:

- Spatial Planning Objective 8: To positively protect and enhance the individual character and culture of the area.
- Spatial Planning Objective 9: To protect, manage and enhance the natural, built and historic environment, including key landscapes, natural resources and areas of natural habitat or nature conservation value.

21.1.3.1.9.3 The Broadland Development Management Development Plan Document

62. The Development Management Development Plan Document (DPD) aims to further the objectives set out in the NPPF and the Joint Core Strategy (Broadland, Norwich and South Norfolk). The following policies are considered relevant to SEP and DEP with respect to archaeology and cultural heritage:

Policy EN2 – Landscape

63. In order to protect the character of the area, development proposals should have regard to the Landscape Character Assessment Supplementary Planning Document (SPD) and, in particular, consider any impact upon as well as seek to protect and enhance where appropriate:
    - Gaps between settlements.
    - Visually sensitive skylines, hillsides and valley sides and important views including the setting of the Broads Area.
    - Nocturnal character.
    - Conservation Areas.
    - Scheduled Ancient Monuments.
    - Historic Parks and Gardens.
    - Green spaces including natural and semi-natural features as well as geological/geomorphological features which make a significant contribution towards defining the character of an area.

21.1.3.1.9.4 Breckland District Council Local Plan (Adopted 2019)

64. The Breckland District Council Local Plan, adopted in 2019, forms the development plan for the district, setting out a spatial vision and strategy with clear economic, social and environmental objectives. Policies considered relevant to SEP and DEP with respect to archaeology and cultural heritage are outlined below.

Policy ENV 07 – Designated Heritage Assets

65. The significance of designated heritage assets (including their settings), such as listed buildings, scheduled monuments, registered parks and gardens and conservation areas, will be conserved, or wherever possible enhanced. Great weight shall be given to their conservation. Proposals that may affect the significance of a designated heritage asset will be required to provide proportionate evidence to the assets importance, sufficient to identify its significance, including any contribution that its setting makes to enable any impact to be fully assessed, in accordance with national policy.

66. Development that will affect any designated heritage asset will be subject to comprehensive assessment and should conserve or, wherever possible, enhance the architectural and historic character, appearance and setting of the asset. Where a proposed development will affect the character or setting of a Listed Building, particular regard will need to be given to the protection, conservation and potential enhancement of any features of historic or architectural interest; including within the curtilage of a listed building that predates 1st July 1948.

67. The conversion of listed buildings for economic or residential purposes in locations that would otherwise be unacceptable will be considered where this would ensure the retention and ongoing conservation of the building. Proposals will be considered having regard to national policy and relevant guidance.

Policy ENV 08 - Non-Designated Heritage Assets

68. Development should be expected to conserve, or wherever possible enhance the historic character, appearance and setting of non-designated historic assets. Proposals that could affect previously unrecognised heritage assets will be expected, through agreement with the Council, to undergo an appropriate assessment, proportionate to the significance of the asset. The assessment must provide sufficient information for any impact to be fully assessed. In weighing applications that are likely to directly or indirectly affect non-designated heritage assets, a balanced judgement will be undertaken, having regard to the scale of any harm or loss and the significance of the heritage asset.

69. The conversion of non-designated buildings identified in the Norfolk Historic Environment Record, or through Neighbourhood Plans, of particular architectural or historic merit for economic or residential purposes in locations that would otherwise be unacceptable will be considered where this would ensure the retention of the building. Proposals will be considered having regard to relevant national policy and relevant guidance.

70. In the case of traditional dwellings which positively contribute to the character of Breckland, applications for replacement will be expected to be accompanied by a Design and Access Statement which includes a structural survey that demonstrates that the demolition is necessary and that there is no alternative and viable solution of renovation to provide an acceptable standard of accommodation.

71. Development proposals should identify assets of archaeological significance. An archaeological evaluation will be required for development sites that are known or thought to have the potential to include non-designated heritage assets with archaeological interest. Where appropriate, archaeological remains should be left in situ following further design/engineering work. If the benefits of a particular development are considered to outweigh the importance of retaining archaeological remains in situ, satisfactory excavation and recording of remains will be required before development is begun.

21.1.4 Archaeological and Historical Background (Baseline Environment)

72. This section provides an account of the designated and non-designated heritage assets within the study area. Starting with the designated heritage assets by designation type and then continuing with non-designated heritage assets in chronological order.

21.1.4.1 Designated Heritage Assets

73. There are 276 designated heritage assets within the 1km study area (see **Annex 21.1.1** and **Annex 21.1.3: Figure 21.1.1**, **Maps 1–13**), comprising 13 Scheduled Monuments (SMs) (**1-13**), five Registered Parks and Gardens (**14-18**), 248 Listed Buildings (**19-264**) and 12 Conservation Areas (**265-276**). This section provides a short summary of these designated heritage assets. As the project intends to avoid all designated heritage assets, no direct physical impacts are anticipated to occur. These assets will therefore predominantly form part of the settings assessment (**Appendix 21.4** and **Appendix 21.5**), in which they will be considered in greater detail so that any non-physical impacts resulting from SEP and DEP can be more fully understood.

21.1.4.2 Scheduled Monuments

74. There are 13 Scheduled Monuments in the 1km study area, of which none are within the DCO order limits.

75. Howe's Hill (**1**) is an oval barrow with a superimposed later bowl barrow located 500m West South West (WSW) of Wood Farm within the Upper Sheringham area and is dated to the Early to Middle Neolithic period. Oval barrows can vary in form, being generally earthen mounds flanked by quarry ditches that are either 'banana-shaped', 'U-shaped' or unbroken ditches encircling the mound. The oval barrow incorporated at Howe's Hill is one of two examples of this rare class of monument identified in this area of Norfolk, the other being within the study area approximately 2.5km west in Bodham Wood.

76. Within the study area, surrounding the DCO order limits, are several examples of bowl barrows. Bowl barrows are a type of funerary monument, being the most numerous form of round barrows, dating from the Late Neolithic period to the Late Bronze Age. In the Weybourne area is a bowl barrow on the north side of Muckleburgh Hill (**2**) which, whilst surviving well, has three small slit trenches into the mound. South of this, at Kelling Heath, is another example of a bowl barrow, south of Holgate Hill (**4**). In addition, another bowl barrow is located in Hundred Acre Wood, 330m west of Cherry Trees Farm (**5**). The bowl barrow in Hundred Acre Wood survives well as a whole, and although there is some evidence of disturbance to the mound, it is relatively limited.

77. Weybourne Priory (**12**), also named the Priory of the Blessed Virgin and All Saints, is situated within the centre of Weybourne Village, with the standing remains of the priory being Grade I Listed (**24**) (**Plate 21.1 1**). The monument includes the remains of the Augustinian priory church dating from the early 13th-15th centuries and incorporates parts of an earlier church dated to the 11th century. The area of the monastic precinct includes the remains of the conventual buildings to the north of the church and associated buildings and water features lying to the north and east of these. The present parish church, the 13th-14th century Church of All Saints (LB II*, **38**) is attached to the ruins of the former Augustinian Priory and is included in the scheduling.

*Plate 21.1 1 Weybourne Priory (**12**)*

78. Adjacent to the landfall location is the medieval moated site 380m SSE of Rosedale Farm (**13**), to the south-east of Weybourne. The monument comprises the remains of two moated enclosures and associated features on a platform on the hill slope overlooking Weybourne, to the north. The larger of the two moats is a visible earthwork, whereas the remains of the smaller second moat lies to the northeast, with channels interconnecting the two. Both moats are now infilled.

79. Towards the northern end of the onshore cable corridor, to the north of Baconsthorpe, is the moated site of Baconsthorpe Castle, complete with fortified house, gatehouse, courtyards and formal gardens, which dates to the medieval period (**11**).

80. Near the middle of the onshore cable corridor, north of Haveringland, lies a wayside cross 160m north-west of Stump Cross Farm (**10**). Dating to the medieval period, the freestanding cross is a good examples with a tapering octagonal shaft that is believed to stand in or near to its original position.

81. Further south along the onshore cable corridor, at Morton on the Hill, is another round barrow, south-east of The Lodges (**7**), dating to the Bronze Age.

82. Further to the south, at the southern end of the study area lies another two round barrows near Norwich Lodge at Kettering Hall (**6**), approximately 100m north of the onshore cable corridor. Both monuments date to the Bronze Age.

83. At the south-eastern end of the study area, approximately 500m from the onshore substation site at Caistor St Edmund, is Venta Icenorum (**8**), a Roman town and associated prehistoric and medieval remains. The remains survive as earthworks and buried archaeological deposits over an area of around 100ha, alongside an Anglo-Saxon cemetery. Venta Icenorum was a civitas capital, being a principal centre of the region within Roman Britain, having been first laid out in c. 70AD on the site of an Iron Age and Romano-British settlement of the Iceni tribe. Aerial photography undertaken by the Royal Air Force (RAF) in 1928 revealed the parched layout of streets and buildings within the enclosure, with subsequent excavations undertaken in 1929-1935. The buried remains of a triple-ditch defensive system, thought to be earlier than the third century town, enclosed a larger, broadly kite-shaped area which may represent a defended Late Iron Age tribal centre, similar to Colchester. Occupation at the site continued into the fourth century, however a number of buildings appeared to have burnt down towards the end of the fourth/beginning of the fifth century, which may represent the end of the occupation of the town. The settlement did continue in some form with the Anglo-Saxon cremation and inhumation cemetery in the extra-mural zone to the east. Further evidence of the Anglo-Saxon period at the site is present in the form of possible sunken-floored buildings of the early medieval period overlying the Roman archaeological deposits.

84. To the north of Venta Icenorum at Markshall Farm, several sites have been identified from aerial photography, including an Anglo-Saxon cemetery (**9**) and a complex site of multi-period cropmarks (**3**). Extensive archaeological investigations have revealed evidence of Neolithic pits, a possible Saxon grave, medieval and post-medieval ditches and pits, alongside a number of unphased pits and ditches.

21.1.4.3 Registered Parks and Gardens

85. There are five Registered Parks and Gardens within the 1km study area, none of which intersect the DCO order limits.

86. The 19th century Grade II* Registered Park and Garden of Sheringham Hall (**17**) is located in the eastern extent of the landfall location, and comprises c.130ha. It is enclosed by woodland belts and plantations, and contains numerous Listed Buildings, including the Grade II* Listed Sheringham Hall (**59**). The park itself contains open grassland of c.35ha. The owner of Sheringham Hall during the late 18th century, Cook Flower, began the creation of the landscape prior to the Estate being purchased by Abbot Upcher in 1811, who commissioned Humphry Repton and his architect son, John Adey Repton, to design a new house. The building of the house, known as Sheringham Bower, and the layout of the park and garden were largely complete by 1817.

87. A further three Registered Parks and Gardens are predominantly located within the northern half of the 1km study area. These comprise:

- Heydon Hall (**16**), an early 18th century landscape park and woodland with late 19th century formal gardens and lawns designated as Grade II*.
- Mannington Hall (**15**), a moated manor house and gardens of 15th century origin with many 19th century features, set within gardens laid out during the 20th century, designated as Grade II.

- Barningham Hall (**14**), an early 19th century park, garden and walled garden surrounding an early 17th century hall, designated as Grade II.

88. Located at the southern end of the 1km study area is Intwood Hall (**18**), a manor house with walled gardens of 16th century origins set in a diminutive mid-18th century park, designated as Grade II*.

89. The majority of the Registered Parks and Gardens have associated Listed Buildings, which are outlined separately below, and in **Annex 21.1.1** – representing the Designated Assets Gazetteer.

21.1.4.4 Listed Buildings

90. The 246 Listed Buildings in the 1km study area can be sub-divided as follows:
- Grade I Listed Buildings: comprising nine designated heritage assets (**19-27**);
- Grade II* Listed Buildings: comprising 33 designated heritage assets (**28-60**); and
- Grade II Listed Buildings: comprising 204 designated heritage assets (**61-264**).

91. Of the 246 Listed Buildings within the 1km study area, none are located within the DCO order limits.

92. Although the Listed Buildings show a scattered distribution across the full extent of the 1km study area, there are some areas in which a notable concentration of such heritage assets occur. Such concentrations are commonly observed in association with historical towns, and/or settlements adjacent to the proposed onshore development area.

93. Notable assets within Weybourne provide such an example, although most of the Listed buildings are associated with Weybourne Priory, as previously discussed in **Section 21.1.4.2**, such as the ruins of the Augustinian Priory (**24**). Key historical features at Upper Sheringham, within the east of the landfall location, relate to the Grade II* Listed Sheringham Hall (**59**) which dates to the 19th century. Other towns along the proposed onshore cable corridor which contain notable concentrations of Listed Buildings include Baconsthorpe, Cawston, Swannington, Attlebridge, Ketteringham and Hethersett, and Swardeston and Dunston to the west and east, respectively, of the onshore substation site.

94. A number of these concentrations of Listed Buildings also commonly reside in areas designated as Conservation Areas (see **Section 21.1.4.5** below), such as Cawston, Mulbarton and Wramplingham, for example.

95. There are several Listed Buildings that are sited in a seemingly more sporadic way; these tend to be agricultural or religious buildings in origin. Examples include Mere Farmhouse (Grade II, **79**) and Church of All Saints (Grade II*, **32**) to north, and North Farmhouse (Grade II, **143**), Glebe Farmhouse (Grade II, **168**) and Church of St Remigius (Grade II*, **43**) to the south.

96. Examples of other types of structures which are listed include milestones (e.g. Milestone No 7 at TG 1385 0352: Grade II, **156**), public houses (e.g. Kings Head Public House in Hethersett: Grade II, **197**), War Memorials (East Carleton War Memorial: Grade II, **263**), and numerous garden walls and gates associated with Listed Buildings.

97. Within the wider 5km study area around the onshore substation, notable concentrations of listed buildings are located in Cringleford and Eaton to the north-west, Caistor St Edmund to the north-east, and Shotesham St Mary and Shotesham All Saints to the south-east.

21.1.4.5 Conservation Areas

98. The following 12 Conservation Areas running from the landfall location to the onshore substation, to varying degrees intersect the 1km study area:

- Weybourne (**271**)
- Kelling (**272**)
- Upper Sheringham (**266**)
- Baconsthorpe (**267**)
- Matlaske (**274**)
- Mannington and Wolterton (**275**)
- Blickling (**273**)
- Heydon and Salle (**276**)
- Cawston (**265**)
- Wramplingham (**268**)
- Mulbarton (**269**)
- Stoke Holy Cross (**270**)

99. Weybourne (**266**) contains the historic core of the village and its western extent is approximately 6m from the onshore cable corridor (in the location of a trenchless crossing).

100. Blickling (**273**), Mannington and Wolterton (**275**), and Heydon and Salle (**276**) are unusual in some respects being as they are large 'rural' Conservation Areas, as opposed to the general trend of 'heritage' Conservation Areas commonly representing the historic cores of settlements, towns and villages. Blickling (**273**) and Mannington and Wolterton (**275**) directly adjoin each other, with Heydon and Salle (**276**) to the west (approximately 1.5km from Blickling Conservation Area).

101. Of the Conservation Areas, the onshore cable corridor intersects Mannington and Wolterton (**275**) through its far-western edge for approximately 0.9km , whilst Heydon and Salle (**276**) is located approximately 56m to the west of the onshore cable corridor. No other Conservation Areas intersect with the DCO order limits.

102. At the time of writing, there was no character appraisal available for the Mannington and Wolterton Conservation Area. However, it is known that the Conservation Area covers an area of 2,238 hectares (being the largest within the study area) and includes the Registered Park and Garden of Mannington Hall (Grade II Listed, **15**). A number of Listed Buildings are interspersed throughout the Conservation Area, primarily centred around the rural villages located within it, ranging from Grade I, II* and II. The landscape is mostly agricultural in nature with some villages, such as Mannington, Wolterton and Calthorpe, being set within the River Bure valley landscape.

21.1.4.6 Non-designated Heritage Assets

103. There are 1,370 non-designated heritage assets within the 500m study area (see **Annex 21.1.2** and **Annex 21.1.3: Figure 21.1.2** – **Maps: 1 – 13**), some of which do represent duplicates of the designated heritage assets at this baseline ADBA stage. These assets have been assessed alongside various source material outlined in **Section 21.1.2.2.1** and referenced in order to inform an archaeological and historical baseline account of the study area.

104. Due to the extensive linear footprint of SEP and DEP, which extend across the North Norfolk, Broadland, and South Norfolk districts of Norfolk, the following baseline account provides a broad narrative of archaeological and historical information with a focus on the various principal towns and/or settlements adjacent to the DCO order limits, where relevant, particularly from the medieval period onwards; in which the majority of towns are historically recorded to have originated.

105. This approach diverts away from a historical account of this (arbitrarily/development focused and defined) 'region/area' of Norfolk as a whole, which is beyond the scope of this project, to encapsulating key areas of historical and archaeological interest along the proposed onshore development area, thus providing a context for known heritage assets, as well as the potential for as yet undiscovered assets to be present within the 500m study area. The baseline account retains the chronological framework typical of archaeological and historical baseline accounts. Due to the broadly variable and limited nature of known finds and monuments/sites, which predate the medieval period within the study area, the baseline review for these periods is dictated by the availability of assets/information which may, at times, divert discussion away from the focal points outlined above to other areas of archaeological interest along and in the immediate vicinity of the cable corridor.

106. The following review includes a discussion of various non-designated heritage assets within the 500m study area, including those within and beyond the DCO order limits. Where an asset is discussed and lies within the DCO order limits, this is stated within the text. Not all assets are discussed within the text, but all are tabulated within the non-designated heritage asset gazetteer (**Annex 21.1.2**).

21.1.4.6.9 Prehistoric

107. The prehistory of the 500m study area is directly linked to a series of glacial and interglacial phases and associated marine transgressions and regressions, which have resulted in changes to the environment across the region.

108. The earliest evidence of hominin (early human) activity in Norfolk is recorded to the east of the proposed onshore development area along the coast at Happisburgh, comprising a footprint surface found in Early Pleistocene estuarine muds. The estuarine sediments at Happisburgh form part of the Hill House Formation, which has been dated between 1 and 0.78 million years ago, with the footprints indicative of estimated body dimensions that fall within the range of evidence from 'Homo antecessor' fossils (Ashton et al., 2014: 11). These footprints preserve indirect anatomical evidence of these first hominins in northern Europe.

109. Archaeological evidence for the Palaeolithic period across Norfolk almost entirely comprises lithic artefacts and manufacturing waste. Following the first recognised Palaeolithic objects in France in the 1860s, numerous finds were recovered in Norfolk over the following decades, with over 280 individual sites across the county. The most common finds of the period are typically handaxes, flint tools, cores and unmodified flakes. Whilst some of the objects on the archaeological record have been found as stray surface finds, the majority have been recovered as a result of aggregate extraction and other such activities that disturb subsurface deposits (Norfolk Historic Environment Service, 2020). Of those that have been recovered, only a small number of sites have produced material that was in relatively undisturbed contexts, with assemblages that had accumulated as a result of natural glacial and fluvial processes.

110. The archaeological record for the Palaeolithic period within the study area is limited to the proposed onshore cable corridor, with assets consisting of flint implements, scrapers and handaxes (e.g. **277-280**). There are few isolated findspots, with the majority of lithic artefacts being discovered as part of a multi-period scatter (e.g. **281-335**).

111. Like the Palaeolithic period, the Mesolithic (8,500-4000 BC) is characterised by ephemeral traces of activity; sites are principally recognised from concentrations of lithics, as the temporary settlements used by these communities left little other trace in the landscape. It is very rare to find in situ evidence for Mesolithic settlement sites. In many areas, evidence for Mesolithic activity has been highly dependent upon concentrations of archaeological fieldwork within particular parts of the landscape, and the visibility of material may have been impacted upon by coastal and sea-level changes.

112. Following the retreat of the Devensian ice sheet, the Mesolithic period in Britain saw a marked improvement in climate following the onset of the warmer Holocene interglacial (Marine Isotope Stage 1). The environment of southern Britain changed considerably during the early stages of the Holocene as temperatures rose, with the land being colonised by new plant, animal and insect species. The archaeological record indicates that coasts, estuaries and wetlands were regarded as key landscape elements during this period, with the landscapes that had previously been largely open now became increasingly wooded with the introduction of mixed deciduous woodland. With this new landscape, evidence indicates the presence of constructed settlements albeit of a non-permanent nature and hunter-gatherer lifestyle for Mesolithic groups (Dennis, 2006c).

113. The archaeological record for Mesolithic activity primarily consists of lithic artefacts, although evidence for a wide range of material implements is present, such as scrapers, serrated blades, piercing and drilling tools. Evidence for pits, hearths and traces of ephemeral structures are occasionally encountered across the country as a whole, such sites are rare in Norfolk, with evidence indicating the utilisation of natural features during this period (Dennis, 2006c).

114. The majority of heritage assets from the Mesolithic period are findspots of lithic artefacts, either discovered in isolation (e.g. **335-344**), or as residual material in later features as part of a multi-period find scatter (e.g. **345-373**). Within the study area, large Mesolithic flint assemblages have been discovered, for example, at Great Melton (to the west of Wramplingham), where field walking and archaeological excavation between 1978 and 1987 recovered over 30,000 flints (**367**). Several medieval and post-medieval objects were recovered, including pottery sherds, brick, tile and glass. Another example is the Kelling Heath Mesolithic flint working site, on the south-western edge of the landfall location, excavated between 1924 and 1926 where a large number of Mesolithic worked flints (**282**) were revealed. Some of these flints are now thought to date to the Upper Palaeolithic, with other artefacts dating to the Neolithic period.

115. The Neolithic (c. 4,000 – 2,200BC) was a period of increasingly permanent human occupation, although seasonal mobility and the exploitation of wild resources continued throughout the period. Mortuary monuments, along with the introduction of pottery, domesticates and arable farming practices mark the beginning of the Neolithic period, and the construction of large ceremonial monuments arguably marks a clear change in ideology from the preceding Mesolithic period. This may be represented by the Neolithic long barrows, which could have served as territorial markers, as well as a means to inter the dead. Aerial photography has led to the discovery of further possible long barrows or elongated mortuary enclosures that exist only as cropmarks and buried features, with the structures being destroyed by modern agricultural practices such as ploughing (Aldridge, 2005).

116. The NHER indicates the possible or probable presence of at least five Neolithic barrows in the study area, although they are all regarded as possible long barrows, and have not been confirmed via excavation and most are discovered as cropmarks via aerial photography (e.g. **413**, **390** and **398**). One example is of a long barrow along the onshore cable corridor, to the north of Oulton (**398**). In addition to this the Neolithic Scheduled Oval Barrow at Howe's Hill (**1**), at the south-eastern extent of the landfall location.

117. The remaining records for Neolithic activity within the 500m study area predominantly comprise findspots relating to lithic artefacts, scattered variously across the study area with no significant areas of concentration apparent (e.g. **399-412**).

118. The Bronze Age period is characterised by significant changes in material culture, and in domestic and ceremonial architecture. The introduction of bronze metalworking is traditionally associated with the appearance of Beaker culture. Mortuary ceremonies also change emphasis in this period, with a shift from the large communal complexes and inhumations of the Neolithic to individual cremations and round barrow cemeteries. Across Britain, the Bronze Age is also associated with increased agricultural activity and enclosures, associated with improved cultivation techniques, particularly in the Middle and Late periods. This also includes evidence for clearance cairns, particularly in upland locations, which are traditionally associated with Bronze Age improvement of land for grazing or cultivation.

119. The transition between the Later Neolithic and the Early Bronze Age was a gradual one. Although first dated to the Neolithic period, round barrows are characteristic of the Bronze Age and are amongst the most numerous in Norfolk's prehistoric archaeological record, alongside metal tools, weapons and jewellery finds (Aldridge, 2005). There are at least 30 records held by the NHER for ring ditch/round barrow features assigned solely to the Bronze Age (e.g. **423, 485, 486, 488, 489**, **491**, etc.), located variously across the study area, with more assigned as multi-period features. There are also examples of Bronze Age barrows that have been designated as Scheduled Monuments across the study area, such as the Bowl Barrow in Hundred Acre Wood (**5**) located to the south of Weybourne at the landfall location. Other evidence for the Bronze Age recorded in the NHER are numerous findspots such as spears (e.g. **494**), metal finds (e.g. **492**), and flint and stone finds (e.g. **531**).

120. By the Iron Age (c. 700 BC – AD 43), the landscape saw increasing evidence for field systems and defended sites, and much stronger evidence for continental influences than earlier periods. The period is also marked by evidence for the appearance of iron technology in the archaeological record. Perhaps the most characteristic monument which appeared in the landscape of Britain during the Iron Age is the hillfort. These defended sites, often located on the edges of the natural plateaus and escarpments, may have originated in the late Bronze Age and some may have continued in use into the Roman period; however, relatively little excavation has been undertaken at these sites and therefore their individual histories are not always understood. Present-day Norfolk, alongside parts of Suffolk and Cambridge, is understood as being the tribal home of the Iceni and Boudicca. To date, little evidence of settlement and agriculture has been recorded in the county (Albone *et al.* 2007, 50). The presence of pits, ditches and postholes indicates that settlements of the period likely formed small farmsteads and villages, with a few larger settlements or towns known as oppida sites developing in the late Iron Age. Possible Iron Age oppida sites have been identified at Caistor St. Edmund (c. 2km north-east of the onshore substation site options), Thetford (c. 22km south-west of the DCO order limits) and Saham Toney (c. 22km west of the DCO order limits) (Dennis, 2006a).

121. The NHER records numerous cropmark features in the 500m study area as a result of the NMP project, indicative of possible settlement activity, field boundaries, trackways and enclosures thought to derive from the Iron Age (e.g., **547** and **581-589**). While evidence for settlements, which employed defensive measures, is relatively common in the archaeological record for the country as a whole during the Iron Age, forts of this period are relatively rare in this region. The remaining records relating to human activity of this date include findspots of various artefacts with a scattered distribution throughout the 500m study area, many of which comprise a multi-period assemblage (e.g., **599-603**,and **607-611**).

122. Amongst the numerous heritage assets that have been assigned to the specific time periods within the Prehistoric era, there are several assets recorded within the NHER that have been generally dated to the prehistoric period and not definitively dated. The majority of these assets are findspots, with such examples including flints (e.g., **622-634** and **636-641**), and features such as pits (e.g., **618**), cropmarks (e.g., **619**) and burnt mounds (e.g., **621** and **635**).

21.1.4.6.10 Romano-British

123. Whilst there were two incursions into southern Britain by Julius Caesar, followed by a period of prolonged contact and cross-channel trade, the Roman period in Britain formally beings with the successful invasion by Claudius in 43AD. During this period, the tribe remained independent of Roman rule until the defeat of Boudicca in 61AD.

124. The establishment of large towns, known as civitas, such as Venta Icenorum (**8**) at Caistor St Edmonds, indicates an intensification of settlement in the region. Venta Icenorum became the administrative, legal, judicial and financial centre for the region, with the surrounding landscape providing other settlement evidence in the form of smaller towns, villages and farmsteads.

125. Venta Icenorum (**8**) was laid out in approximately 70AD with streets and insulae on a grid pattern, probably on the site of an Iron Age and Romano-British settlement of the Iceni tribe as indicated by the survival of enclosures and round house platforms south of the walled town. The geographer writer Ptolemy describes Venta Icenorum in the 2nd century as one noteworthy town of the Iceni, suggesting an increase in prosperity and architectural prowess, with the town certainly becoming an important hub for river and land-borne trade. Occupation at the site continued well in to the 4th century AD, however several buildings appear to have been burnt down at the end of the 4th century/beginning of the 5th century; this is thought to have marked the end of the occupation of the town. Although some form of activity did continue with evidence of an Anglo-Saxon cremation and inhumation cemetery to the east (Historic England, 2020a).

126. Evidence within the wider region for the Roman period has seen progress following the National Mapping Project along the Norfolk coast, with the mapping, recording and synthesis of around 400 potential Roman sites visible on aerial photographs. These include settlements, farmsteads and enclosures, field systems and trackways, villas and roads, alongside forts and vici (Albone *et al.* 2007).

127. The Roman period is recorded extensively within the 500m study area, having a total of 164 non-designated assets recorded. A large number is associated with findspots, such as coins, pottery, brooches and torcs, and pans (e.g. **662-670**, **673**, **675**, **680** and **713**).

128. Two Roman roads are recorded in the 500m study area. Approximately 700m to the east of the onshore substation site is The Pye Roman Road (**716**), which follows the alignment of, and lies adjacent to, the modern-day Ipswich Road. Intersected by the onshore cable corridor is the Fen Causeway (**684**) which runs from a junction with Ermine Street and King Street near Peterborough across the Cambridgeshire and Norfolk Fens. The alignment of the Fen Causeway is recorded to the south of Cawston and north of Eastgate.

129. Farming activities are known to have continued in the area, with numerous records for field systems and enclosures dating to the Roman period recorded within the 500m study area. Whilst evidence for Roman settlement in the form of farmsteads within the 500m study area is limited. A possible Roman enclosure and field system (**693**) is recorded to the east of the landfall location, to the east of Weybourne. Along the proposed onshore cable corridor at Southgate, a probable Roman fort and associated cropmark features are recorded (**671**). Other examples within the 500m study area of possible Roman settlement include agricultural evidence in the form of cropmarks of field enclosures and field boundaries, some of which intersect the proposed onshore cable corridor (e.g. **691** and **696**).

21.1.4.6.11 Saxon

130. The early medieval or Saxon period is generally one of the least archaeologically visible, with the archaeological record for the 500m study area being relatively sparse and, where present, represented by findspots, although place-name evidence alongside documentary evidence can assist in the understanding of landscape change during this period.

131. The Anglo-Saxon period is characterised by the migration of Saxon, and later Norse and Danish setters into Britain, which saw the establishment of a network of trade and migration routes to the Continent. This in turn saw the development of a number of important ports or landing places along the East Anglian coast and market towns further inland.

132. The site of Venta Icenorum (**8**) has evidence of continued settlement in the form of an Anglo-Saxon cremation and inhumation cemetery in the extra-mural zone to the east of the earlier Roman town. The cemetery was discovered in the 16th century and was partially excavated by Surgeon-Commander F.R. Mann between 1932 and 1937. Over 500 cremations and 57 inhumations were uncovered. At the time of the excavation, the site was wooded with none of the trees cut down during the excavation, meaning the cemetery has not been completely excavated (Historic England, 2020a).

133. A review of the place-name evidence for the surrounding towns and villages along the onshore development area reveals that most were recorded in the Domesday Book (1086), which suggests the settlements were well established during the early medieval period.

134. Features of this period within the archaeological record are rare, and where present, commonly relate to field boundaries, earthworks or findspots (e.g. **829**, **840** and **856**). Anglo-Saxon settlement patterns are generally poorly understood although the Norfolk region is considered to have been relatively rich at this time with a large population (Norfolk Museums, 2017). Amongst the early medieval heritage assets is a site of a possible Middle Saxon settlement (**841**), to the south of Little Barningham (approximately 0.15km east of the proposed onshore cable corridor). The site was found during fieldwalking with a concentration of artefacts suggesting Middle Saxon settlement and declining medieval settlement.

21.1.4.6.12 Medieval

135. The Norman Conquest in 1066 marks the onset of the medieval period across Britain, and documentary evidence becomes increasingly important through this period. Following the Norman Conquest, the new ruling elite inherited developed administrative systems. Hundreds and parish systems were already broadly in place, with settlements characterised by dispersed hamlets and villages surrounded by common fields. Many East Anglian towns and ports had developed into busy trading centres with many towns and villages experiencing a degree of growth. This growth is reflected in the archaeological record with evidence (earthwork remains) of numerous possible settlements dating to the medieval period within the 500m study area (e.g. **923**, **965** and **914**). A number of which are recorded as deserted settlements, such as Pockthorpe to the south of Great Melton (**969**) and Gowthorpe to the west of the proposed onshore substation (**913**). There are also a high number of churches within the 500m study area attributed to the medieval period (e.g. **915, 906, 909, 929,** and **995-1000**). The medieval assets are evenly spread across the 500m study area and do not appear concentrated to any one area.

136. Eleventh century Norfolk was a county much influenced by water, with the recorded mills and freshwater fisheries easily outnumbering any of its eastern neighbours. In the wet areas to the east and west of the county where agriculture was difficult, salt pans and sheep were predominant. There was almost no woodland in the low-lying coastal regions, and therefore few pigs, however sheep thrived on the marshy land. Central Norfolk occupied higher, forested ground, whilst the prosperous agricultural region lay to the south of Norwich (Hinde 1996, 182). There were 33 Norfolk Hundreds listed in the Domesday Book, and they remained the accepted units of administration and taxation until 1834 (South Norfolk Council, 2012, 4). At the time of Domesday, Norwich was the largest city with a population of c.5,000, however it was rivalled in size, and exceeded in importance by Thetford, the county's ecclesiastical capital with the bishop being one of Norfolk's major landlords (Hinde 1996, 182).

137. Many of the local placenames, including Attlebridge, Baconsthorpe, Cawston, Easton, Mulbarton, Saxthorpe, Swainsthorpe, Swardeston, Upper Sheringham, Weybourne and Wramplingham are first recorded in the Domesday Book of 1086 and represent pre-existing occupation, with the archaeological record providing further evidence of their medieval origins (Williams and Martin, 1992).

138. More than half of the medieval records are represented by findspots, such as coins, metal finds, stones, buckles, thimbles, pendants and pottery (e.g. **862-876**). The remaining assets represent a variety of entries, including evidence of numerous settlements, tofts, buildings, manors, moats, chapels, enclosures, trackways and field boundaries, (e.g., **877**, **907**, **910**, **912**, **909** and **914**).

21.1.4.6.13 Post-Medieval and 19th Century

139. The post-medieval period is an age of transition between the medieval world and the agricultural and industrial revolutions of the 18th and early 19th century, being one of deep-rooted change. The population of England nearly doubled between 1541 and 1651, followed by a period of slow growth before accelerating again in the late 18th century. It saw the transition from an agricultural economy to industrial; shifting from a rural population to urban, from horsepower to water then steam, and finally, internal combustion and the rise of consumerism, with today's urban and rural landscape being laid out.

140. The East Anglia region thrived in the post-medieval period with a number of great achievements in transport and communications, industry and agriculture, many aspects of which are represented in the archaeological record of the 500m study area.

141. With Norfolk having a relatively flat topography, the numerous slow-moving waterways have long been utilised for both travel and trade. With established overseas trade connections from the Baltic and northern Europe and beyond, the navigable waterways of the landscape facilitated the movement of goods. Whilst the Turnpike Acts from the 1660s onwards led to the improvement of major land routes; road transport did not provide an economical method of moving goods in bulk. The benefits of water transport (whilst slow and indirect was relatively cheap in comparison) were well recognised during this period with Acts of Parliament taking place from the 17th century onwards for river navigation improvements. The in-land waterways in East Anglia continued to be the predominant means of transporting goods throughout the region until the advent of the railway and improved roads provided a cheaper, quicker and more efficient transport system (Aldridge, 2005d). Whilst there are no canals recorded as heritage assets within the 500m study area, there are numerous assets relating to railway routes, such the Midland and Great Northern Joint Railway (**1216**), and the East Norfolk Railway (**1217**), and sites of turnpike roads (**1152** and **1167**), illustrating the requirements of transport for the region.

142. During the post-medieval period, imports into the wider region comprised coal, timber, animal foodstuffs, and fertiliser alongside consumer goods. Exports consisted of grain, bricks and products of mills (Aldridge, 2005d). During the medieval period and continuing through to the early 19th century, spinning and weaving wool provided a living for a large proportion of the inhabitants of the region. However, with the Industrial Revolution, the wool industry moved to the north-east of England. The now redundant spinners and weavers turned to farm work, others to clay digging (Broadland District Council, 2009, 3). The production of such exported materials is reflected in the archaeological record throughout the 500m study area in the form of mills and windmills (e.g. **1065**, **1089** and **1091**), quarries (e.g. **1053** and **1081**), brick making and extraction sites (e.g. **1082**, **1025,** and **1046**), lime kilns (e.g. **1108**), and workhouses (e.g. **1024** and **1224**).

143. Agriculture also took on a more prominent role during this period, with East Anglia at the forefront of the 'Agricultural Revolution' in the 18th century with the improved communications developed to serve the farming economy and to facilitate the diverse trade of Norfolk (Gilman, 1997:67). The NHER records numerous assets reflective of farming activities during this period, such as farmhouses, farmsteads, barns and stables (e.g.**1028**, **1033** and **1035**), as well as field boundaries, enclosures and drainage systems of post-medieval date (e.g. **1071-1073**, **1148**, **1149** and **1146**).

21.1.4.6.14 Modern

144. The 20th Century brought with it the largest changes to economy, society and landscape for a millennium. The impact of the two world wars on the landscape was obvious, with the widespread impact of military activities. Much of the land, formerly abandoned during the depression was put back into cultivation during the wars, with more arable cultivation made possible by chemical fertilisers and mechanisation.

145. The archaeological record dating to the modern period within the 500m study area is unsurprisingly dominated by heritage assets dating to the two World Wars. The east coast of Britain was subject to a high level of hostility during World War I (WWI) and World War II (WWII), and the East Anglian region provided a focus for military activity. With the southern North Sea providing an obvious arena for naval action and the threat of invasion looming, a series of defences were constructed across the county and coast.

146. One of the more familiar examples of defensive buildings of this period are pillboxes. Constructed as a response to the development of the machine gun, they are concrete guard posts with small windows through which military personnel could fire weapons to oncoming adversaries in the event of an invasion. First used by the Russians in the Russo-Japanese War, pillboxes became an increasingly important component of Britain's coastal defences between 1916 and 1918 (Aldridge, 2005c). There is only one pillbox (**1233**) located at Muckleburgh immediately west of the landfall location which dates to WWI.

147. It was during WWII that pillboxes were truly utilised, being built in their thousands, with some 18,000 constructed in 1940 alone. The pillbox was primarily associated with beach defences, anti-invasion defence stop lines and 'nodal' points such as airfields and important junctions, although some were placed to defend coastal batteries, airfields and radar stations (Aldridge, 2005c). There are 18 records of pillboxes of WWII date recorded within the 500m study area, several of which are located within the landfall location north of the A148 (e.g. **1248**, **1259**). Some of these pillboxes survive as extant structures (e.g. **1345** - **Plate 21.1 2**). A single pillbox (**1366**) is recorded further inland in a field to the north of East Carleton, towards the southern end of the onshore development area.

148.

*Plate 21.1 2 World War Two Pillbox (**1345**)*

149. The advent of air power brought another dimension to warfare in the 20th century. Whilst military aviation was under development at Woolwich Arsenal as early as 1878, with Balloon Factories existing on a succession of sites, it became increasingly clear the military needed to invest in aerial warfare throughout WWI, with the construction of aviation-related infrastructure gaining momentum. At the outbreak of WWI, there were only seven completed aerodromes in the whole of Britain. By its conclusion, there were 301 aviation sites serving the Royal Flying Corps (RFC) and the Royal Naval Air Service (RNAS), which later amalgamated to form the RAF (Brown *et al.* 1996*,* 105*;* Aldridge, 2005d). With its relatively flat topography, Norfolk provided an ideal landing ground for aircraft and became a focus for airfields during WWI with some 30 airfields established (Aldridge, 2005b). Within the 500m study area itself there is one example of a WWI airfield located to the north of Saxthorpe (**1232**).

150. Norfolk witnessed a dramatic decrease in the number of airfields following the end of WWI until political uncertainties in Europe in the mid-1930s led to an expansion of the RAF. This resulted in 89 new airfields and aerodromes being constructed between 1935 and the outbreak of WWII, with a total of 444 airfields being constructed by 1945 (Brown *et al.* 1996, 108; Aldridge, 2005b).

151. Following the outbreak of WWII, aerial defence and hostilities formed a main component of Britain's warfare strategies, with an unprecedented growth of airfield construction across the country. By the end of WWII, Norfolk had some 37 major military airfields (Aldridge, 2005d). Within the 500m study area there are seven airfields recorded on the NHER, although most have been demolished. Examples include Oulton Airfield (**1319**), RAF Matlaske WWII Airfield (**1340**), Attlebridge WWII Airfield (**1249**), and Swannington WWII Airfield (**1342**).

152. At the landfall location, the site of Weybourne Camp (**1228**) is recorded; this was previously a WWII and post-war anti-aircraft training camp. The camp originally started out as a temporary summer camp for the Anti-Aircraft Division of the Territorial Army in 1935, before becoming a permanent training camp in 1937 until its closure in 1959. Numerous heritage assets within the landfall location are associated with Weybourne camp, including anti-tank ditches, gun emplacements, barbed wire, practice trenches and pillboxes**.**

153. Evidence for WWII defences are extensively recorded within the 500m study area such as tank traps (e.g., **1306**), weapons pits and trenches (e.g., **1304, 1324**), gun emplacements (e.g., **1252**, **1253** and **1255**), gun batteries (e.g., **1343**), radar stations (e.g., **1349**), firing ranges (e.g., **1243**), coastal defences and structures (e.g., **1299-1300**).

21.1.4.6.15 Undated/Unknown

154. Throughout the DCO order limits and study area are several assets that are of unknown dating origin. Examples are mostly cropmarks of features such as trackways, field boundaries, ditches and enclosures (e.g., **1378, 1385**, **1359, 1400, 1411, 1416,** etc.), alongside pits (e.g., **1432, 1388, 1388, 1375,** etc.), and sites that have no evidence for archaeological remains (e.g., **1427, 1429, 1431,** etc.). There are also some assets recorded on the NHER within the study area that have no description (e.g., **1447-1462**).

21.1.4.6.16 Previous Investigations

155. Numerous previous investigations undertaken with a view to achieving objectives of an archaeological or heritage nature have taken place within and around the study area. Due to the extensive linear footprint of the proposed onshore works, it is not possible to provide an exhaustive account of all projects undertaken to date. This section therefore provides a summary of the nature and type of assessments undertaken which have informed the known archaeological record and therefore enhanced our understanding of the historic environment in this region.

156. A number of other large-scale linear schemes have been assessed in the wider area of Norfolk. Examples that have occurred in the region of the 500m and 1km study areas and were subject to archaeological assessment include the Bacton to King's Lynn and Bacton to Great Yarmouth gas pipeline projects. As part of these gas pipeline projects, the archaeological assessments included watching briefs during the installation of the pipeline and fieldwalking surveys along the route of the pipeline. Intersecting the DCO order limits just to the north of Southgate is the Norfolk Vanguard Offshore Wind Farm which was granted development consent in February 2022 and is currently subject to a programme of archaeological mitigation works. Hornsea Project Three Offshore Wind Farm was granted consent in December 2020 and is currently subject to a programme of archaeological evaluation works. Its onshore cable corridor runs between Weybourne and the Norwich main onshore substation to the south of Norwich, on a similar onshore alignment to SEP and DEP.

157. The coastal and broad zones in Norfolk have also been subject to the National Mapping Programme (NMP); a HE initiative which aimed to identify, map and interpret all archaeological sites visible on aerial photographs, using a range of source material. The NMP for the coastal zone was supplemented by a Rapid Coastal Zone Assessment Survey (RCZAS), a type of survey designed to assess the archaeological potential of the coastlines of England including archival research and a ground-based survey of the inter-tidal and coastal zones. The results of these assessments were thereby included within the NHER data and were incorporated into the Aerial Photographic, LiDAR and Map Regression Analysis (**Appendix 21.2** and **Appendix 21.3**).

158. In addition to the large-scale projects described above, a number of smaller scale projects have also been undertaken within and around the study area. A review of grey literature available on the Archaeological Data Service website indicates a range of archaeological assessments in the area, including archaeological evaluations and strip map and samples (Earlham to Swardeston, Caistor St Edmund, Stoke Holy Cross, Hethersett, Weybourne, Norwich, Oulton, Poringland, Mulbarton, Mundesley, Honingham, Bacton), archaeological watching briefs (Earlham to Swardeston, Weston Longville, Paston, Caistor St Edmund, Weybourne, Brampton), monitoring and recording exercises including historic building records and earthwork surveys (Swainsthorpe, Weybourne, Keswick, Caistor St Edmund), and the archaeological assessment of geophysical survey data (Easton, Norwich, Swardeston, Mulbarton, Oulton, Honingham, Bodham), as well as aerial photographic data. Other notable archaeological assessments in the area include a high number of desk-based assessments.

159. As part of the Dudgeon Offshore Wind Farm project, Allen Archaeology Ltd was commissioned to undertake a Set Piece Excavation in 2014 in advance of the onshore cable installation from Weybourne Hope to Necton. Previous archaeological evaluation work revealed a prehistoric ring ditch and Anglo-Saxon burials located in a field north of Clipstone House and south of Snoring Road in the parish of Fulmodeston, approximately 12.5km west of the SEP and DEP DCO order limits. The excavation revealed finds and features dating from the Neolithic to the post-medieval periods, with significant features limited to three principal phases of activity at the site: the Bronze Age, Iron Age and Anglo-Saxon periods. The significant remains indicated that during the Bronze Age, a round barrow was established at the site. No domestic features dating to this period were encountered, suggesting that the barrow was positioned away from any likely occupation site. There was a period of abandonment, and it was not until the Iron Age that the site was reutilised with the digging of a series of pits, forming pit alignments adjacent to and cutting the earlier barrow. Two pottery kilns were also constructed during the Iron Age and were situated away from the barrow to the south-west. A further hiatus of activity occurred at the site after the Iron Age pits silted up, with the use of the site commencing again in the Anglo-Saxon period, with the Bronze Age barrow being suggested as still extant when a mid-5th century cemetery was created within the ring ditch. The cemetery continued in use until the mid-6th century. A total of 58 graves were recorded, with the burials containing a range of grave goods including brooches, beads, rings, spearheads and knives. There was no evidence of domestic occupation, indicating that the site was ceremonial, and that as with the Bronze Age, the Anglo-Saxon occupation probably occurred away from the site.

21.1.4.7 Historic Landscape Characterisation

160. The Historic Landscape Character (HLC) data held by the NHER has been obtained and included within the Projects' GIS project database (**Section 21.1.2.2.5**). This data was produced as an aid in the interpretation of the current landscape's history and evolution and forms an aid to identifying areas of the landscape which may be sensitive to change.

161. Due to the vast extent of the linear footprint of the proposed onshore works, the character of the study area has been divided into three principal areas. This approach enables the character of the study area to be analysed in a manner that can be more meaningfully understood than that afforded by a broad scale characterisation of the area as a whole. These areas are discussed in turn below. It should be noted that due to the nature of the data, in some cases the HLC character polygons extend beyond the parameters of the study area. As such, more localised character types summarised below may lie beyond the area assessed in this review. Where possible, this is noted in the following discussion.

162. The following section should be read with reference to **Annex 21.1.3: Figure 21.1.3 – Maps: 1 – 13**.

21.1.4.7.9 Topography, Geology, Soils, and Land Use

163. The following information is extracted from **Appendix 21.2 Aerial Photographic, LiDAR Data and Historic Map Regression Analysis,** where further details are presented. The topography of the study area lies within a flat, gently undulating and predominantly arable landscape with some areas of military, or former military, land use (mainly along the coast and localised around airfields).

164. There are some areas of heathland at Kelling, and some areas of coppice or deciduous woodland. The study area traverses open countryside around small towns and villages from landfall towards Hethersett where it crosses the A11 Hethersett bypass and the Breckland Line railway, to the south of the town. The study area then directs to the east to terminate between Swardeston and the A140 and the Great Eastern Main railway line, south of Norwich.

165. The River Wensum crosses the study area at Attlebridge, the River Tub crosses between Honington and Easton, and the River Yare crosses the area between Marlingford and Barford.

166. The land use is predominantly arable with some areas given over to other crops, grass and outdoor piggeries.

167. The study area presents an optimal environment for early settlement. The soils and substrates are well drained and easily worked and there is optimal access to watercourses with fertile river valley environments. Weybourne presents a conservable resource and opportunity by the coast and sea.

168. The study area presents an optimum environment for the recording of buried features in crop marks, reflected in the high number of sites which are visible on aerial photographs in arable areas, and in turn recorded on the NHER.

169. The geology of the study area comprises large chalky till, chalky drift and glacio-fluvial drift, with some areas of Fen peat and an area of marine alluvium at the coast.

170. The well drained chalky and drift substrates provided a favourable environment for settlement from prehistoric times to the present day and give rise to free draining soils, which in turn are conducive to the formation of cropmarks over buried features in times of mild drought.

171. Marine alluvium and Fen peat may mask some heritage assets in the discrete areas where these deposits are present.

172. The drift geologies give rise to areas of shallow, well drained soils, and there are other areas with some deeper, more moisture retentive deposits. The soils in the study area present a mixed group of substrates with some soils better draining than others, particularly the loams and sand over glacio-fluvial drift and chalky drift and till.

173. In this area of Norfolk, the chalk substrate within parts of the study area is well drained, and crops respond readily to differences in the depth and consistency of the topsoil, over areas where buried, ditched and embanked features are present. This effect also applies to anomalies in the consistency of the substrate.

21.1.4.7.10 HLC Area 1

174. The HLC Area 1 comprises an extent of the study area between the onshore project substation between Dunston and Swainsthorpe to the area between Honingham and Easton. The HLC of Area 1 is summarised in **Table 21.1.1** below.

Table 21.1.1: HLC of Area 1

Broad Type	Sub-types	Total Combined Area (ha)
18-19th century Enclosure	• Piecemeal enclosure by agreement • Piecemeal style Parliamentary enclosure • New Enclosure	564
20th century agriculture	• 20th century enclosure • Boundary loss • Boundary loss – with relict element	1881
Built up areas - historic	• Religious institution	1
Built up areas - modern	• Hospital, school, university • Hall/large house • Streets and rows – linear settlement • Nucleated clusters – more than 5	22
Commons, wastes, heaths	• Common with an open margin • Green	9
Horticulture	• Nursery with glass house	7
Industry	• Industrial	14
Inland - managed wetland	• Enclosed meadow	92
Marginal	• Unimproved rough pasture	12
Mineral	• Mineral extraction • Disused mineral extraction	34
Parks, gardens, recreation	• Informal parkland • Leisure/recreation	120
Water features	• Water reservoir	8
Woodland	• 18th-20th century woodland plantation • Ancient woodland	166

175. HLC Area 1 is predominantly characterised by 20th century agriculture, with post-medieval enclosures of an 18th and 19th century date also well represented. Other notable character types include woodland, predominantly comprising 18th-20th century woodland plantation and ancient woodland. In addition to those outlined above, character types of potential heritage interest include historic built-up areas as represented by numerous religious institutions, mineral extraction areas, alongside parks, gardens and recreation land, and marginal in the form of unimproved rough pasture.

176. The South Norfolk District Landscape Character Assessment (South Norfolk Council 2008) classifies HLC Area 1 as rural Valley (A2, A3), Tributary Farmland (B1), Tributary Farmland with Parkland (C1), and Settlement Plateau Farmland (D1).

177. The NHER reflects those character types with the assets recorded, such as those related to the agricultural and leisure use of the landscape especially in the form of parks (e.g., Kettering (**1059**), Intwood Park (**1135**)).

178. Other assets have been found within the character types ranging from the prehistoric period to modern, with a range of cropmarks relating to the past use of the landscape, such as Bronze Age round barrows (e.g., **489**), Roman roads (**723**), and a possible Roman temple (**589**). It would also appear from the NHER data that there is a correlation with the 18th-19th century enclosure and 20th century agriculture character type and the higher number of assets dating to the prehistoric periods and later. It could be suggested that the preservation of these assets are better in these character types, or there is a higher volume of these assets known due to the higher number of archaeological investigations that have taken place, such as metal detecting and fieldwalking, in this HLC area.

21.1.4.7.11 HLC Area 2

179. The HLC Area 2 comprises the extent of the study area between Honingham and Easton to the area north of Oulton, between Saxthorpe and Itteringham. The HLC of Area 2 is summarised in **Table 21.1.2** below.

Table 21.1.2: HLC of Area 2

Broad Type	Sub-types	Total Combined Area (ha)
18-19th century Enclosure	• Piecemeal enclosure by agreement • Piecemeal style Parliamentary enclosure • Estate fields	431
20th century agriculture	• Animal Farm • 20th century enclosure • Boundary loss • Boundary loss – with relict element	1910
Commons, wastes, heaths	• Common with an open margin	3

Broad Type	Sub-types	Total Combined Area (ha)
Inland - managed wetland	• Enclosed meadow	161
Marginal	• Unimproved rough pasture	15
Military	• Disused post-medieval military	444
Parks, gardens, recreation	• Leisure/recreation	14
Pre-18th century enclosure	• Irregular enclosure	5
Woodland	• 18th-20th century woodland plantation • Ancient woodland	251

180. HLC Area 2 is predominantly characterised by 20th century agriculture, with post-medieval enclosures of an 18th and 19th century date also well represented. Other notable character types include woodland, predominantly comprising 18th-20th century woodland plantation and ancient woodland. Character types of potential heritage interest alongside those outlined above include military use in the form of Oulton Airfield (**1341**), Swannington Airfield (**1342**) and Attlebridge Airfield (**1249**), and pre-18th century enclosures (5Ha).

181. The Broadland District Landscape Character Assessment (Broadland District Council 2013) classifies HLC Area 2 as Foulsham and Reepham Plateau Farmland (C1), Blickling and Oulton Wooded Estatelands (E1), Cawston Tributary Farmland (D1), Wensum River Valley (a1), and Weston Green Tributary Farmland (D2).

182. The NHER reflects those character types with the assets recorded, such as those related to the military use of the landscape in the form of the airfields and supporting military infrastructure (e.g., **1239**), alongside the parks (e.g., Honingham Park (**1058**)).

183. Other assets have been found within the character types ranging from the prehistoric period to modern, with a range of monuments and findspots found across the range of character types. It would also appear from the NHER data that there is a correlation with the 20th century agriculture character type and the higher number of assets dating to the prehistoric periods. It could be suggested that the preservation of these assets are better in these character types, or there is a higher volume of these assets known due to the higher number of archaeological investigations that have taken place, such as metal detecting and fieldwalking, in this HLC area.

21.1.4.7.12 HLC Area 3

184. The HLC Area 3 comprises an extent of the study area between the area north of Oulton, between Saxthorpe and Itteringham, to landfall at Weybourne. The HLC of Area 3 is summarised in **Table 21.1.3** below.

Table 21.1.3: HLC of Area 3

Broad Type	Sub-types	Total Combined Area (ha)
18-19th century Enclosure	• Piecemeal enclosure by agreement • Piecemeal style Parliamentary enclosure	483
20th century agriculture	• Boundary loss • Boundary loss – with relict element • 20th century enclosure	1523
Built up areas - historic	• Religious institution	2
Built up areas - modern	• Small farm clusters – less than five • Built up areas – urban development • Streets and rows – linear settlements	9
Coastal – managed wetland	• Unimproved intertidal	28
Commons, wastes, heaths	• Heath	40
Historic Earthwork	• Historic Earthwork	0.4
Horticulture	• Allotment	8
Industry	• Industrial	0.4
Inland - managed wetland	• Enclosed meadow	35
Military	• Disused post-medieval military	15
Miscellaneous	• Stud farm	3
Parks, gardens, recreation	• Informal parkland • Leisure/recreation	31
Water features	• Water reservoir	2
Woodland	• 18th-20th century woodland plantation • Ancient woodland	382

185. HLC Area 3 is predominantly characterised by 20th century agriculture, with post-medieval enclosures of an 18th and 19th century date also well represented. Other notable character types include woodland, predominantly comprising 18th-20th century woodland plantation and ancient woodland (e.g., Sheringham Wood and Bodham Covert). In addition to those outlined above, character types of potential heritage interest include historic built-up areas represented by the religious institutions, and the disused post-medieval military (e.g., Weybourne camp), alongside the historic earthwork of the medieval moated site (**13**).

186. The North Norfolk Landscape Character Assessment (North Norfolk District Council 2018) classifies HLC Area 3 as coastal Shelf, Wooded Glacial Ridge, Tributary Farmland, with intersecting River Valleys.

187. The NHER reflects those character types with the assets recorded, such as those related to the military use of the coastline and of Weybourne, alongside the medieval moated site (**13**) and medieval churches. Other assets found within the character types vary from the prehistoric period to modern, with a range of monuments and findspots found across the different character types, such as multi-period finds (**602**) in an area of 20th century agriculture, and the site of a possible late prehistoric burnt mound and Roman settlement (**429**) in an area of 18th-19th century enclosure.

21.1.4.7.13 HLC Conclusion

188. Overall, the HLC data identifies a distinctly rural landscape, the history of which is mostly related to the period of Enclosure during the 18th to 19th century (piecemeal and parliamentary). There are some links to the earlier history of the landscape, with two areas of historic earthworks associated with Venta Icenorum at Caistor St Edmund (**8**) and the medieval moated site south-west of Weybourne (**13**), as well as a number of surviving historic structures relating to religious buildings.

189. The route of the onshore cable corridor passes through fields of distinctly modern agricultural character, with large fields that have developed since the period of Enclosure, most often amalgamated from smaller fields from the mid-20th century onwards. This predominantly arable landscape has provided an optimal environment for recording buried archaeological features in the form of cropmarks and for retrieving artefacts as evidence of potential buried archaeology.

21.1.5 Discussion

21.1.5.1 Summary of Heritage Potential

190. The archaeological evidence in the 500m and 1km study areas reflects a human presence from the Palaeolithic period to the present day. Finds and sites dating to the prehistoric period suggest that the study area presented an environment suitable for exploitation during the Palaeolithic and Mesolithic period. The archaeological record suggests a prevalence of activities associated with subsistence, reflective of a nomadic existence of a hunter-gatherer lifestyle. Should further remains from this early period exist within the study area, they will most likely comprise artefactual lithic finds.

191. Activity of an increasingly sedentary nature is represented by the archaeological record from the Neolithic period onwards. Should further currently unrecorded heritage assets be discovered to exist within the study area dating from the Neolithic to the Romano-British period, such sites would likely be representative of land-use in association with settlement, subsistence (including farming activities) and spiritual/religious activities. The archaeological record also indicates the presence of military-related activity in the study area from the Romano-British period. As such, the potential for currently unrecorded heritage assets of a military nature dating to this period should not be discounted within the study area.

192. Settlement, agricultural and religious activities continued to dominate the archaeological record within the study area from the Saxon period onwards. These elements of past land-use may thus be represented amongst potential heritage assets that are as yet undiscovered in the study area. In addition to those outlined above, potential heritage assets from the medieval period onwards may also be of a commercial or industrial nature. The growth of a number of trading centres surrounding the study area saw a marked increase in heritage assets associated with industry and production in the archaeological record, an element which intensified in the post-medieval period with the Industrial Revolution. Commercial and industrial expansion drew people to the towns, which in turn, saw an increase in more concentrated settlement patterns in and surrounding various towns along the corridor of the study area. Despite this, agricultural activities continued to be the predominant activity and is likely to be reflected in the potential archaeological record (e.g., in the form of field boundaries).

193. Currently unknown archaeological remains dating to the 20th century in the study area are likely to be predominantly representative of defence measures (e.g., tank traps, anti-aircraft infrastructure, pill boxes that are no longer extant) or may provide direct evidence of hostilities (e.g., bomb craters).

21.1.5.2 Potential for Buried Archaeological Remains

194. The DCO order limits is considered to contain a high potential for the further discovery of buried archaeological sites/features. A large proportion of heritage assets recorded in the NHER relate to cropmark sites, some of which are extensive and complex, indicative of a multi-period buried archaeological landscape dating from earlier prehistoric through to modern periods.

195. Within the landfall location, there is potential for further archaeological discoveries associated with medieval and post-medieval field systems, and WWII coastal defences and military training activity.

196. Key areas along the onshore cable corridor for potential archaeological discoveries include:

- Roman and medieval settlement activity near Itteringham;
- A possible Roman military site east of Southgate;
- Medieval and post-medieval field systems and undated enclosures to the east of Morton on the Hill;
- A possible Bronze Age barrow cemetery and probable Roman enclosures and field systems at the A47 crossing;
- A multi-period site just to the north-west of Great Melton;
- A possible Anglo-Saxon or Medieval settlement near Mannington Estate, and Attlebridge,
- An undated enclosure (possibly Neolithic/Bronze Age) to the west of High Green; and
- Possible line of the Roman road between Caistor St Edmund and Crownthorpe to the west of Ketteringham.

197. Within the onshore substation site, there is the potential for archaeological remains associated with Roman field systems and agricultural activity, as well as medieval settlement activity potentially associated with the medieval village of Gowthorpe to the immediate west.

198. Further areas of archaeological potential may be evidenced as part of other archaeological assessments and surveys, such as the Aerial Photographic, LiDAR and Map Regression Analysis (**Appendix 21.2** and **Appendix 21.3**), the Priority Archaeological Geophysical Survey (**Appendix 21.6**) and the archaeological/geoarchaeological monitoring of Ground Investigation (GI) works (**Appendix 21.7**); these will be discussed within the ES **Chapter 21 Onshore Archaeology and Cultural Heritage**.

21.1.5.3 Previous Impacts

21.1.5.3.9 Buried Archaeology

199. As outlined above, there is a high potential for buried archaeological remains to exist within the study area. However, despite this potential for as yet undiscovered remains, this potential depends partly on the impacts that previous land use may have had in this area.

200. The DCO order limits extends across a rural landscape which has been subject to heavy agricultural use since post-WWII. As such it follows that for the majority of the study area, the predominant form of previous impacts to buried archaeological remains from former and ongoing land use are likely to have arisen/arise as a result of farming activities such as ploughing.

201. Other areas of previous impact are likely to include construction activities associated with modern highways, housing and other infrastructure/services. Prominent routes which transect the study area include, but are not limited to, the A148 at Bodham, the A47 between Easton and Honingham, and the A11 at Hethersett (to the north) and Ketteringham (to the south).

202. Impacts upon the heritage (historic environment) resource arising from other previous developments are also outlined in **Section 21.1.4.6.8** above, as part of a high-level description of previous archaeological events within the study area, which have resulted in the uncovering and discovery of a range of archaeological sites, monuments and find spots, as recorded within the NHER.

21.1.5.3.10 Above Ground Heritage

203. The study area is situated within a largely rural landscape which passes adjacent to a number of urban centres. The historic character of the above ground heritage in the rural setting is predominated by assets relating to previous settlement and farming activities with longevity indicated from at least the medieval/post-medieval period onwards. The historic character of the above ground heritage in the urban centres is predominated by buildings associated with post-medieval expansion, although modern development and 20th and 21st century expansion is likely to have altered the hinterland of many such towns into areas of modern settlement.

204. Previous impacts to above ground heritage assets are likely to be predominated by impact to the setting of heritage assets, as a result of various developments within the study area. On a broad scale, examples include the modern highway development outlined above, although the development of modern infrastructure on a smaller scale (e.g. housing) and sometimes on a larger scale (industrial development/quarrying) may also have had an impact on the setting of various heritage assets within the study area.

21.1.5.4 Potential Development Impacts

205. SEP and DEP have the potential to impact upon the archaeological and cultural heritage (historic environment) resource in a number of ways, through both direct permanent physical changes and indirect non-physical changes to the setting of heritage assets. Some impacts and changes will be temporary and others permanent, some confined to the construction stages and others more permanent during operation and the lifespan of SEP and DEP, and subsequent decommissioning.

206. The potential impacts considered below are a preliminary indication to inform and guide the more formal impact assessment undertaken as part of the ES **Chapter 21: Onshore Archaeology and Cultural Heritage**.

21.1.5.4.9 Potential Impacts During Construction

Direct impact on (permanent change to) buried archaeological remains

207. The extent of any impact will depend on the presence, nature and depth of any such remains, in association with the depth of the proposed construction-related groundworks. Any adverse effects would likely be permanent and irreversible in nature.

Direct impact on (permanent change to) above ground archaeological remains e.g. historic earthworks (including the historic landscape character)

208. The extent of any impact will depend on the presence and nature of any such remains. Any adverse effects may be permanent and irreversible in nature.

Change to the setting of heritage assets (designated and non-designated, including historic landscape character)

209. Would likely occur through the presence of machinery, construction traffic and general construction activities taking place. The sight, noise and smell as well as any dust and vibration created during the construction phase could have an indirect (non-physical) impact upon heritage assets and their settings.

Indirect impact on potential geoarchaeological/palaeoenvironmental remains, potentially indicative of former land surfaces

210. It is possible that elements of the scheme may affect below ground deposits over a wider area than that of the footprint of the infrastructure. For example, through hydrological changes that may cause desiccation and drying out of wetland deposits and associated preserved waterlogged archaeological remains.

21.1.5.4.10 Potential Impacts During Operation

Change to the setting of heritage assets (designated and non-designated)

211. The presence of above ground infrastructure could have an ongoing impact on the setting of heritage assets following completion of construction through into operation and maintenance phase; as a result of the presence of the onshore substation within the landscape and its day to day uses.

21.1.5.4.11 Potential Impacts During Decommissioning

Direct impact on (permanent change to) buried archaeological remains

212. The extent of any impact will depend on the presence, nature and depth of any such remains, in association with the depth of the proposed decommissioning-related groundworks. Any adverse effects would likely be permanent and irreversible in nature.

Change the setting of heritage assets (designated and non-designated)

213. Would likely occur through the presence of machinery, decommissioning traffic and general decommissioning activities taking place within the onshore decommissioning areas. The sight, noise and smell as well as any dust and vibration created during the decommissioning phase could have an indirect (non-physical) impact upon heritage assets and their settings.

21.1.5.4.12 Potential Cumulative Impacts

214. The following potential cumulative impacts have been identified:

- Cumulative Impact on the setting of designated and non-designated heritage assets;
- Cumulative Impact from groundworks on above ground, or buried archaeological remains; and
- Cumulative Impact from groundworks on potential geoarchaeological/palaeoenvironmental remains, potentially indicative of former land surfaces.

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