

Environmental Statement: Volume I

Chapter 13: Cultural Heritage

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13.0 CULTURAL HERITAGE

13.1 Introduction

13.1.1 This Chapter of the Environmental Statement (ES) addresses the potential effects of the Proposed Development on cultural heritage.

13.1.2 This Chapter is supported by Figures 13.1, 13.2 13.3 and 13.4 provided in ES Volume II (Application Document reference 6.3 and by Appendices 13A, B, C, D and E (ES Volume III, Application Document reference 6.4).

13.2 Legislation and Planning Policy Context

Legislative Background

The Ancient Monuments and Archaeological Areas Act 1979

13.2.1 The Ancient Monuments and Archaeological Areas Act 1979 imposes a requirement for Scheduled Monument Consent for any works of demolition, repair, and alteration that might affect a designated Scheduled Monument. For non-designated archaeological assets, protection is afforded through the development management process as established both by the Town and Country Planning Act 1990 and the National Planning Policy Framework (NPPF) (Ref 13-1).

The Planning (Listed Buildings and Conservation Areas) Act 1990

13.2.2 The Planning (Listed Buildings and Conservation Areas) Act 1990 (LBCA Act) sets out the principal statutory provisions that must be considered in the determination of any application affecting listed buildings and conservation areas.

13.2.3 Section 66 of the LBCA Act states that in considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses. By virtue of Section 1(5) of the LBCA Act a listed building includes any object or structure within its curtilage.

13.2.4 Section 72 of the LBCA Act establishes a general duty on a local planning authority or the Secretary of State with respect to any buildings or other land in a conservation area to pay special attention to the desirability of preserving or enhancing the character or appearance of a conservation area.

13.2.5 Any decisions relating to listed buildings and their settings and conservation areas must address the statutory considerations outlined above as well as satisfying the relevant policies within the National Planning Policy Framework and the Local Plan.

Planning Policy Context

Overarching National Policy Statement for Energy (EN-1)

13.2.6 Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 13-2) recognises that the construction, operation and decommissioning of energy infrastructure has the

potential to result in adverse impacts on the historic environment and sets out principles for assessing such impacts.

- 13.2.7 NPS EN-1 states that the historic environment results from the interaction between people and places through time, and includes all surviving physical remains of past human activity. NPS EN-1 Paragraph 5.8.2 defines a heritage asset as an element of the historic environment that is of value to present and future generations because of its historic, archaeological, architectural or artistic interest. The sum of these interests is referred to as its significance.
- 13.2.8 NPS EN-1 Paragraph 5.8.3 recognises that some heritage assets have a level of significance that warrants official designation, including World Heritage Sites, Scheduled Monuments, Protected Wreck Sites, Protected Military Remains, Listed Buildings, Registered Parks and Gardens, Registered Battlefields and Conservation Areas. NPS EN-1 also recognises that there are non-designated heritage assets that are demonstrably of equivalent significance to scheduled monuments, and if the evidence suggests that such an asset may be affected by the proposed development, it should be considered subject to the policies for designated heritage assets (paragraph 5.8.5).
- 13.2.9 NPS EN-1 Paragraph 5.8.6 states that impacts on other non-designated heritage assets should be considered on the basis of clear evidence that they have a heritage significance that merits such consideration, even though the assets are of lesser value than designated heritage assets.
- 13.2.10 NPS EN-1 Paragraph 5.8.8 states that, as part of its assessment, the applicant should provide a description of the significance of the heritage assets affected by the development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential on the heritage asset. As a minimum, the applicant should consult the relevant Historic Environment Record (HER).
- 13.2.11 Where a development site includes, or has the potential to include, heritage assets of archaeological interest, the applicant should carry out a desk-based assessment and if necessary a field evaluation in order to properly assess the interest (NPS EN-1 Paragraph 5.8.9). Ultimately, the applicant should ensure that the extent of the impact of the proposed development on the heritage assets can be adequately understood from the application and supporting documents (NPS EN-1 Paragraph 5.8.10).
- 13.2.12 NPS EN-1 states that the significance and value of heritage assets should be taken into account when considering the impact of a proposed development. The desirability of sustaining or enhancing the significance of heritage assets should also be taken into account, along with the desirability of new development making a positive contribution to the character and distinctiveness of the historic environment. NPS EN-1 Paragraph 5.8.14 states there should be a presumption in favour of the conservation of designated heritage assets, and loss of significance to any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building park or garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments; registered battlefields; grade I and II* listed buildings; grade I and II* registered parks and gardens; and World Heritage Sites, should be wholly exceptional. Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development (NPS Paragraph 5.8.15).

13.2.13 NPS Paragraph 5.8.20 recognises that where loss is justified, based on the merits of the development, the developer should be required to record and advance understanding of the heritage asset before it is lost. Where appropriate, such work will be carried out in accordance with a written scheme of investigation that has been agreed in writing with the local authority (NPS Paragraph 5.8.21).

National Planning Policy Framework (NPPF)

13.2.14 The NPPF (Ref 13.3) sets out the Government's planning policies for England and how these should be applied to contribute to the achievement of sustainable development. The NPPF requires plans, both strategic and non-strategic to make provision for the conservation and enhancement of the built and historic environment (Paragraphs 20d and 28). Section 16 of the NPPF sets out a series of policies that are a material consideration to be taken into account in development management decisions in relation to the heritage consent regimes established in the Ancient Monuments and Archaeological Areas Act 1979 and the LBCA Act.

13.2.15 The NPPF sets out the importance of being able to assess the significance of heritage assets that may be affected by a development proposal. Significance is defined in Annex 2 as the value of an asset because of its heritage interest. This interest may be archaeological, architectural, artistic or historic and can extend to its setting. The setting of a heritage asset is defined in Annex 2 as; "*the surroundings in which a heritage asset is experienced*". In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance (paragraph 189). Similarly, there is a requirement on local planning authorities to identify and assess the particular significance of any heritage asset that may be affected by a proposal; and that they should take this assessment into account when considering the impact of a proposal on a heritage asset (paragraph 190).

13.2.16 In determining planning applications, local planning authorities should take account of the following three points:

- The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- The desirability of new development making a positive contribution to local character and distinctiveness (paragraph 192).

13.2.17 Paragraphs 193 to 196 of the NPPF introduce the concept that heritage assets can be harmed or lost through alteration or destruction or development within their setting. This harm ranges from less than substantial through to substantial. With regard to designated assets, paragraph 193 states that great weight should be given to an asset's conservation and the more important the asset, the greater the weight should be. Distinction is drawn between those assets of exceptional interest (e.g. grade I and grade II* listed buildings), and those of special interest (e.g. grade II listed buildings). Any harm or loss of heritage significance requires clear and convincing justification, and substantial harm or loss should be wholly exceptional with regard to those assets of greatest interest (paragraph 194).

13.2.18 In instances where development would cause substantial harm to or total loss of significance of a designated asset consent should be refused unless that harm or loss is 'necessary to achieve substantial public benefits that outweigh that harm or loss' (para 195). In instances where development would cause less than substantial harm to the significance of a designated asset the harm should be weighed against the public benefits of the proposal including its optimum viable use (paragraph 196). In relation to non-designated assets a balanced judgment is required taking into account the scale of harm or loss and the significance of the asset (paragraph 197). Distinction is made between those non-designated assets of archaeological interest which are demonstrably of equivalent significance to scheduled monuments they should be considered against policies for designated heritage assets (footnote 63).

13.2.19 Guidance on the application of heritage policy within the NPPF is provided by on-line Planning Practice Guidance and best practice advice is provided by a series of Historic England Advice notes.

Planning Practice Guidance (PPG)

13.2.20 The PPG (Ref 13-3) provides further advice on enhancing and conserving the historic environment. The advice in this document expands on the guidance and policy outlined in the NPPF.

13.2.21 Paragraph 003 of the PPG states that where changes are proposed, the NPPF sets out a clear framework for both plan-making and decision taking to ensure that heritage assets are conserved, and where appropriate enhanced, in a manner that is consistent with their significance and thereby achieving sustainable development (ID 18a-003-20140306 Last updated 06 03 2014).

13.2.22 Significance of heritage assets and its importance in decision taking is explored in Paragraph 009 of the PPG which states that heritage assets may be affected by direct physical change or by change in their setting. Being able to properly assess the nature, extent and importance of the significance of a heritage asset, and the contribution of its setting, is very important to understanding the potential impact and acceptability of development proposals (ID 18a-009-20140306, last updated 06 03 2014).

13.2.23 The setting of the heritage asset is also of importance and a thorough assessment of the impact on setting needs to take into account, and be proportionate to, the significance of the heritage asset under consideration and the degree to which the proposed changes enhance or detract from that significance and the ability to appreciate it. The extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, the way in which an asset is experienced in its setting is also influenced by other environmental factors such as noise, dust and vibration from other land uses in the vicinity, and by our understanding of the historic relationship between places.

13.2.24 Paragraph 013 of the PPG recognises that the contribution that setting makes to the significance of the heritage asset does not depend on there being public right or the ability to experience that setting. When assessing any application for development which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change (ID 18a-013-20140306 Last updated 06 03 2014).

Local Planning Policy

- 13.2.25 Policy CS6 (Historic Environment) of the North Lincolnshire Core Strategy states that the council will promote the effective management of North Lincolnshire's historic assets through preserving and enhancing the rich archaeological heritage of North Lincolnshire.
- 13.2.26 The North Lincolnshire Local Plan (Ref 13-4) has three saved policies relating to heritage. These are as follows:
- HE2 Development in Conservation Areas: All development proposals in or which affect the setting of conservation areas should preserve or enhance the character and appearance of the area and its setting. Development should harmonise with adjoining buildings and should not spoil or destroy attractive views and vistas into, within and out of the conservation area;
 - HE5 Developments affecting listed buildings: Retain the historic setting of listed buildings. Proposals which damage the setting of a listed building will be resisted. The setting of a building of special architectural or historic interest often contributes to its character. The setting could be its garden, grounds, open space or the general street scene; and
 - HE8 Ancient Monuments: Development that would result in adverse effect on Scheduled Monuments or their setting will not be permitted. Archaeological remains are a finite and non-renewable resource. They contain irreplaceable information about the past and are highly vulnerable to damage and destruction.

Other Guidance

Historic England Good Practice Advice Notes

- 13.2.27 Historic England have published a series of Good Practice Advice (GPA) of which those of most relevance to this appraisal are GPA2 Managing Significance in Decision-taking (March 2015) and GPA3 The Setting of Heritage Assets (2017) (Ref 13-5 & 13-6).
- 13.2.28 GPA2 emphasises the importance of having a knowledge and understanding of the significance of heritage assets likely to be affected by the development and that the 'first step for all applicants is to understand the significance of any affected heritage asset and, if relevant the contribution of its setting to its significance' (para 4). Early knowledge of this information is also useful to a local planning authority in pre-application engagement with an applicant and ultimately in decision making (para 7).
- 13.2.29 GPA3 has been written to address the complexities associated with making decisions associated with the setting of heritage assets. The document describes the key terms of curtilage, character and context and explains the extent of setting and that it is not fixed and changes depending on the asset. The document also highlights the importance of views to the understanding of setting and states which views could contribute to understanding the significance of a heritage asset. It then offers a staged approach to proportional decision-taking. Elements of a setting can make positive or negative contributions to the significance of an asset and affect the ways in which it is experienced. Historic England state that setting does not have a boundary and what comprises an asset's setting may change as the asset and its surrounding evolve. Setting can be extensive and particularly in urban areas or extensive landscapes can overlap with other assets.

13.2.30 The relationship between setting and significance is set out in a series of bullets in GPA3 that cover change, the appreciation of setting and the setting of buried assets. Setting and significance are not dependent upon public access. Designed settings such as those associated with a historic park can be extensive and project beyond the core elements of the asset. Development within the setting of an asset can be beneficial; it can also be harmful and therefore needs careful assessment.

13.2.31 Historic England advocates a stepped approach to assessment:

- Stage 1: identify which heritage assets and their settings are affected;
- Stage 2: Assess the degree to which these settings and views make a contribution to the significance of the heritage asset or allow significance to be appreciated;
- Stage 3: Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it;
- Stage 4: Explore ways to maximise enhancement and avoid or minimise harm; and
- Stage 5: Make and document the decision and monitor outcome.

Chartered Institute for Archaeologists

13.2.32 The baseline study has been undertaken in accordance with guidance published by the Chartered Institute for Archaeologists (CIfA), specifically the standard and guidance for historic environment desk-based assessment (Ref 13-7).

13.3 Assessment Methodology

13.3.1 This section presents the following:

- The methodology behind the baseline assessment including the definition of an appropriate study area;
- The methodology and terminology used in the assessment of effects; and
- Identification of the information sources that have been consulted throughout preparation of this Chapter.

Impact Assessment and Significance Criteria

13.3.2 The significance (heritage value) of a heritage asset is derived from its heritage interest which may be archaeological, architectural, artistic or historic. The significance of a place is defined by the sum of its heritage values. Taking these criteria into account, each identified heritage asset can be assigned a level of significance (heritage value) in accordance with the criteria set out in Table 13.1.

Table 13.1: Criteria for Determining the Significance (Heritage Value) of Heritage Assets

Significance (heritage value)	Criteria
High	Assets of international importance, such as World Heritage Sites Grade I and II* listed buildings Grade I and II* registered historic parks and gardens Registered battlefields

Significance (heritage value)	Criteria
	Scheduled monuments Non-designated archaeological assets of schedulable quality and importance
Medium	Grade II listed buildings Grade II listed registered historic parks and gardens Conservation areas Locally listed buildings included within a conservation area Non-designated heritage assets of a regional resource value
Low	Non-designated heritage assets of a local resource value as identified through consultation Locally listed buildings Non-designated heritage assets whose heritage values are compromised by poor preservation or damaged so that too little remains to justify inclusion into a higher grade

- 13.3.3 When professional judgement is considered, some sites may not fit into the specified category presented in Table 13.1 above. Each heritage asset is assessed on an individual basis and takes into account regional variations and individual qualities of sites.
- 13.3.4 Having identified the significance of the heritage asset, the next stage in the assessment is to identify the level and degree of impact to an asset arising from the Proposed Development. Potential impacts are defined as a change resulting from the Proposed Development which affects a heritage asset. The impacts of a development upon heritage assets can be positive or negative; direct or indirect; long term or temporary and/or cumulative. Impacts may arise during construction, operation or decommissioning and can be temporary or permanent. Impacts can occur to the physical fabric of the asset or affect its setting.
- 13.3.5 The level and degree of impact (impact rating) is assigned by reference to a four level scale as set out in Table 13.2 below. The level of impact takes into account mitigation measures which have been embedded within the Proposed Development as part of the design development process (embedded mitigation).

Table 13.2: Criteria for Determining the Magnitude of Impact on Heritage Assets

Magnitude of impact	Description of impact
High	Change such that the significance of the asset is totally altered or destroyed. Comprehensive change to setting affecting significance, resulting in a serious loss in our ability to understand and appreciate the asset.
Medium	Change such that the significance of the asset is affected. Noticeably different change to setting affecting significance, resulting in erosion in our ability to understand and appreciate the asset.
Low	Change such that the significance of the asset is slightly affected. Slight change to setting affecting significance resulting in a change in our ability to understand and appreciate the asset.
Minimal	Changes to the asset that hardly affect significance. Minimal change to the setting of an asset that have little effect on significance resulting in no real

Magnitude of impact	Description of impact
	change in our ability to understand and appreciate the asset.

13.3.6 An assessment to classify the effect, having taken into consideration any embedded mitigation, is determined using the matrix at Table 13.3 below, which takes account of the significance (heritage value) of the asset (Table 13.1) and the magnitude of impact (Table 13.2). Effects can be neutral, adverse or beneficial.

Table 13.3: Classification of Effects

Significance (heritage value)	Magnitude of impact			
	High	Medium	Low	Minimal
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible

13.3.7 This Chapter considers that major or moderate effects are significant for the purposes of the EIA Regulations, in accordance with standard EIA practice.

13.3.8 Within the NPS and the NPPF, impacts affecting the significance (value) of heritage assets are considered in terms of harm and there is a requirement to determine whether the level of harm amounts to ‘substantial harm’ or ‘less than substantial harm’.

13.3.9 There is no direct correlation between the significance of effect, as reported in this ES, and the level of harm caused to heritage significance. A major significant effect on a heritage asset would, however, more often be the basis by which to determine that the level of harm to the significance of the asset would be substantial. A moderate significant effect is unlikely to meet the test of substantial harm and would therefore more often be the basis by which to determine that the level of harm to the significance of the asset would be less than substantial. A negligible harm would still amount to a less than substantial harm, which triggers the statutory presumptions against development within sections 66 and 72 of the LBCA Act. In all cases, determining the level of harm to the significance of the asset arising from the Proposed Development is one of professional judgement.

13.3.10 It should be noted that paragraph 199 of the NPPF says that the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted. Accordingly, whilst it is noted that there is potential to uncover remains of our past and generate records through the Proposed Development, the benefit or otherwise of this has not been considered as a factor that either mitigates or reduces any identified harm. Similarly, it has not been treated as a benefit of the Proposed Development.

Extent of Study Area

13.3.11 For designated heritage assets (listed buildings, scheduled monuments, world heritage sites, conservation areas, registered parks and gardens, registered battlefields), a study area of 3 km was used from the Site boundary. The extent of the 3 km study area was informed by a site visit and allowed the identification of heritage assets which could

potentially be impacted upon by visual intrusion, interruption of a designed view or landscape, or have an effect on their setting. As such, the Zone of Theoretical Visibility (ZTV) prepared for the landscape and visual impact assessment presented in Chapter 10 Landscape and Visual Amenity and Figure 10.3 and 10.4 (ES Volume II, Application Document Ref. 6.3) was used to inform the definition of the study area. Additional assets outside of this 3km area were also considered following consultation with Historic England.

- 13.3.12 For non-designated heritage assets (archaeological sites, find spots, locally listed buildings), a study area of 1 km was used to obtain data from North East Lincolnshire Historic Environment Record (HER) and the Historic England Archives. This distance was adopted to ensure that only relevant sites which had the potential to be impacted by the Proposed Development were considered.
- 13.3.13 The extent of both study areas was set out in the Scoping Report (ES Volume III Appendix 1A (Application Document Ref. 6.4)).

Sources of Information/Data

- 13.3.14 Information and data has been gathered from a number of sources including:
- Historic England Archive for records within the National Record of the Historic Environment;
 - National Heritage List for England;
 - National Mapping Programme;
 - British Geological Survey website;
 - Ordnance Survey historic mapping data;
 - Local Authority HER (North Lincolnshire); and
 - Online sources.
- 13.3.15 The designated heritage assets within this assessment are identified with their National Heritage List for England (NHLE) reference number. The non-designated heritage assets are identified with the HER number. All heritage assets are referenced in bold and tabulated in Appendix 13A, Appendix 13B and Appendix 13C (Application Document Ref. 6.4).

13.4 Consultation

- 13.4.1 A summary of consultation undertaken to date in the preparation of this assessment is set out in Table 13.4 below.

Table 13.4: Consultation Summary Table

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
The Planning Inspectorate	July 2018 Scoping Opinion	<p>The ZTV should be extended to include cultural heritage assets in Brocklesby Park such as the Grade I listed Mausoleum and its setting.</p> <p>The Proposed Development site and laydown area within Immingham CHP to the south contains archaeological remains identified during previous investigations and should be taken into account.</p> <p>Take into account Historic England's guidance "Preserving Archaeological Remains"</p>	<p>The ZTV extends to 10km, therefore including Brocklesby Park.</p> <p>Refer to Chapter 10: Landscape and Visual</p> <p>These have been considered within the assessment.</p> <p>Any archaeological remains subsequently uncovered will be treated in accordance with established guidance.</p>
Alison Williams, North Lincolnshire Council HER	26/06/2018 Scoping Opinion	<p>The proposed development has the potential for direct and indirect effects on designated and non-designated heritage assets and their settings; the site and laydown area within Immingham CHP to the south contain archaeological remains identified during previous investigation</p>	<p>The impact and effects of the Proposed Development has been assessed against the designated and non-designated heritage assets within the Chapter.</p>
West Lindsey District Council	02/07/2018 Scoping Opinion	<p>The historic park and garden at Brocklesby and the listed buildings located within Brocklesby Park should be considered. The Mausoleum is a Grade I listed building and elevated on a mound and are views of the park from it which are important. The Pelhams Pillar at Cabourne High Wood is over 39 metres tall on a hill and has views to the Humber.</p>	<p>The designated heritage assets at Brocklesby Park are not located within the study area and are located over 5km from the Site. The assets have been assessed as not being impacted or affected by the Proposed Development. Refer to Chapter 10: Landscape and Visual</p> <p>The Pelhams Pillar is considered as part of the assessment presented in Refer to Chapter 10: Landscape and Visual</p>

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
Historic England	04/07/2018 Scoping Opinion	<p>There is potential for environmental effects in respect of the historic environment, so such issues should be scoped in.</p> <p>The setting of impacts on designated heritage assets should be assessed in a robust manner further to that set out in Historic Environment Good Practice Advice Note 3 Setting of Heritage Assets. This should focus on additional breadth to arrays of industrial features visible in key views/ to assets or the position of the new installation in such views (for instance down the central axis of the ruins of Thornton Abbey Church) along with views from water to land and land to water.</p> <p>A structured and science-based approach to archaeological deposit modelling and preservation assessment should be developed in line with Historic England published specialist advice.</p>	<p>Visibility has been assessed as part of the Landscape and Visual Impact Assessment (ES Chapter 10).</p> <p>A photomontage and wireframe has been produced (included with ES as Appendix 10D 'Photomontages - Viewpoint K') demonstrating that no part of the Proposed Development will be visible from the Abbey and this has therefore been excluded from further assessment.</p> <p>A framework programme of archaeological works is in the process of being agreed with the County Archaeologist.</p> <p>Consideration to the use of a deposit model will be given through the development of a Written Scheme of Investigation ('WSI'), which will be developed based on an outline submitted with the DCO application.</p>
Alison Williams, North Lincolnshire Council HER	26/11/18 PEIR	<p>Baseline evidence is lacking important data relating to the significance of the Roman-British settlement preserved in situ within the proposed construction laydown area and pipeline route 2 to the west of Rosper Road.</p> <p>There is insufficient information regarding the known and potential archaeological remains within this zone, including south of VPI Immingham CHP.</p> <p>Further evaluation is required to inform the application, the EIA and the decision-making process in line with national and local planning policy.</p> <p>The archaeological mitigation measures proposed are inadequate; a programme of archaeological strip, map and record prior to advance of groundworks is required.</p> <p>Mitigation for the construction laydown and pipeline route 2 will require further assessment and evaluation.</p>	<p>The Historic Environment Record ('HER') for the site supports the statement about the Roman British Settlement in paragraph 13.7.9 (ES Chapter 13) that the site had been excavated and removed.</p> <p>HER records have been interrogated and the information is sufficient to allow the identification and assessment of potential impacts.</p> <p>Further evaluation is proposed as part of the groundworks, but will not take place in advance of them, to avoid requirement for archaeological investigation.</p> <p>New Gas Pipeline Route 2 has now been discounted.</p>

13.5 Changes Since the Preliminary Environmental Information (PEI) Report

13.5.1 The changes in the Proposed Development since the publication of the PEI Report are presented in Chapter 4: Proposed Development. These changes include the removal of the new proposed above ground installation to the south of the Existing VPI CHP Site as well as the construction laydown in that area. As a result, no impacts to heritage assets in that area are now predicted.

13.5.2 In addition, the gas pipeline routes to the east and west of the VPI CHP plant are no longer proposed, so there are no implications for heritage assets as a result of groundworks in those locations..

13.6 Use of the Rochdale Envelope

13.6.1 A focussed use of the Rochdale Envelope approach has been adopted to present a worst case assessment of potential environmental effects of the different parameters of the Proposed Development that cannot yet be fixed. The parameters included within the Rochdale Envelope are described in Chapter 4: Proposed Development.

13.6.2 Changes within the parameters described are not considered to have any effect on this assessment.

13.7 Baseline Conditions

Existing Baseline

13.7.1 The assessment of existing baseline conditions identified 58 heritage assets recorded from the North Lincolnshire HER within the 1km study area. Within the 3km study area, there are 15 listed buildings and three scheduled monuments. There are no World Heritage Sites, registered parks and gardens, registered battlefields or Conservation Areas recorded in the study area.

13.7.2 The bracketed numbers in the text are listed in Appendices 13A, 13B and 13C (ES Volume and shown on Figures 13.1 and 13.2.

Designated Heritage Assets

13.7.3 There are a total of 15 designated heritage assets within the 3km study area. There are three scheduled monuments, discussed in paragraphs 9.4.15 to 9.4.17 above. There are also three Grade I, one Grade II*, and 11 Grade II listed buildings. Appendix 13A (ES Volume III, Application Document Ref. 6.4) discusses those assets identified within the study area, their setting and significance.

13.7.4 A selection exercise was carried out on all of the identified listed buildings. This established the significance of the assets, including their setting. On the basis of this selection exercise, only those listed buildings located to the east of the Site are assessed further. It was determined that the Proposed Development would not result in any impacts on the remaining assets either as a result of being screened by other developments in the area. These buildings are not assessed any further, but are listed within Appendix 13A and Appendix 13B (ES Volume III, Application Document Ref. 6.4). Those assets which have the potential to be impacted by the Proposed Development are discussed below.

Killingholme South Low Lighthouse (NHLE 1215093), Killingholme North Low Lighthouse (NHLE 1103707) and Killingholme High Lighthouse (NHLE 1103706)

13.7.5 Killingholme South Low Lighthouse is a Grade II listed building. It was constructed in 1836 and is 4 storeys in height. It is built of brick which has been rendered and coloured, increasing its visibility. The top floor has a projecting balcony with domed roof above. The windows face towards the estuary. The former light keeper's cottage was located at the base of the lighthouse, but only the chimney survives, rising to the height of the dome.

- 13.7.6 Killingholme North Low Lighthouse is a Grade II listed building and was built in 1851 by William Foale. It comprises a lighthouse and adjoining lighthouse keeper's cottage. This is the most northern lighthouse within the group of three lighthouses and is the only one that still has the light keeper's cottage. It is 4 storeys, constructed from brick, rendered and whitewashed. The lighthouse has a splayed tower and roof with ribbed dome and scalloped eaves. The adjacent house is to the south and of two storeys in whitewashed brick.
- 13.7.7 Killingholme High Lighthouses is a Grade II listed building, it was originally built in 1831 but was reconstructed in 1876 after the original lighthouse was struck by lightning. It is built of brick and render and is 6 storeys in height (approximately 30 metres tall). It has a projecting balcony to the top floor with iron railings. The roof is a ribbed dome with scalloped eaves.
- 13.7.8 The original function of the lighthouses was to direct boats using the Humber estuary. As such they are a significant landmark feature. All are of independent architectural and historic interest; however, their significance is increased when viewed as a group. With the exception of Killington North Low Lighthouse, the structures are still used as navigational aids, alongside their counterparts to the north of the estuary; therefore, their setting is intrinsically linked to the waterway. Their visibility from inland is secondary and limited due to industrial developments, including the existing oil refineries.

Non-designated Heritage Assets

Early Prehistoric (to 800BC)

- 13.7.9 There are 11 assets of prehistoric date, dating from the Palaeolithic (to 10,000BC) to the Bronze Age (2,500 – 800BC), recorded within the study area. The earliest recorded asset was Mesolithic (10,000 – 4,000BC) organic remains recorded from peat deposits identified from a borehole (A50). They dated to the mid-5th millennium BC, and subsequent pollen analysis revealed various plant and tree species. Six of the assets consist of individual finds and scatters of flint, including scrapers, cores and flakes (A4; A5; A7; A31; A48), as well as a fragment of a Neolithic (4,000 – 2,500BC) polished stone axe (A42). In addition to these, features have been recorded, including a pit (A39), and ditches with charcoal evidence (A32; A33) all discovered during archaeological evaluation. A further linear feature and enclosure was recorded from cropmarks (A1). Prehistoric land surfaces were also identified from boreholes to the east of the site, during palaeoenvironmental assessment at Able Marine Energy Park (Ref 13-17).
- 13.7.10 The area around the Humber has been the subject of investigation into the prehistoric environment due to periods of glaciation during the Palaeolithic which saw sea levels fall and Britain become attached to mainland Europe. Organic remains from the Humber have been recorded, and these date to the Palaeolithic and Mesolithic periods. Evidence includes seeds and small shells, which have suggested the land was previously under marshy conditions.
- 13.7.11 Three early/middle Bronze Age planked boats, dated to between 2,020BC and 1,680BC, have also been discovered on the north bank of the Humber at Ferriby. The boats were made of oak planks tied together with yew withies and measured 16m long. This demonstrates the exploitation of the waterways as far back as the prehistoric period.

Iron Age/ Roman (800BC – AD410)

- 13.7.12 The Iron Age (800BC – AD43) has been combined with the Roman (AD43- 410) period for this baseline as there are a number of assets dated to these two periods. Three assets are dated exclusively to the Iron Age and comprise ditches and sub-rectangular features recorded as cropmarks (A15), and ditches found to contain Iron Age pottery (A17; A41). Evaluation in the site boundary of the Proposed Development, and to the north, was undertaken in 2006 by Archaeological Project Services (Ref 13-8). This suggested the area was used for agricultural purposes during the Iron Age, as environmental samples recorded a lack of occupational debris.
- 13.7.13 The area around the Site has significant evidence of Iron Age/ Roman industry. There are five assets dated to the late Iron Age and Roman, three of which are settlements. The first is located on the site of the Existing VPI CHP Plant, and contained evidence of an early Iron Age settlement and a late Iron Age/ Roman settlement (A6). The earliest phase of the Site, dating from the early to mid-Iron Age consisted of two conjoined rectangular enclosures. Within the eastern of these was evidence of salt production and structures comprising a possible roundhouse and a post-hole structure. In addition, a boundary ditch aligned West-North-West/East-South-East was recorded at the southern end of the site. A roundhouse was located to the north, defined by two ditch features. A further roundhouse was also located in the north-western corner of the site. Later evidence from the Roman period highlighted continued occupation of the site with further enclosures recorded and finds including charred grain and oyster shells. Other finds comprised 2nd to 4th century AD pottery and evidence of iron and salt production, with remains of briquetage fragments and ceramic trays located. The site was modified in the 3rd-4th centuries with additional enclosures recorded, and by the end of this phase, the site had been effectively abandoned (Ref 13-14). Within the Proposed Development boundary, one evaluation trench was excavated across features identified from geophysical survey, which revealed an enclosure ditch, other ditches and pits of Iron Age to Romano-British date. Not all of this enclosure was excavated and archaeological remains survive in this area. Further archaeological observation, investigation and recording revealed no further remains (Ref 13-15).
- 13.7.14 The second settlement (A35) is recorded to the north of Station Road and approximately 1.2km north of the Existing VPI CHP plant. The settlement was recorded through geophysical survey and a number of ditches and enclosures were identified as well as possible hearths or kilns. A third settlement (A34), located to the north of Humber Road and south-east of the previous two sites with evidence of salt making and iron smelting near the settlement. Two additional assets include cropmarks of a rectilinear enclosure and a small L-shaped feature (A10), which has been at least partially destroyed by the oil refinery at South Killingholme, and ditches identified through archaeological trial trenching with evidence of both Iron Age and early Roman pottery (A37).
- 13.7.15 There are six assets of Roman date recorded in the study area, four of which are finds of greyware pottery sherds (A2; A8; A9; A18). There are also two records of ditches. The first comprised evidence of a possible enclosure with early Roman pottery recorded (A36) and the other, to the north of Marsh Lane (A49), with 2nd-3rd and 4th century AD pottery, both recorded through archaeological trial trenching, the latter of which was also recorded within numerous ditch features (Ref 13-16).
- 13.7.16 There is evidence of the Roman influence throughout the county of Lincolnshire, with numerous settlements and roads identified. Ermine Street, which ran from London to York, crossed north south through Lincolnshire to Winteringham on the Humber, located

to the north west of the Proposed Development, where a ferry crossing to Brough on the north bank was located. One smaller road, High Street, was located closer to the Proposed Development and ran from Horncastle to South Ferriby, in a general north-west to south-east direction. There was thought to be another ferry crossing at South Ferriby, further highlighting the significance of the river throughout the period and how it was used (Ref 13-9).

Early Medieval – Medieval (AD410 – 1500)

- 13.7.17 The place-names of Immingham and Killingholme have Anglo-Saxon origins. Killingholme was referred to in the Domesday Survey 1086 as 'Cheluinggeholm' and was in the Wapentake of Yarborough. Killingholme and nearby Immingham date back to at least the latter part of the early medieval period as they were in the control of lords prior to the Norman Conquest – Alwin in Immingham and Fulcric in Killingholme, both recorded in the Domesday Book, 1086. (Ref 13-10) Immingham was controlled by William of Percy, and consisted of a population of 39 with eight plough lands. Killingholme in comparison was much smaller, the lord was recorded as Norman of Arcy and contained three freemen and two plough lands. Larger settlements have also been recorded in the vicinity of the site at Goxhill, Barton upon Humber and South Ferriby in the Domesday Book, all located to the north west of the Site. The populations range from 70 and 91 households at South Ferriby and Goxhill, to 196 households in Barton upon Humber.
- 13.7.18 There are no assets of early medieval (AD410-1066) date recorded within the study area, and four of medieval (AD1066-1500) date. There are two areas of ridge and furrow recorded (A11; A13). The first of these was aligned north-east to south-west and the other was aligned north to south; both were identified through geophysical survey (Ref 13-18). Within the study area is also a hedgerow (A14), recorded on enclosure maps, which formed the historic boundary between North and South Killingholme. A ditch (A19), measuring 1m wide and 0.15m deep, containing a Toynton ware pottery sherd has also been identified to the west of Rosper Road.
- 13.7.19 There are three scheduled monuments recorded outside of the 1km study area, but within the 3km study area. These consist of three moated sites. These sites would have had contained high status domestic dwellings from the 11th and 12th centuries and would have resulted in the land being managed as a feudal system. The first is at Manor Farm (1008044) and is located approximately 1.9km west north-west from the western edge of the Proposed Development. The site includes two moats, a smaller one located in the north-west corner of the larger. The larger moat measures c.240m east to west and 180m north to south. The northern arm of the moat remains water-filled and is 10m wide and at least 2m deep. The smaller moat island measure 50m square, with the moat 10m wide by 2m deep. In the centre of the island of the larger moat is Manor Farm. This is thought to have originally been used as a high status domestic dwelling.
- 13.7.20 The second site is at Baysgarth Farm, located approximately 2.5km north-west of the Proposed Development. The site includes a large sub-rectangular moated site, with a central island measuring 150m by 80m and a moat 10m wide by 2m deep; a second smaller moated enclosure, the island of which measures 60m by 50m; and other associated earthworks.
- 13.7.21 The third scheduled monument is North Garth moated site (1007815), located approximately 2.2km north-west of the Proposed Development. The site includes a series of dry ditches enclosing a main moated site and associated enclosures. The island of the main site measures 40m by 20m, enclosed by a 6m wide and 1-1.5m deep moat.

13.7.22 The 14th century Thornton Abbey is located approximately 4.6km north-west of the Site. The abbey consists of a late 14th century gatehouse and barbican of the Augustinian monastery, an outer precinct with the remains of associated buildings and features. The views from the abbey have been discounted due to a lack of visibility towards the Site from Thornton Abbey (see Appendix 10D, ES Volume III). There are no views of the Proposed Development anticipated from the Abbey.

Post-Medieval (AD1500 – 1900)

13.7.23 There are 11 archaeological assets of post-medieval date recorded within the study area. These exclude the listed buildings discussed above. There are two historically important hedgerows in North and South Killingholme (A20; A21), thought to pre date 1840, and a cropmark representing a previous field boundary (A23) which was shown on 1887 OS map. The remaining eight assets are sites of 19th century farmsteads (A29; A51; A52; A53; A54; A55; A56; A58) that were recorded on the 1887 OS map. Most of the farmsteads comprise a regular courtyard with associated outbuildings, and are now demolished.

13.7.24 The area of, and around, the Proposed Development was dominated by agricultural fields during this period with farmsteads dispersed across the landscape, which is recorded on the historical mapping. Between the fields were open areas of pasture which were considered to be too wet to farm. Fields were enclosed around the area following the Enclosure Act of 1776 and the wet land was drained and split into smaller fields for farming (Ref 13-11).

13.7.25 The villages of North and South Killingholme are recorded as a small number of buildings around a central road on the 1887 OS map. The tithe apportionments for the land within the study area, recorded in 1841 (Immingham tithe apportionment), reveal that the majority of the land was made up of arable farmland, divided into allotments, and marshes, much of which was owned by Lord Yarborough during the later post-medieval period and into the 20th century. In addition to farming, brickworks and boat building were notable industries, with various boatyards and brickyards along the Humber. Brickyards were constructed across the area from Burton Stather to Killingholme in the 19th century, and supplied bricks for London and West Yorkshire (Ref 13-12).

13.7.26 Three lighthouses were constructed on the edge of the Humber River in the mid-19th century. Killingholme North Low Lighthouse, Killingholme High Lighthouse and Killingholme South Low Lighthouse were built to provide navigation for ships sailing along the river.

13.7.27 During the 19th century, the area surrounding the Site was rural and undeveloped. Rectilinear field patterns are evident and typical of enclosure within the 19th century. The area contains isolated farms, the 1886 OS map shows Cawber Farm on East Middle Mere Road to the west of the Site, Marsh Farm to the east and a property called Woodlands to the north-west. There are long straight roads which link the nucleated settlements and ditches which are indicative of marshland, the historic map shows Killingworth Marshes to the east of the Site.

Modern (AD1900 – present)

13.7.28 The area around the Site remained largely undeveloped until the early 20th century, including Immingham which had remained as a village until this point, with the historic core of the village clustered around the Church of St. Andrew. The Humber Commercial Railway and Dock Act 1901 saw the construction of Immingham Docks which resulted in

the construction of the deep water port of Immingham in 1913. The dock consisted of a 45 acre dock basin and chosen as it was a deep water port, as opposed to the shallower entrances at sites such as Grimsby. The dock also contained a number of associated structures, including offices, railways comprising a dock railway, three light railways and an electric railway, and 170 miles of sidings.

- 13.7.29 Further development in the area at this time was funded by the Great Central Railway Company and included the construction of the railway lines of Goxhill and Immingham Line to the east and the Ulceby and Immingham Line to the south. Killingholme Station was created on the Goxhill and Immingham line. These railway lines provided routes for transporting goods and dock workers. The 1929 OS map shows the new railway lines and new buildings appearing along Rosper Road. New buildings included the Mission Room and Killingholme School located to the south-east of the Site.
- 13.7.30 Killingholme was also the site of a Royal Navy Air services station, opened in 1914, which used a timber slipway for launching sea planes into the river during the First World War (Ref 13-13). During World War I and World War II, Immingham Docks were used as a base for submarines and ships. Additional structures were built around the docks for this new use and included an anchorage site, observation position and air raid shelter.
- 13.7.31 The area continued to be used for the chemical and petroleum industries following the wars and gradually developed and expanded. The OS maps from the 1960s show the oil refinery developing with a depot and raised circular features to the east of the Site and towards the lighthouses. The 1974 OS map shows the Killingholme Oil Refinery to the west of Rosper Road and the construction of a new railway line from the Ulceby and Immingham line to the south. The development of the oil refinery resulted in the demolition of Cawber Farm to the west and East Middle Mere Road was built over. Development of large and tall structures, such as tanks and flare stacks, which are highly visible in the flat landscape, were first constructed at this time. Immingham power station, comprising the area around the Proposed Development, was opened in 2004 and covers a significant proportion of the study area, with the town of Immingham located to the south-east and North and South Killingholme to the west of the Site.
- 13.7.32 There are 12 assets of modern date recorded within the study area. These mostly consist of assets recorded from OS mapping, including the site of a mission room (A43), a day school and school house (A44), Myrtle Villas House (A45), and a chapel (A57). There are also four assets associated with the railways, the Humber Commercial Railway (A30), built in 1912, and the Barton and Immingham Light Railway (A40), built 1910-1911, Killingholme railway station (A46), opened in 1910, and the former station master's house (A47), built post-1945.
- 13.7.33 To the west of the Site is the former RAF North Killingholme as well as the Killingholme Power Stations and Philips 66 oil refinery.
- 13.7.34 The area was still characterised by the rural landscape and elements of the planned enclosure of the 19th century have survived. The Oil Refinery and Immingham Docks have been built to respect the orientation and rectilinear form of the underlying pattern of enclosure and roads have been built to follow the lines of the old field boundaries.
- 13.7.35 There are also two assets relating to the Second World War, the site of a barrage balloon anchorage (A24), of which two shelters and the main and secondary anchorages survive, and aircraft obstructions (A27), recorded on wartime aerial photography in a T-shaped

arrangement. Further assets include the site of a row of approximately 16 terraced houses (A28), and a survey trench (A12) identified as a linear feature during geophysical survey.

Unknown

- 13.7.36 There are six assets of unknown date recorded within the study area. There is a linear feature and series of circular and sub-circular features (A3) recorded as cropmarks. Further sites which yielded no archaeological evidence when evaluated included an ovoid enclosure (A22), an L-shaped magnetic anomaly (A25) and magnetic anomalies to the south of Station Road (A38). Also recorded is a system of creeks, which were thought to represent a former shoreline from the deposits found (A16) and a small square enclosure (A26) identified through cropmarks, although this has now been obscured by the southern edge of the Existing VPI CHP Plant.

Results of Archaeological Monitoring of Geotechnical Investigation

- 13.7.37 During a programme of geotechnical and geo-environmental investigation (GI) undertaken at the Site (refer to Chapter 11: Ground Conditions and Hydrogeology for more information), archaeological monitoring was undertaken of the trial pits and borehole starter pits. The full report is provided in Appendix 13D (ES Volume III, Application Document Ref. 6.4).
- 13.7.38 No archaeological features or deposits were identified during this monitoring work.

Potential for Previously Unknown Heritage Assets

- 13.7.39 There are nine recorded archaeological assets located within the Proposed Development boundary. The table below summarises the current visibility of archaeological sites within the study area and the predicted likelihood of further discovery. Further details of the reasoning for these predictions are given below and is summarised in Table 13.5.
- 13.7.40 Evidence of the early prehistoric period is mostly limited to find spots and scatters, consisting of scrapers, cores, flakes, and a fragment of a Neolithic polished stone axe. Although there is evidence of river exploitation in the wider area of North Lincolnshire during the early prehistoric period, the evaluations within the study area have not revealed any evidence. Therefore the potential for early prehistoric activity is considered to be low.
- 13.7.41 Much of the evidence within the study area is dated to between the Iron Age and Roman period. This evidence consists of three settlement sites with evidence of industry, finds of pottery, and features such as ditches and enclosures. The existence of Iron Age/Romano-British settlements in the study area, along with the frequency of assets, indicate that there was significant use of the area at this time, and therefore the potential for Iron Age and Roman activity is considered to be medium.
- 13.7.42 The evidence of the medieval period is limited to remains of ridge and furrow, hedgerows and a ditch containing a pottery sherd. While there is evidence in the wider area, including three scheduled moated sites, the lack of evidence during previous evaluations from this period within the study area leads to the conclusion that the potential for medieval activity is low.
- 13.7.43 The majority of evidence of the post-medieval period is confined to cartographic sources. Many of the structures of this period that were located in the vicinity of the Proposed Development, consisting of farms, have been demolished. Given the lack of remains and

the distance of any post-medieval assets recorded on maps from the Proposed Development, it is thought that the activity of this period is low.

Table 13.5: Likelihood of Previously Unknown Heritage Assets

Period	Visibility	Presence/Absence	Likelihood of further discovery
Early Prehistoric	Limited – Revealed by field investigation and artefacts	Present – Limited	Low
Iron Age/ Roman	Limited - Revealed by field investigation, aerial photographs, geophysical survey and artefacts.	Present – Frequent	Medium
Early Medieval	Poor – No assets identified	Absent	Low
Medieval	Fair – Revealed through geophysical survey, and excavation. Some cartographic evidence.	Present – Limited	Low
Post-Medieval	Far – Revealed through aerial photography, with fair cartographic coverage	Present – Limited	Low

Future Baseline

13.7.44 In the absence of the Proposed Development, it is predicted that cultural heritage baseline conditions will not change.

13.8 Development Design and Impact Avoidance

13.8.1 No design or other measures have been taken into account in the design of the Proposed Development to avoid or reduce adverse effects on cultural heritage.

13.9 Likely Impacts and Effects

13.9.1 This section identifies the potential impacts resulting from the Proposed Development based on the identified methodology presented above.

Construction

13.9.2 Construction impacts include those impacts associated with construction activities, such as ground breaking, moving machinery, noise and construction traffic and erecting new structures. Construction works can impact on the settings of heritage assets.

13.9.3 The construction works for the Proposed Development will include levelling the site and construction of new buildings. There will also be construction traffic and additional lighting for night-time working.

13.9.4 There are nine previously recorded assets which could be impacted by the Proposed Development during the construction phase of the development. Assets not discussed in this section will not be affected by the Proposed Development.

Designated Assets

- 13.9.5 There will be no physical impact upon any designated heritage assets during construction due to the localised influence of the Site surroundings. Effects upon Designated Heritage Assets due to construction activities will be temporary with a negligible extent. The ZTV shows theoretical visibility of the Proposed Development is intermittent across the 3km Study Area due to woodland areas which are located on the edges of industrial development. Buildings positioned throughout the Study Area also reduce visibility of the Proposed Development. The existing stacks at the Lindsey and Humber Oil Refineries are prominent features on the skyline and located in close proximity to the Site.
- 13.9.6 The three listed lighthouses, Killingholme North Low Lighthouse (NHLE 1103707), Killingholme South Low Lighthouse (NHLE 1215093) and Killingholme High Lighthouse (NHLE 1103706) are Grade II listed buildings. They were built to serve as navigational aids along the Humber. Their presence reinforces the historic importance of the Humber as a transport route. The setting of the structures is defined by their relationship with each other and their visual connection with the estuary. They are considered to be of medium sensitivity due to their designation as Grade II listed buildings.
- 13.9.7 The lighthouses are located approximately 1.25km to the east of the existing oil refineries and the Site for a new power station. The Proposed Development will result in the erection of tall structures. There are existing large and tall structures located on surrounding sites and there are already significant vertical elements visible within a predominantly flat landscape. The existing industrial uses in this area create a strong industrial character which can be viewed on the skyline at a great distance.
- 13.9.8 While the Proposed Development will be visible from the lighthouses, the new structures will be viewed within the existing views of the refineries which is located to the west of the Site. Stacks within the refineries and associated pylons already define the skyline. The visual envelope affected will not increase. Key views of the lighthouses are from the estuary where they act as navigational aids. The Proposed Development will be visible within these views, including new tall elements. While this will affect views, it is considered in the context of existing impacts from the existing operational refinery. The visual envelope of the industrial landscape will not be extended or obscure views of the Listed Buildings and the lighthouses will remain in the forefront of any view. The impact on the significance of the assets is, therefore, considered to be low resulting in a minor adverse effect.

Non-Designated Assets

Iron Age/ Roman Settlement Site (A6)

- 13.9.9 The settlement site evidence consisted of pottery from the 2nd- 4th centuries as well as remains of iron and salt production. The site is located on the site of the Existing VPI CHP Plant. Evaluation was undertaken in the area in 2006 by Humber Field Archaeology which identified the possible settlement site. Further observations in 2007 did not reveal any further archaeological remains. The majority of the area has since been built over. However, an enclosure and associated remains in the eastern part of the area evaluated for the Existing VPI CHP Plant remain intact, and the area has been defined as an area for remains to be preserved *in situ*. This area was previously fenced off, and should still be marked under the extant car parking hard standing. This area is proposed for laydown only and there will not be any requirement for removal of existing surfaces. However, the area previously identified for preservation *in situ* will be marked on site and protected from

tracking by heavy machinery. Given this situation, the archaeological remains will remain preserved *in situ* and therefore there will not be any impact upon them.

Linear Anomaly (A12)

- 13.9.10 This asset was recorded through geophysical survey and identified as a modern service trench during evaluation and so is not of archaeological significance.

Medieval Ridge and Furrow (A13)

- 13.9.11 Ridge and furrow identified through geophysical survey, however this is now located beneath the Existing VPI CHP Plant Site and so any remains would have been destroyed therefore no further effects on the asset are anticipated.

Circular and Linear Cropmark Features (A15)

- 13.9.12 The circular and linear cropmark features (A15) are no longer extant, and any remains will have been removed during the construction of the extant car park area, and no further below ground impact will be required. The area in the vicinity of this asset will be used only for site access and no further effects are anticipated.

Iron Age Ditch (A17)

- 13.9.13 The ditch was identified running over 400m in a series of trial trenches along with small drainage and boundary features and sherds of pottery. The asset's location within the OCGT Power Station Site location means any further remains of the Iron Age ditch or associated features may be impacted during the construction phase. The asset is of low significance (heritage value) with a magnitude of impact of high, as it would be destroyed during construction. This results in a significance of effect of moderate adverse.

Hedgerows (A21)

- 13.9.14 The line of historically important hedgerows (A21) is located close the Site. There are no hedgerows surviving within the Site itself, consequently, there will be no effect on this asset.

Square Enclosure (A26)

- 13.9.15 A small square enclosure was recorded as cropmarks on aerial photography of an unknown date. Part of the asset is now located beneath the Existing VPI CHP plant and so has been destroyed. The remaining sections of the asset extend beyond the boundary of the Existing VPI CHP Plant Site, but are no longer within the Site boundary (see Section 5 of this chapter). Consequently, there will be no effect on this asset.

Prehistoric Flint Scatter (A31)

- 13.9.16 A scatter of prehistoric flint was discovered consisting of 223 pieces of flint mostly undiagnostic flakes and chunks. These were all removed when discovered and would not be impacted by the Proposed Development.

Site of 20th century Chapel (A57)

- 13.9.17 The site of a chapel shown on historical OS mapping is located at the south eastern corner of the Site. The asset has since been demolished and any remains likely destroyed

during construction of the Existing VPI CHP Plant. Therefore no further effects are anticipated.

Unrecorded Remains

- 13.9.18 There is potential for previously unrecorded remains to be located within the Site. Any such remains are most likely to be of Iron Age or Roman date, and would most likely represent agricultural activity on the peripheral of the settlement activity which surrounds the Site. If any such remains are located, they would likely be of no more than low significance (heritage value) and contain limited archaeological significance. The development will have significant physical effect on any unrecorded buried remains, resulting in a high magnitude of impact, resulting in a moderate adverse significance of effect before mitigation.

Operation and Maintenance

- 13.9.19 At operation the Proposed Development would increase the number of built structures which are similar in scale and form to existing structures surrounding the Site. It is not anticipated that the operation and maintenance of the development will result in any operational impacts on the heritage resource described above beyond those already experienced.

Decommissioning

- 13.9.20 There is not considered to be any impact on archaeology during decommissioning as any impacts will have been addressed during the construction phase.
- 13.9.21 For visual impacts upon the setting of designated heritage assets, the decommissioning and demolition of structures will be limited due to the long distance views, intervening vegetation and the mature screen planting proposed for the Site.

13.10 Mitigation and Enhancement Measures

- 13.10.1 It is considered that the likely adverse effects arising from the construction of the Proposed Development can be mitigated by a programme of archaeological work, consisting of a strip, map and record within the areas of ground disturbance within the Site. This programme would be detailed in a Written Scheme of Investigation (WSI). Any archaeological remains identified during the strip, map and record will be excavated and recorded in line with the WSI
- 13.10.2 The WSI would be secured by a requirement of the DCO (see the draft DCO supplied with this Application (Application Document Ref: 2.1). The WSI would be informed by the Outline WSI included as Appendix 13E (ES Volume III, Application Document Ref. 6.4). A report detailing the results of the strip, map and record will also be produced. All works will be undertaken in line with guidance from the ClfA.
- 13.10.3 Consideration has been given to further evaluation excavation but, as the Site and its surrounds have already been subject to a programme of evaluation excavation, the nature of the underlying archaeological resource is already understood. As described above, it is anticipated that any previously unrecorded remains would be of Iron Age or Roman date, and would most likely represent agricultural activity on the peripheral of the settlement activity which surrounds the Site.

13.10.4 This approach has been discussed and agreed with the North Lincolnshire Historic Environment Officer).

13.11 Limitation or Difficulties

13.11.1 The identification and assessment of the cultural heritage baseline is based on information available at the time of writing, and has assumed that this is correct and up to date.

13.11.2 The assessment has been based on data received from databases held and maintained by third parties. It is assumed that this data is appropriate for use.

13.11.3 The North Lincolnshire HER only lists known archaeological sites or significant historic landscape features. There is a possibility for the discovery of unknown buried archaeological remains.

13.11.4 Restrictions on the assessment of visual impact are discussed in Chapter 10: Landscape and Visual.

13.12 Residual Effects and Conclusions

13.12.1 A summary of effects both before and after mitigation is provided in Table 13.6 below.

13.12.2 The residual effect following mitigation is minor adverse as there would be a negative residual effect on the setting of the three listed lighthouses.

Conclusions

13.12.3 This Chapter collates data from North Lincolnshire HER, the National Heritage List England, the North Lincolnshire Central Library and the results of archaeological work.

13.12.4 A total of 58 assets have been recorded within the 1km study area, with 15 listed buildings and three scheduled monuments recorded within a 3km study area. There are nine sites recorded within the Site boundary. These comprise a prehistoric flint scatter, two Iron Age ditches, an Iron Age/ Roman settlement site, medieval ridge and furrow, the line of a historically important hedgerow, the site of a 20th century chapel, a modern service trench and cropmarks of a square enclosure.

13.12.5 There is potential for previously unrecorded assets to be located within the Site, particularly of Iron Age to Roman date.

13.12.6 There is potential for physical effects on the sites of the Iron Age ditch (A17) and the square enclosure (A26). This will result in a moderate adverse significance of effect with mitigation in place. There will also be a minor adverse effect on the listed lighthouses.

13.12.7 It is proposed that archaeological strip, map and record is carried out during intrusive ground works within the Site, in accordance with a Written Scheme of Investigation to be agreed with the local authority.

Table 13.6: Summary of Effects

Reference Number	Address	Asset Type	Grade	Heritage significance	Magnitude of impact (incorporating any embedded mitigation)	Significance of effect	Proposed Mitigation	Residual effect
1103707	Killingholme North Low Lighthouse	Listed Building	II	Medium	Low	Minor	None	Minor Adverse
1215093	Killingholme South Low Lighthouse	Listed Building	II	Medium	Low	Minor	None	Minor Adverse
1103706	Killingholme High Lighthouse	Listed Building	II	Medium	Low	Minor	None	Minor Adverse
A6	Iron Age/ Roman settlement site	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A12	Linear anomaly	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A13	Medieval ridge and furrow	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A15	Circular and linear cropmark features	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A17	Iron Age ditch	Non-designated	N/A	Low	High	Moderate Adverse	Strip, map and record	Moderate Adverse
A21	Hedgerow	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A26	Square enclosure	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral
A31	Prehistoric flint scatter	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral

Reference Number	Address	Asset Type	Grade	Heritage significance	Magnitude of impact (incorporating any embedded mitigation)	Significance of effect	Proposed Mitigation	Residual effect
A57	Site of 20 th century chapel	Non-designated	N/A	Low	Neutral	Neutral	None	Neutral

13.13 References

- Ref 13-1 Ministry of Housing, Communities and Local Government (2018) National Planning Policy Framework
- Ref 13-2 Department for Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1)
- Ref 13-3 Ministry of Housing, Communities and Local Government (2018) Planning Practice Guidance
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