

# FAME Tank Development

## Cultural Heritage Desk-Based Assessment

Phillips 66

February 2024

## Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Nick Finch Associate Heritage Consultant	David Aspden Associate Heritage Consultant	Iain Williamson Associate Heritage Consultant	

## Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
<hr/>					

### Prepared for:

Phillips 66

### Prepared by:

AECOM Limited  
16 Toft Green  
York  
North Yorkshire  
YO1 6JT  
United Kingdom

aecom.com

© 2024 AECOM Limited. All Rights Reserved.

AECOM Limited ('AECOM') has prepared this document for the sole use of Phillips 66 ('Client').

This document has been prepared by AECOM Limited ("AECOM") for sole use of Phillips 66 (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

## Table of Contents

1.	Introduction .....	4
2.	Relevant Legislation and Policy .....	6
3.	Assessment and Methodology .....	12
4.	Heritage Baseline .....	14
5.	Assessment of the Baseline.....	20
6.	Impact Assessment.....	21
7.	Conclusions and Recommendations .....	22
8.	References .....	23
	Appendix A Figures .....	25
	Appendix B Heritage Assets.....	26

# 1. Introduction

## Overview

AECOM has been commissioned by Phillips 66 to produce a cultural heritage desk-based assessment (DBA) to support a planning application to construct two FAME storage tanks and associated infrastructure at the Humber Refinery South Tank Farm (hereafter referred to as “the Site”).

The development will comprise two new FAME (biodiesel) fixed roof tanks with a capacity of 7000m<sup>3</sup> each, plus associated bunding and pipe connections within the Refinery and a new access road into the north-west side of the plot from the existing internal Refinery access road.

The purpose of the assessment is to identify all known designated and non-designated heritage assets within the Site (defined by the planning application boundary) and a defined study area of 1 km surrounding the Site, to assess the archaeological potential of the Site. It places the Site within its wider heritage context to inform the assessment of the significance of the heritage resource. The DBA assesses the potential impacts on the heritage resource from the Proposed Development and makes recommendations in line with local and national planning policy and legislation.

Heritage resource in this context means the above and below-ground archaeological resource, historic buildings, the historic landscape, and any other elements which may contribute to the historical and cultural heritage of the area.

The study area for the assessment is defined as a 1 km buffer surrounding the Site for non-designated assets and designated assets, which has been deemed appropriate by North Lincolnshire Archaeology Historic Environment Officer. The study area has been defined so as to identify designated and non-designated assets, their setting and geographical extent, and to inform the context of and potential survival of archaeological remains within the Site and its immediate surrounding area.

## Site Location

The Site (Figure 1) covers an area of c.1.5 hectares (ha) and is located within the existing Humber Refinery Southern Tank Farm, on land located to the south of the A160, at National Grid Reference (NGR) TA 16881642. The Site is characterised by flat, low-lying land that currently lies undeveloped, and is covered by untended grass and shrubs. It is bordered on all sides by existing features of the Humber Refinery, with the A160 dual carriageway to the north and the Port of Immingham to the east.

The Site is directly accessed by road from the A160 and Eastfield Road, and then via the existing internal access roads.

## Site Visit

The Site is enclosed by modern refinery buildings, indicating that there are no settings issues to address, nor are there any heritage assets within visual proximity of the Site. A review of the available LiDAR data reveals that the Site contains no examples of microtopography that could be archaeological in nature.

## Geology and Topography

The Site lies entirely on the Lincolnshire Marsh, the strip of low-lying land extending from the foot of the Lincolnshire Wolds to the fringes of the Humber Estuary and the North Sea. The Site is generally level, varying between only 6.5m AOD and 4.8m AOD, with the highest elevations in the north-east of the Site.

Assessment of the British Geological Survey (BGS) Geology of Britain Viewer data shows that the Site is underlain by sedimentary bedrock of the Burnham Chalk Formation. The chalk bedrock is overlain with superficial Till deposits, with Tidal Flat Deposits of Clay and Silt found to the east of the Site towards the River Humber. A historic borehole log for the Conoco Humber Refinery (BGS ID: 461087), located approximately 80m from the south-west corner of the Site boundary, recorded 42.06m of overburden formed of clay, silt and fine sand with cobbles of flint and chalk. The chalk is described as weathered with bands of grey flint and flint nodules present throughout the log.

The gently undulating till surface, at levels rising from 10m AOD to 25m AOD towards the Lincolnshire Wolds, is known as 'Middle Marsh', and this flanked by the coastal plain known as 'Outmarsh', land generally flatter, and below 10m AOD in level. The Outmarsh comprises estuarine and marine alluvial deposits resulting from Holocene sea-level rise and inundations, which overlie the till surface nearer the coast, whilst the Middle Marsh would have remained largely unchanged.

The formation of the upper estuarine alluvium has been variously dated to the early Iron Age (c. 1000 BC) and to the post-Roman period. It is clear that the rate and commencement of accumulation was highly variable, depending on localised and perhaps relatively minor changes in land levels and offshore features. The inland extent of the alluvium, shown on maps of the drift geology, can perhaps be taken as an indication of the coastline in the prehistoric period, when the episodes of tidal transgression described above extended the coast inwards at the expense of littoral marshland. The Site is located to the west of the present edge of the estuarine alluvium.

## Scope and Structure of the DBA

This desk-based assessment has been prepared in order to assess the cultural heritage baseline, inform development proposals and any mitigation measures that may be appropriate where heritage assets are affected.

This report is in six sections, with illustrations and appendices at the end:

- the legislative and planning policy framework is provided in Section 2 (Legislation and Planning Policy) which also includes an overview of Historic England policy and guidance;
- the methodology for the determination of the study area, the baseline and the assessment of the heritage potential and significance is set out in Section 3 (Assessment Methodology);
- a description of the historical and archaeological background of the Site and study area is set out in Section 4 (Heritage Baseline);
- Section 5 presents the results of the assessment showing known and potential heritage assets within the Site which have the potential to be impacted by the Proposed Development;
- Section 6 presents the results of a preliminary assessment of the potential impacts of the Proposed Development on the known and unknown heritage resources; and
- Section 7 summarises the results of the assessment.

## 2. Relevant Legislation and Policy

This Section of the report describes the key planning policies and guidance that are relevant to the assessment of cultural heritage assets.

### Legislative Background

#### The Ancient Monuments and Archaeological Areas Act 1979 (as amended)

The Ancient Monuments and Archaeological Areas Act 1979 is the central piece of legislation that protects the archaeological resource. The first section of the Act requires the Secretary of State for Digital, Culture, Media and Sport to maintain a schedule of nationally important sites.

For the purposes of the Act, a monument is defined as:

*“a) any building, structure or work, whether above or below the surface of the land, and any cave or excavation;*

*b) any site comprising the remains of any such building, structure or work or of any cave or excavation; and*

*c) any site comprising, or comprising the remains of, any vehicle, vessel, aircraft or other moveable structure or part thereof which neither constitutes nor forms part of any work which is a monument as defined within paragraph a) above; d) and any machinery attached to a monument shall be regarded as part of the monument if it could not be detached without being dismantled’ Section 61 (7).”*

The Act further defines an ancient monument as:

*“Any Scheduled Monument; and any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it’ Section 61 (12).”*

A set of criteria, defined as survival/ condition, period, rarity, fragility/ vulnerability, diversity, documentation, group value and potential, assist in the decision-making process as to whether an asset is deemed of national importance and best managed by scheduling.

The Act imposes a requirement for Scheduled Monument Consent for any works of demolition, repair and alteration that might affect a Scheduled Monument.

For undesignated 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, 2023).

#### The Planning (Listed Buildings and Conservation Areas) Act 1990

The Act sets out the principal statutory provisions which must be considered in the determination of any application affecting either listed buildings or conservation areas.

Section 16(2) of the Act states that in considering whether to grant listed building consent for any works the local planning authority or 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.

Section 66(1) of the 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 Act a listed building includes any object or structure within its curtilage.

Section 72(1) of the Act states that in the exercise, with respect to any buildings or other land in a conservation area, special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.

## Planning Policy Context

### National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities (DLUHC), 2023) sets out the Government's planning policies for England and how these should be applied to contribute to the achievement of sustainable development.

Section 16 of the NPPF deals specifically with the historic environment. Where changes are proposed, the NPPF sets out a clear framework to ensure that heritage assets are conserved and, where appropriate, enhanced, in a manner that is consistent with their significance.

Significance is defined in Annex 2 as being 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 is not only derived from an asset's physical presence, but also from its setting. The setting of a heritage asset is defined in Annex 2 as, “*the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve*”.

Paragraph 200 of the NPPF states that in determining applications, local planning authorities should “*require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.*” Similarly, paragraph 201 includes a requirement on local planning authorities, having assessed the particular significance of any heritage asset that may be affected by a proposal, to take this into account when considering the impact of a proposal on a heritage asset.

Paragraph 203 states:

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

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

Paragraphs 205 to 209 of the NPPF introduce the concept that heritage assets can be harmed or lost through alteration, destruction or development within their setting. This harm ranges from less than substantial through to substantial. With regard to designated assets, paragraph 205 states that great weight should be placed on its conservation, irrespective of whether any potential harm is considered to be substantial or less than substantial. The paragraph goes on to say that the more important the asset, the greater the weight should be on its conservation. In paragraph 206, a distinction is made in respect of those assets of the highest significance (e.g., scheduled monuments, Grade I and Grade II\* listed buildings) where substantial harm to or loss should be wholly exceptional.

Paragraph 207 states that in instances where development would cause substantial harm to or total loss of significance of a designated asset, consent should be refused unless it can be demonstrated that it is necessary to achieve substantial public benefits that outweigh that harm or loss. Paragraph 208 says 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 to provide a balanced judgement.

With regard to non-designated assets, paragraph 209 states that the effect of the application on the significance of the asset should be taken into account in determining the application. A balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

## Planning Practice Guidance (PPG)

The PPG (Ministry of Housing, Communities and Local Government, 2023) provides further advice and expands on the guidance and policy outlined in the NPPF.

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 20<sup>th</sup> November 2023).

The setting of the heritage asset is also of importance and a thorough assessment of the impact on setting needs to consider, 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.

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).

The PPG discusses how to assess if there is substantial harm. It states that what matters in assessing if a proposal causes substantial harm is the impact of the significance of the heritage asset. Ultimately, whether a proposal causes substantial harm will be a judgement for the decision taker. However, it acknowledges that substantial harm is a high test so may not arise in many cases. A key consideration when assessing whether there is an adverse impact on a listed building is whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed (Paragraph: 017 Reference ID: 18a-017-20140306).

## Local Planning Policy

### North Lincolnshire Local Development Framework Core Strategy (2011)

Core Strategy policy CS6 Historic Environment of the North Lincolnshire Core Strategy (NLC, 2011) states that:

*“The council will seek to protect, conserve and enhance North Lincolnshire’s historic environment as well as the character and setting of area of acknowledged importance including historic buildings, conservation areas, listed buildings (both statutory and locally listed), registered parks and gardens, scheduled ancient monuments and archaeological remains...”*

And:

*“Development proposals should provide archaeological assessments where appropriate.”*

### North Lincolnshire Council is preparing a new single Local Plan for North Lincolnshire. Once agreed (formally adopted), it will replace the current North Lincolnshire Core Strategy

POLICY HE1: CONSERVING AND ENHANCING THE HISTORIC ENVIRONMENT states that:

Heritage Protection 1. Development proposals must value, protect, conserve and seek opportunities to enhance the historic environment of North Lincolnshire. Proposals that would result in unacceptable harm to heritage assets and their settings, will not be permitted. Proposals may exceptionally, be permitted if the need for, and overriding public benefits of the development demonstrably outweigh the harm. In the case of heritage assets of the highest significance this would be wholly exceptional. In all cases, harm to heritage assets should be minimised and mitigated.

Heritage Assets 2. Where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made to its setting, it must be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk based appraisals, field evaluation and historic building reports) that:

- a. identify all heritage assets likely to be affected by the proposal, applications must consult the North Lincolnshire Historic Environment Record as a minimum requirement;
- b. explain the nature and degree of any effect on elements that contribute to their significance and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated;
- c. provide a clear explanation and justification for the proposal in order for the harm to be weighed against public benefits; and,
- d. demonstrate that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long-term use of the asset.
- e. In considering any applications to remove or alter a historic statue, plaque, memorial or monument (whether listed or not), local planning authorities should have regard to the importance of their retention in situ and, where appropriate, of explaining their historic and social context rather than removal.

3. Development proposals will be supported where they:

- a. Protect the significance of designated heritage assets (including their setting) by protecting and enhancing architectural and historic character, historical associations, landscape and townscape features and through consideration of scale, design, materials, siting, layout, mass, use, and views and vistas both from and towards the asset;
- b. Sustain and enhance non designated heritage assets and their setting; Take into account the desirability of sustaining and enhancing non-designated heritage assets and their setting;
- c. Make appropriate provision to record, and where possible and appropriate, preserve in situ features of archaeological significance; and,
- d. Promotes and captures opportunities to increase knowledge and access to local heritage assets and better reveal their significance.

4. The change of use of heritage assets will be supported where the proposed use is considered to be the optimum viable use that is compatible with the fabric, interior, character, appearance and setting of the building, and where such a change of use will demonstrably assist in the maintenance or enhancement of the building, provided features essential to the special interest of the individual building are not lost or altered to facilitate the change of use.  
Conservation Areas

5. Development within, affecting the setting of, or affecting views into and out of,

- a. Conservation Area should preserve, and wherever possible enhance, features that contribute positively to the area's character, appearance and setting. Proposals should:
  - a. Retain buildings/groups of buildings, existing street patterns, historic building lines and ground surfaces.
  - b. Retain architectural details that contribute to the character and appearance of the area.
  - c. Where relevant and practical, remove features which are incompatible with the Conservation Area
  - d. Retain and reinforce local distinctiveness with reference to height, massing, scale, form, materials and lot widths of the existing built environment.
  - e. Assess, and mitigate against, any negative impact the proposal might have on the townscape, roofscape, skyline and landscape.
  - f. Aim to protect trees, or where losses are proposed, demonstrate how such losses are appropriately mitigated against. Archaeology

6. Development proposals affecting archaeological remains, whether known or potential, designated or undesignated, should take every practical and reasonable step to protect and, where possible, enhance their significance.

7. Planning applications for such development must be accompanied by an appropriate and proportionate desk based assessment to understand the potential for and significance of remains, and the impact of development upon them. If a desk based assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site. All archaeological work should be undertaken by a suitably qualified party in accordance with professional standards and guidance published by Historic England and the Chartered Institute for Archaeology.

8. Wherever possible and appropriate, mitigation strategies should ensure that important archaeology is retained in-situ to allow for expert investigation at some future time. Where it is possible to achieve this, for example within an area of open space, a management plan may be required that secures effective long-term conservation.

Developers may be required to provide access to heritage assets and make financial contributions towards their on-going maintenance, and appropriate display and interpretative materials.

9. Where such preservation is either not possible or not desirable, the developer will be required to make adequate provision for preservation by record according to a written scheme of investigation submitted by the developer and approved by the planning authority.

10. Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the local planning authority. The written scheme of investigation should be submitted in advance of determination of the application and its implementation will be secured by condition. Managing the Historic Environment

11. The council will promote the effective management of North Lincolnshire's heritage assets through:

a. Seeking to update existing Conservation Area Appraisals to identify the qualities and interests of each area and management guidelines to guide future development;

b. Safeguarding the nationally significant ancient landscapes of the Isle of Axholme (notably the historic landscape character and turbaries) and supporting initiatives which seek to realise the potential of these areas as a tourist, educational and environmental resource;

c. Ensuring the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;

d. Preserving and enhancing the rich archaeological heritage of North Lincolnshire;

e. Ensuring that development within Epworth (including schemes needed to exploit the economic potential of the Wesley's or manage visitors) safeguards and, where possible, improves the setting of buildings associated with its Methodist heritage;

f. Ensuring that development within North Lincolnshire's Market Towns safeguards their distinctive character and landscape setting, especially Barton upon Humber, Crowle, Kirton in Lindsey and Epworth; and,

g. Seeking opportunities to enhance and provide access to heritage assets, including in combination with natural environment, public health, tourism and other relevant initiatives, and through planning conditions or obligations including S106 Agreements and Community Infrastructure Levy where appropriate.

## Other Guidance

### Historic England Guidance

Historic England has 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), GPA3 - The Setting of Heritage Assets (2nd Edition) (December 2017), and Advice Note 12, Statements of Heritage Significance (October 2019).

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"* (paragraph 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 (paragraph 7).

GPA3 provides advice on the setting of heritage assets. Setting is as defined in the NPPF and comprises the surroundings in which a heritage asset is experienced. 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. The contribution of setting to the significance of an asset is often expressed by reference to views and the GPA in paragraph 11 identifies those views such as those that were designed or those that were intended, that contribute to understanding the significance of assets.

Advice Note 12 outlines a recommended approach to assessing the significance of heritage assets in line with the requirements of NPPF. It includes a suggested reporting structure for a 'Statement of Heritage Significance', as

well as guidance on creating a statement that is proportionate to the asset's significance and the potential degree of impact of a proposed development. The Advice Note also offers an interpretation of the various forms of heritage interest that an asset can possess, based on the terms provided in the NPPF Glossary (Annex 2: Glossary); namely archaeological, architectural, artistic, and historic.

## Principles of Cultural Heritage Impact Assessment in the UK (2021)

Principles of Cultural Heritage Impact Assessment (CHIA) (Institute of Environmental Management and Assessment (IEMA), 2021) provides guidance on understanding cultural heritage assets and evaluating the consequences of change.

Understanding cultural heritage assets is split into three stages: Description, Significance and Importance. The description arrives at a factual statement that establishes the nature of the asset. The heritage values of the asset are then analysed (the guidance stresses that these include but are not limited to aesthetic, historic, scientific, social or spiritual values) and a statement of cultural significance is given. Finally, the importance of the asset is assessed, and a conclusion is drawn as to the level of protection that the asset merits in planning policy and cultural heritage legislation. The guidance notes that unlike cultural significance importance is scaled and can be described as high, medium or low.

The process of evaluating the consequences of change is split into three stages: understanding change; assessing impact; and weighting the effect. All aspects of a proposal that could change a cultural heritage asset or its setting are first explained. If these changes affect the cultural significance of the asset the resulting impact, which could be positive or negative, and its magnitude is then assessed. The effect is a combination of the magnitude of the impact and the cultural heritage asset's importance, and the scale of the effect will determine by how much the issue should influence the design of the proposal and whether the proposal is acceptable and will be permitted.

## Chartered Institute for Archaeologists

The baseline assessment 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* (CIfA, 2020) and the *Code of Conduct* (CIfA, 2022).

# 3. Assessment and Methodology

## The Study Area

The study area for the assessment is defined as a 1 km buffer surrounding the Site for non-designated assets and designated assets, which has been deemed appropriate by North Lincolnshire Archaeology Historic Environment Officer (email correspondence 15<sup>th</sup> January 2024). The study area has been defined to identify designated and non-designated assets, their setting and geographical extent, and to inform the context of and potential survival of archaeological remains within the Site and its immediate surrounding area.

All heritage assets identified within the study areas are listed in relevant gazetteers (Appendix B) and illustrated on Figure 2 (Appendix A). They are referred to in the text by a unique identity code in brackets in bold.

## Data Sources

The following sources of information have been reviewed and form the basis of the assessment of likely significant effects on Heritage:

- the North Lincolnshire Historic Environment Record (HER);
- Historic England's National Heritage List for England (NHLE); data including Listed Buildings, World Heritage Sites, Scheduled Monuments, Registered Battlefields and Registered Parks and Gardens;
- databases of known archaeological sites, find spots, historic buildings and previous archaeological works, including Archaeological Data Service;
- historic Ordnance Survey and pre-Ordnance Survey mapping;
- available British Geological Survey (BGS) data, ground investigation reports and borehole data;
- various documentary and internet sources, including Victoria County History, British History Online; and
- Local Planning Authority website for information on conservation areas and locally listed buildings.

## Site Visit

A site visit and walkover survey was undertaken on 1st February 2024. The Site is characterised by flat, low-lying land that currently lies undeveloped, and is covered by untended grass and shrubs (**Plate 1**). It is bordered on all sides by existing features of the Humber Refinery, with the A160 dual carriageway to the north and a PD Ports to the east.



**Plate 1:** Proposed Site facing Northeast.

## Assessment Methodology

This report provides an overview of the archaeological and historical background of the study area in order to better understand its historical context and the significance of any heritage assets within it.

The data gathered through both the site visit and desk-based research have been collated and the results mapped in ArcGIS using Ordnance Survey (OS) base mapping.

The significance of identified heritage assets has been determined by professional judgement guided by statutory and non-statutory designations, national, regional and local policies, archaeological research frameworks and the modified criteria for Scheduled Monuments used in England by the Secretary of State for Culture, Media and Sport (DCMS, 2010).

## Significance of Heritage Assets and Setting

The significance of heritage assets has been determined based on professional judgement guided by designations, national and local policies, guidance documents and research frameworks. A methodology for the assessment of significance of heritage assets is outlined in Advice Note 12 (Historic England, 2019), the NPPF supporting guidance (DLUHC 2023), whilst Historic England GPA3 (2017) provides the basis of a methodology for the assessment of setting.

Significance is often established by statutory designations such as listed buildings, scheduled monuments and conservation areas. More particular advice as to what makes up significance is set out in Historic England guidance (Advice Note 12; 2019), which provides a method for thinking consistently about the heritage values that can be ascribed to a place. When assessing significance numerous aspects are considered.

The NPPF defines significance 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.”*

Historic England (GPA3, 2017) identifies a staged approach to the assessment of setting, comprising:

- Stage 1: identify which heritage assets and their settings are affected;
- Stage 2: Assess the degree to which these settings and views contribute 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.

In assessing whether or not the setting of an asset contributes to its significance, and in assessing the effect of development, Historic England GPA3 provides a checklist of attributes that may affect setting and significance under five broad categories comprising:

- the location and siting of the development;
- the form and appearance of development;
- additional effects (change to skyline etc);
- permanence; and
- consequential effects.

The terminology used in this assessment relates to the terminology used by NPPF, referring to significance in terms of heritage interest and not heritage values. However, the methodology for assessing the heritage interest follows recent Historic England guidance contained within Advice Note 12.

## Archaeological Potential

Assessment of the archaeological resources draws on three factors:

- an assessment of the potential survival of any known or unknown archaeological deposits to remain extant within the Site based on a review of information on previous ground disturbance;

- an assessment for the potential for archaeological deposits to exist within the Site based on the results of the baseline study; and
- an assessment of the significance of known and potential archaeological assets within the Site, as well as within the defined study area.

The potential for an area to contain archaeological remains is rated 'high', 'moderate', 'low', 'negligible', or 'unknown'. This rating is based on an understanding of the archaeological resource as a whole and its national, regional and local context. This includes the number, proximity and significance of known and predicted archaeological/historical sites or find spots within the Site and its surrounding study area.

## Limitations and Assumptions

The assessment has relied upon data and records provided by third parties, and therefore it has been assumed that this information is accurate and up to date at the time of reporting.

Data was received from the North Lincolnshire Historic Environment Record on the 25<sup>th</sup> January 2024. Any additions to the HER after this date will not be captured within the DBA.

The assessment has been undertaken using the available design for the Proposed Development and the maximum likely extents of land required for its construction, operation and maintenance.

# 4. Heritage Baseline

## Introduction

This Section provides a description of the archaeological and historical background of the area as well as heritage assets recorded within the Site and 1km study area.

Data was ordered from North Lincolnshire Historic Environment Record (HER) for an area of 1 km for non-designated assets around the Site. Designated heritage assets for an area of 1km around were recorded from the National Heritage for England (NHLE).

All heritage assets within the study area are recorded on Figure 2 (Appendix A); non-designated assets are labelled with their HER number.

## Designated Heritage Assets

There are no designated assets located within 1 km of the Site.

## Non-Designated Heritage Assets

There are no non-designated records identified within the Site boundary.

There are 43 identified records located within 1km of the Site on the HER. These do not all necessarily equate to heritage assets, as some records relate to chance finds which have since been moved, or to features which have subsequently been destroyed.

The assets are also described in greater detail within the site chronology below.

## Palaeolithic c.700,000BC

The Palaeolithic period began around 700,000 years ago, when the earliest humans arrived in Britain. Throughout much of this era, harsh glacial conditions or 'ice ages' prevailed and the region was periodically covered by ice sheets. At other times, periglacial conditions, characterised by very cold temperatures, freeze-thaw, and permafrost would have existed for long periods.

Evidence for the Palaeolithic period in Lincolnshire is rare, but flint tools are occasionally found in glacial gravels.

There are no recorded Palaeolithic evidence within the study area.

## Mesolithic c.10,000 – 4,000BC

The end of the last ice-age saw an increase in temperatures and the melting of glaciers across Britain. This led to rising sea-levels, and the separation of Britain from the continent. The warmer climate encouraged the migration of plants and animals into the region, and the spread of coniferous forests. From about 6,500 BC, these gave way to deciduous woodlands of oak, hazel, elm and lime as average temperatures rose to two degrees centigrade higher than they are today.

Throughout the Mesolithic, communities of semi-nomadic people hunted animals such as red deer and wild pig and collected fruit and food plants. The remains of their temporary camps have occasionally been discovered, but normally only their tools and equipment are found. Flint, stone, bone and wood would have been utilised.

There are no recorded Mesolithic evidence within the study area.

## Neolithic c.4,000 – 2,500BC

Pollen samples taken from higher peat deposits at Chapel Point, dated to the Neolithic period, seem to suggest that some farming may have been taking place in the area of the Lincolnshire Marsh at that time, presumably with some forest clearance. To the north of the study area, settlement activity is represented by some Neolithic material in a flint assemblage recovered during trial excavations for the Able UK vehicle storage facility in North Killingholme. A Neolithic polished stone axe was found north of Immingham, and two stone axes were found near Manor Farm, North Killingholme (Loughlin & Miller, 1979: 207). A flint scraper (**MLS1615**) was recovered from the site of the original oil refinery development in 1966, approximately 250m south-west of the Site.

## Bronze Age (c.2,500 – 800BC)

During the Mid to Late Bronze Age and possibly into the Iron Age, the habitat on the Lincolnshire Marsh seems to have consisted of a mixed landscape of alder carr, with areas of reeds, radio-carbon dated to 3340 ± 110 BP (Van de Noort & Davies, 1993: 21). Pollen analysis from a kettlehole at Butterbump, in the Lincolnshire Marsh, shows that woodland clearance was taking place, and was probably directly related to the growth of mixed arable farming.

Worked flints of Bronze Age date have been recovered during fieldwalking within the study area, while a Bronze Age flint knife was discovered in 1967 at the site of the Humber Oil Refinery, approximately 750m north-west of the Site (**MLS1614**).

Bronze Age and Iron Age settlements associated with the making of salt have been documented on the Lincolnshire Marsh, especially around the area of Ingoldmells in Lincolnshire (Van de Noort & Davies, 1993: 70). The salt industry was established in scrubland that was cut by deep, estuarine creeks and it was from these creeks at high tide that the salt water was taken to be used in the salt-making process. Pottery recovered from these sites indicate that salt production in the area commenced as early as the 4th century BC, continuing through the Iron Age and into the Romano-British period (Baker, 1975).

## Iron Age (800BC – 43AD)

Evidence of Iron Age salting has been recovered from within the study area. An excavation 650m to the north of the Site, at the site of the Immingham CHP Plant (**MLS19771**), has provided evidence in the form of salting vessels (briquetage) (Savage & Buglass, 2001). The earliest phase of the site, dating from the early to mid-Iron Age consisted of two conjoined rectangular enclosures (VPI Immingham, 2019: 14). 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 (ibid.).

A Headland excavation in 2009 (**MLS21556**) at the Heron Renewable Energy Plant, 500m east of the Site, discovered fired clay fragments in their trenches, identified as ceramic trays or pans, evidence of salt production consistent with the Immingham CHP Plant site. Late Iron Age occupation was concentrated on the driest ground towards the west of the Site, while it is possible that salting was carried out on the wetter ground to the east (Stronach, 2010).

In 2010, three trenches were excavated by West Yorkshire Archaeological Services (WYAS) on land west of Rosper Road, as part of the A160 Improvements, approximately 450m north-east of the Site (**MLS22428**). Two late Iron Age ditches were recorded, with pottery and animal bone found in both lower fills (WYAS, 2010). The archaeological

evidence is suggestive of a pre-Roman Iron Age agricultural landscape, with livestock forming the bulk of the economy, with settlement foci that continued to be developed and exploited well into the Roman period (ibid. 53).

On the basis of the existing evidence from beyond the Site, it appears that nearby areas may have been occupied by a number of shifting farmsteads and associated agricultural enclosures during the Iron Age.

The North Lincolnshire HER indicates that Iron Age settlement in the area was likely to have been relatively extensive, with recorded sites concentrated along the marshland and its fringes, where settlements would have grown up alongside the various creeks and inlets which penetrated the Lincolnshire Marsh.

## Romano-British (43 – 410AD)

Concentrations of Roman activity in the vicinity of the Site suggest that settlement from this period likely continued from the preceding Iron Age, and was relatively intensive within this area of the Lincolnshire Marsh. Late Iron Age occupation evidence from a Headland Archaeology excavation to the east of the Site (**MLS21556**) was shown to continue into the early Romano-British period, with several linear ditches found to contain pottery sherds from this period (Stronach, 2010).

A 'ladder settlement-type' (**MLS20152**), or a linear arrangement of enclosures alongside a track, perhaps representing a series of small farmsteads, was recorded during two phases of geophysical survey at East End Farm in 2004 (Steedman, 2004), approximately 500m south-west of the Site. Sixteen 3rd and 4th century AD coins were recovered, as well as two Roman brooches identified as a Dolphin brooch of the 1st century AD. The complex structural sequence may be indicative of settlement over a protracted period.

A cropmark of a possible rectangular building and associated enclosure (**MLS1614**) were visible on 1958 aerial photographs, located approximately 850m north-west of the Site, which now lies beneath the Humber Oil Refinery (AC Archaeology, 2000). The date of the cropmark is uncertain, however, Romano-British greyware pottery has been recovered from the same area.

The north-east to south-west boundary alignment of probable Roman remains identified in 2012 by geophysics at Greengate Lane, South Killingholme (Flintoft, 2012: 6), approximately 2km to the west of Site, is in keeping with the boundary alignments observed at the much better understood site of Chase Hill, another Romano-British ladder settlement, located further afield at North Killingholme.

The Iron Age site beneath the Immingham CHP plant, approximately 650m north of the Site, has already been mentioned and occupation of that settlement continued into the Roman period (Savage & Burgess, 2011). The settlement (**MLS19771**) lay adjacent to the northern edge of a stream channel and the excavations provided evidence for several phases of flooding. Activity in the Roman period near to the stream was broadly limited to the cutting and re-cutting of enclosure and drainage ditches, while further north there was an area of new Romano-British enclosures (**MLS22743**), with the ditches being repeatedly re-cut and new enclosures created (Savage & Buglass, 2001). Settlement here continued at a reduced scale into the 4th century AD.

The area around the refineries at South Killingholme has seen an incredible concentration of archaeological fieldwork in recent years, resulting in the discovery of several settlement sites from this period. These discoveries suggest a significant density of Romano-British settlement, particularly on the higher ground of the Middle Marsh and its fringes, with settlements in many cases lying alongside or close to the various creeks and inlets which crossed the marshland.

## Early-Medieval (410 – 1066AD)

The present-day settlement of South Killingholme is a linear settlements extending along a north-south road that hugs the slightly elevated ridge of ground at this point. This type of settlement is often labelled a 'row' village and the location of the present-day villages dates may date back into the early medieval period. Indeed, the place-name of Killingholme is a primary Anglo-Saxon name translating from Old English - *Cylfingas* - as village of the people of 'Killing'.

Killingholme is one of four 'group name', or *ingas*, settlements north of Grimsby and these names are confidently believed to belong to an early period of Anglo-Saxon settlement in the areas in which they occur (Cameron, 1991: 164). Place-name evidence seems to suggest that early Anglo-Saxon settlement occurred on the higher and drier ground of the 'Middle Marsh', to the west of the wetter 'Outmarsh'.

There are no discoveries early medieval date in the 1km study area, though an 8th century coin was recovered from the upper fills of one of the former driveway ditches on the Iron Age and Romano-British settlement excavated beneath the Immingham CHP Plant (MLS19771) (Savage & Buglass, 2001).

The Humber would have been a main trading artery for bringing imported goods from the Continent into northern England, with a number of havens along its edges acting as landing areas; there is a possibility that the creeks along the coastline, directly east of the Site, may have been used for this purpose during this period.

## Medieval (1066 – 1540)

Lincolnshire, as with the rest of England, experienced a period of expansion and relative prosperity during the 12<sup>th</sup> and 13<sup>th</sup> centuries. With a growth in population there was increased demand for land. Rural trade and industry was increasingly successful and this in turn encouraged the growth of villages and towns.

The end of the 13<sup>th</sup> century, however, was to see a reversal of this process, brought about by a combination of factors. Overcrowding, land shortage and climatic deterioration all contributed to a weakening of rural industry which in turn undermined the success of the townships. Foreign wars added to the pressure during the 14<sup>th</sup> century and the arrival of the Black Death in 1349 significantly reduced the population.

The 15<sup>th</sup> century saw a decline in the arable sector of the agrarian economy as a whole. A smaller population meant a lower demand and farmers no longer needed to cultivate marginal lands. Many villages shrank and some became depopulated. A large-scale conversion to sheep farming led to extensive enclosure of previously open field systems.

The early origin of the local village place-names (see above) confirms that the area under study had been settled by the late 11<sup>th</sup> century. The medieval village settlements such as Killingholme (North and South) and Immingham lay on the slightly higher and better-drained Middle Marsh with their accompanying common cultivated field strips (e.g. East Field and West Field).

An area of ridge-and-furrow representing cultivated open fields has been recorded just outside the study area, to the west of the Site (**MLS1613**). Here, very few areas now survive as earthworks, most having been ploughed out in the 19<sup>th</sup> and 20<sup>th</sup> centuries and most only survive on aerial photographs, dated 1946-1975 (Deegan, 2009).

Additionally, there have been a small number of isolated find-spots of medieval material on the edge or outside of the study area. While an archaeological evaluation on land west of Rosper Road (**MLS20424**), approximately 900m north of the Site, revealed a shallow ditch containing a single sherd of 13<sup>th</sup> -15<sup>th</sup> century 'Toynton Ware' pottery (Murphy, 2006)

## Post-Medieval (1540 – Current)

Enclosure in the 17<sup>th</sup> to 19<sup>th</sup> centuries saw the open fields and common lands of various settlements around the study area enclosed and allocated to a number of private landholders, with farmhouses established within the new field systems.

The commissioning of the Humber Refinery in 1969, and subsequent expansions in the 1970's, marked the advent of a massive phase of industrialization in the study area, transforming the surrounding area of former marshland and low-grade farmland.

## Historic Maps

Immingham was enclosed relatively early, by private agreement in the first half of the 17<sup>th</sup> century, while North and South Killingholme were enclosed through Acts of Parliament in the late 18<sup>th</sup> century (**see Plates 2 & 3**). The Site was originally located in 'East Field' in the South Killingholme parish. After the Enclosure Act of 1776, the surrounding fields were sub-divided into several smaller plots and allocated to a number of private landowners. Thus, the Site is shown located in the north-eastern corner of large field owned by 'Charles Anderson Pelham Esq', south of the junction between Ferry Road (now the A160) and Rosper Road.

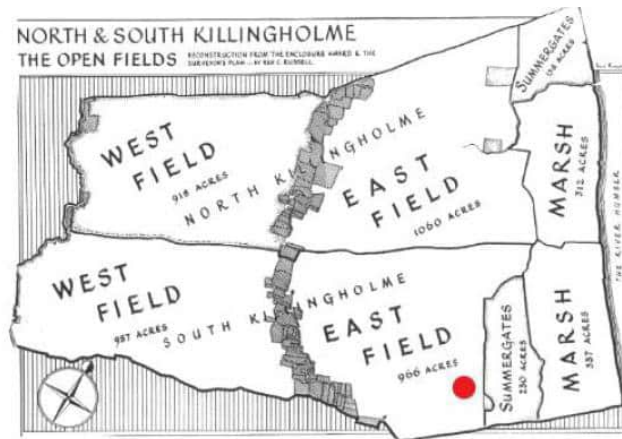


Plate 2: Open Fields of North & South Killingholme prior to the Enclosure Act of 1776 (Russell, 1982)



Plate 3: North and South Killingholme after Enclosure Act of 1776 (Russell, 1982)

The 1st Edition OS map illustrates that by the late 19th century the Site was located within a series of smaller fields. The landscape remains undeveloped, predominantly characterised by agricultural land and occasional woodland. Humber Road (A160) – previously Ferry Road – bisects the fields to the north of Site, leading eastwards to South Killingholme Haven on the Rover Humber. The nearest buildings were located at the linear ‘row’ village of South and Killingholme approximately 2km to the west, with Walmer House (MLS25004) a solitary farmhouse situated 850m to the west of the Site.

The Site continued to be characterised by open fields through to the late 1960’s. A 1951 Ordnance Survey map reveals that the context of the Site remained unchanged since the late 18th century. A number of railways were opened in the early years of the 20th century to service the docks and provide transport for goods and passengers (mostly workers) between and beyond the various dock facilities at Immingham and Grimsby. The Humber Commercial Railway (MLS21326), constructed in 1912, passes less than 260m to the north of the Site. Houlton’s Covert, located to the south of the Site, appears to be the only alteration to the surrounding agricultural landscape.

Humber Refinery was constructed in 1969, and its expansions in the 1970’s starting the industrialization in the study area.

## LiDAR Imaging Data

Topographic LiDAR (Light Detection and Ranging) is a surveying method that measures distance to a target by illuminating the target with near-infrared laser light and measuring the reflected light with a sensor. Airborne LiDAR sensors measure differences in laser return times and wavelengths to generate precise, three-dimensional information about the shape and surface characteristics of the targeted area.

Publicly available Environment Agency LiDAR imaging data was examined for the Site and immediate surrounding area. No features were identified on the Site itself.

## Historic Landscape Characterisation

The Lincolnshire Historic Landscape Character Assessment (HLCA) 6 provides a detailed review and description of the historic character of the Lincolnshire landscape (Lord & Macintosh, 2011). The HLCA lies within the NOM2: Immingham Coastal Marsh character zone (ibid: 27). The character zone is dominated by industrial activity, in particular installations related to the petrochemical industry and docks. The 'industrial' broad type accounts for 36% of the total land area within this character zone, including that of the Site.

## Relevant Previous Archaeological Interventions

There have been no previous archaeological investigations at the Site.

Recent archaeological investigations have been undertaken in 2022 by AOC Archaeology on land adjacent to VPI Immingham, at North Killingholme, west of Rosper Road, approximately 500m north of the Site. Thirty-two trenches were excavated at the site. Three areas of occupational activity were encountered which were concentrated in the northwest, northeast and southeast corners of the site, centred on the higher ground. The central area of the site was characterised by a flooding deposit sequence associated with a possible coastal inlet, which was aligned west to east across the site. The north-western corner of site featured a number of ditches containing some Romano-British pottery and animal bone. There were also a small number of pits beside a possible paleochannel; these were potentially prehistoric in date, indicated by the recovery of late Mesolithic/ early Neolithic lithic fragments.

The northeast corner of site featured an alignment of postholes, one of which contained a surviving timber post, and several small ditches which were possible small boundary or enclosure ditches. The southeast corner featured dense Iron Age/ Romano British activity including a large multiphase curvilinear ditch within a possible enclosure, as well as small ditches associated with field systems. The finds assemblage was small, with deposition of finds largely concentrated in the southeast corner, and many features remained undated. The finds assemblage included late Mesolithic/ early Neolithic scrapers and blades as well as industrial waste in the form of slag.

The location of archaeological activity within the site indicates that this activity probably represents the continuation of settlement activity and features identified in adjacent areas. This was identified during archaeological works completed in the early 2000s as part of the construction of VPI Immingham and improvement works on Rosper Road (see below).

Archaeological investigations were also undertaken on the site of the VPI Immingham and Improvement works, at North Killingholme, west of Rosper Road, approximately 700m north of the Site (Savage & Buglass, 2001; Noel, 1999), between 1999 and 2000. The geophysical survey, evaluation (**ELS2947**) and subsequent open-area excavation (**ELS2948**) revealed the extensive survival of modest settlements dating to both the Iron Age and Romano-British periods.

Additional archaeological investigations include two phases of geophysical survey conducted in 2004. These were carried out by Geoquest associates at East End Farm (**ELS2258**), approximately 500m to the south-west, in advance of a tree planting scheme (Steedman, 2004). The survey detected a complex series of rectangular ditches conjoined to either side of a trackway, morphologically similar to a 'ladder settlement type'. A metal detecting survey, carried out at the same location in 2005, discovered a series of 3rd and 4th century AD coins and two Roman brooches (Staves, 2005).

# 5. Assessment of the Baseline

## Known Heritage Assets

### Designated Heritage Assets

There are no designated heritage assets within the Site or the Site's immediate environs (1 km study area).

### Non-Designated Heritage Assets

Nearby archaeological investigations contain important prehistoric and Romano-British settlement and industrial remains. The coast and the variety of resources available in this littoral zone are likely to have been significant factors in the choice of location for ancient settlement.

Several prehistoric and Romano-British sites recorded within the 1km study area (e.g. East End Farm, the Immingham CHP Plant, the Humber Oil Refinery) are of regional significance for the archaeological information they provide in the understanding of the development of settlement and industry on the Humber Estuary.

Therefore, any remains encountered at the Site dating to the prehistoric or Romano-British periods could be of up to a moderate (local/ regional) archaeological significance, depending on their extent and condition.

Any features dating to the early medieval, medieval or post-medieval period are likely to be agricultural in nature.

Any remains associated with these periods are therefore considered likely to be of low (local) archaeological significance.

## Archaeological Potential

The desk-based assessment of the area has identified prehistoric and Roman settlement activity within 500m of the Site. However, it should be noted that these sites were identified on higher ground (presumably utilising land which were drier and more hospitable).

There is known prehistoric activity within the surrounding landscape. The potential for archaeological remains of prehistoric date is **low/ medium**.

There is known Roman activity within the surrounding landscape. The potential for archaeological remains of prehistoric date is **low/ medium**.

The evidence for archaeology of early medieval - modern date both on the Site and within the study area was farmland in conclusion is that the potential for early medieval to modern activity is **low**.

## 6. Impact Assessment

### Assessment of Significance

What follows is an assessment of the significance of those heritage assets and their settings likely to be directly or indirectly impacted by the development; the assessment of the significance of heritage assets takes into account the combined results of the baseline assessment, the results of previous archaeological investigations and the assessed archaeological potential of the Site.

No designated heritage assets have been identified with 1 km of the proposed Site therefore no setting impacts have been identified.

This DBA has predicted a **Low/ Medium** potential for archaeological remains of prehistoric and Roman date to be present at the Site. This is principally evidenced through the results of the HER search results. There is known prehistoric activity within 500m of the Site.

### Assessment of Potential Impacts

This section of the DBA assesses the impact of the Proposed Development upon the significance of the identified heritage assets and the archaeological potential of the Site.

In assessing the impact upon the cultural heritage resource, it is considered that, in accordance with the NPPF, the Proposed Development would not cause any harm to designated heritage assets.

There is potential for physical effects on any archaeological remains of significance that survive within the Site boundary.

Any intrusive groundworks associated with the Proposed Development on the Site that extend further than the present depth of modern soils, construction depths or other modern deposits and ground disturbances have the potential to impact upon the survival of any previously unknown archaeological remains. Any exposed archaeological remains could be disturbed by construction vehicle movements.

## 7. Conclusions and Recommendations

This DBA has set out the baseline for the Site, a 1 km study area for non-designated assets.

As required by the NPPF the heritage impact assessment has described the significance of known and potential heritage assets that may be affected, including any contribution made to their significance by their setting. The level of detail given is proportionate to the assets' importance, and to understand the potential impact of the Proposed Development on their heritage significance.

This DBA has identified the known archaeological resource within the study area. It has predicted a:

- Low/ Medium potential for Prehistoric remains;
- Low/ Medium potential for Roman remains;
- Low potential for early-medieval and medieval remains; and
- Low potential for modern remains.

This does not, however, categorically preclude the presence of currently unknown archaeological features, deposits or artefacts.

This DBA has identified that the Proposed Development has the potential to impact upon currently unidentified archaeological resources dating to the periods listed above if any intrusive groundworks are undertaken. Potential archaeological assets have been assessed as being of archaeological and, in some cases, historical interest in their capacity to inform local and regional research frameworks (East Midlands Regional Framework, 2019).

The Proposed Development is expected to have the potential to impact surviving buried archaeological remains and would likely truncate or remove any surviving archaeological remains to the depth of construction.

A phase of archaeological evaluation (trial trenching) is therefore proposed in accordance with a Written Scheme of Investigation to be agreed with the Historic Environment Officer for North Lincolnshire and approved by the Local Planning Authority. The results of which will inform the planning determination and therefore be required pre-application.

## 8. References

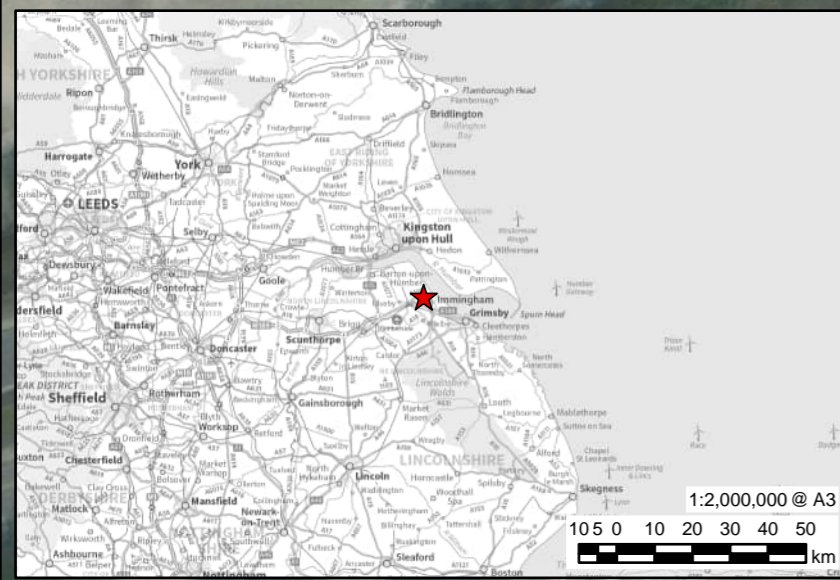
- AC Archaeology, 2000. Immingham CHP Project Natural Gas Pipeline Environmental Statement. SLS2374
- BGS (2023). *BGS Geology Viewer*. Available at: <https://geologyviewer.bgs.ac.uk/> [Accessed December 2023]
- Cameron, K. 1991. The Place Names of Lincolnshire, Part 2. English Place Name Society, Vol. LXIV, LXV
- CIfA (2022). *Code of Conduct*. Available at: <https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2021.pdf>
- CIfA (2020). *Standard and guidance for historic environment desk-based assessment*. Available at: [https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA\\_4.pdf](https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf)
- Deegan, A. 2009. Air photo mapping and interpretation for Option 7 of the A160-A180 Improvements, Immingham, North Lincolnshire
- Department for Environment, Food and Rural Affairs (2014). *East Inshore and East Offshore Marine Plans*. London. Available at: <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>
- Department for Levelling Up, Housing and Communities (2023). *National Planning Policy Framework (NPPF)*. Available at: [https://aecom-my.sharepoint.com/personal/iain\\_williamson\\_aecom\\_com/Documents/Documents/02\\_Reviews/Egdon-Wressle\\_DBA/National\\_Planning\\_Policy\\_Framework\\_\(publishing.service.gov.uk\)](https://aecom-my.sharepoint.com/personal/iain_williamson_aecom_com/Documents/Documents/02_Reviews/Egdon-Wressle_DBA/National_Planning_Policy_Framework_(publishing.service.gov.uk))
- Department for Transport (DfT), (2012). *National Policy Statement for Ports*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-ports>
- Flintoft, P. 2012. An Archaeological Evaluation at Greengate Lane, South Killingholme, North Lincolnshire. ARS Ltd, Report 2012/51
- Fraser, J. 2013. Humber Refinery, South Killingholme, North Lincolnshire: Assessment of Archaeological Potential. Report No. 437
- Glover, G. 2013. Archaeological Evaluation Report: Able Marine Energy Park, North Killingholme
- Historic England (2019). *Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12*. October 2019. Historic England, Swindon. Available at: <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/>
- Historic England (2018). *Roman and Medieval Sea and River Flood Defences. Introductions to Heritage Assets*. Historic England.
- Historic England (2017). *Historic Environment Good Practice Advice in Planning Note 3. 2nd edition. The Setting of Heritage Assets*. Historic England, Swindon. Available at: <http://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/>
- Historic England (2015). *Historic Environment Good Practice Advice in Planning: 2. Managing Significance in Decision Taking in the Historic Environment*. English Heritage, Swindon. Available at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/>
- IEMA (2021). *New guide to good practice in cultural heritage impact assessment* (published jointly by the Institute of Environmental Management and Assessment (IEMA), the Institute of Historic Building Conservation (IHBC) and CIfA. Available at: [https://www.archaeologists.net/sites/default/files/j30361\\_iema\\_principlesofchia\\_v8.pdf](https://www.archaeologists.net/sites/default/files/j30361_iema_principlesofchia_v8.pdf)
- J. & Macintosh, A. 2011. The Historic Character of the County of Lincolnshire Loughlin,
- Jennings, L. (ed.) (2019). *Lincolnshire County Council Archaeology Handbook*. Lincolnshire County Council. Available at: <https://www.lincolnshire.gov.uk/downloads/file/2204/archaeology-handbook-pdf>

- Knight, D., Vyner B. and Allen C. (2012). *An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*. Available at: <https://historicengland.org.uk/images-books/publications/east-midlands-heritage/>
- MHCLG (2019). *Planning Practice Guidance – Conserving and enhancing the historic environment*. Ministry of Housing, Communities and Local Government, London. Available at: <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>
- Murphy, K. 2006. Archaeological Evaluation on Land at Rosper Road, North Killingholme, North Lincolnshire
- N. & Miller, K. 1979. A Survey of Archaeological Sites in Humberside
- Noel, M. 1999. Geophysical Survey of an area of proposed development at Conoco Humber Refinery, Killingholme, North Lincolnshire
- North East Lincolnshire District Council (2018). *Local Plan 2013 to 2032*. Available at: <http://www.nelincs.co.uk/wp-content/uploads/2018/05/20180518-AdoptedLocalPlan2018-WEB.pdf>
- Russell, E. 1982. Landscape Changes in South Humberside. The Enclosure of Thirty-Seven Parishes
- Savage, S. & Buglass, J. 2001. The Archaeology of the Immingham CHP Site, Killingholme, North Lincolnshire
- Soil Survey (1983). *Soil Map of England and Wales. 1:250,000*.
- Staves, L. 2005. East End Farm Detector Survey
- Steedman, K. 2004. Geophysical Survey at East End Farm, South Killingholme, North Lincolnshire
- Stronach, S. 2010. Heron Renewable Energy Plant. 1, 5-19; Illus. 2 & 3; Appendix 4 & 5
- Van de Noort, R. & Davies, P. 1993. Wetland Heritage: An archaeological assessment of the Humber Wetlands, Humber Wetlands Project, University of Hull.
- VPI Immingham. 2019. OCGT Project. Environmental Statement: Volume 1, Chapter 13 Cultural Heritage
- Wood (2021). Phillips 66 Humber Refinery, FAME Tank Development Phase 1 Heritage/Archaeology Desk Based Assessment (not published)
- WYAS, 2010. A160 – A180 Improvements, Immingham, North and North-East Lincolnshire: Archaeological Evaluation. Report No. 2087

## Online resources consulted:

- Historic England Aerial Archaeology Mapping  
<https://historicengland.maps.arcgis.com/apps/webappviewer/index.html?id=d45dabecef5541f18255e12e5cd5f85a>
- Aerial photographic collections:  
<http://www.britainfromabove.org.uk/>
- Heritage Gateway:  
<https://www.heritagegateway.org.uk/gateway/>

# Appendix A Figures



# AECOM

**PROJECT**  
Fame Tanks

**CLIENT**  
Phillips 66

**CONSULTANT**  
AECOM Limited  
5th Floor  
2 City Walk  
Leeds, LS11 9AR  
www.aecom.com

**LEGEND**

- Site Boundary
- ★ Site Location

**NOTES**

Maxar, Microsoft  
Reproduced from Ordnance Survey digital  
map data © Crown copyright [2024]. All rights  
reserved. Licence number 0100031673.

**ISSUE PURPOSE**

FINAL

**PROJECT NUMBER**

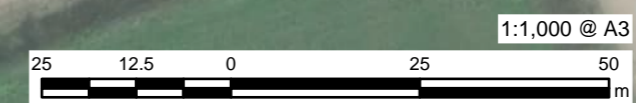
60712174

**FIGURE TITLE**

Site Location Plan






**FIGURE NUMBER**

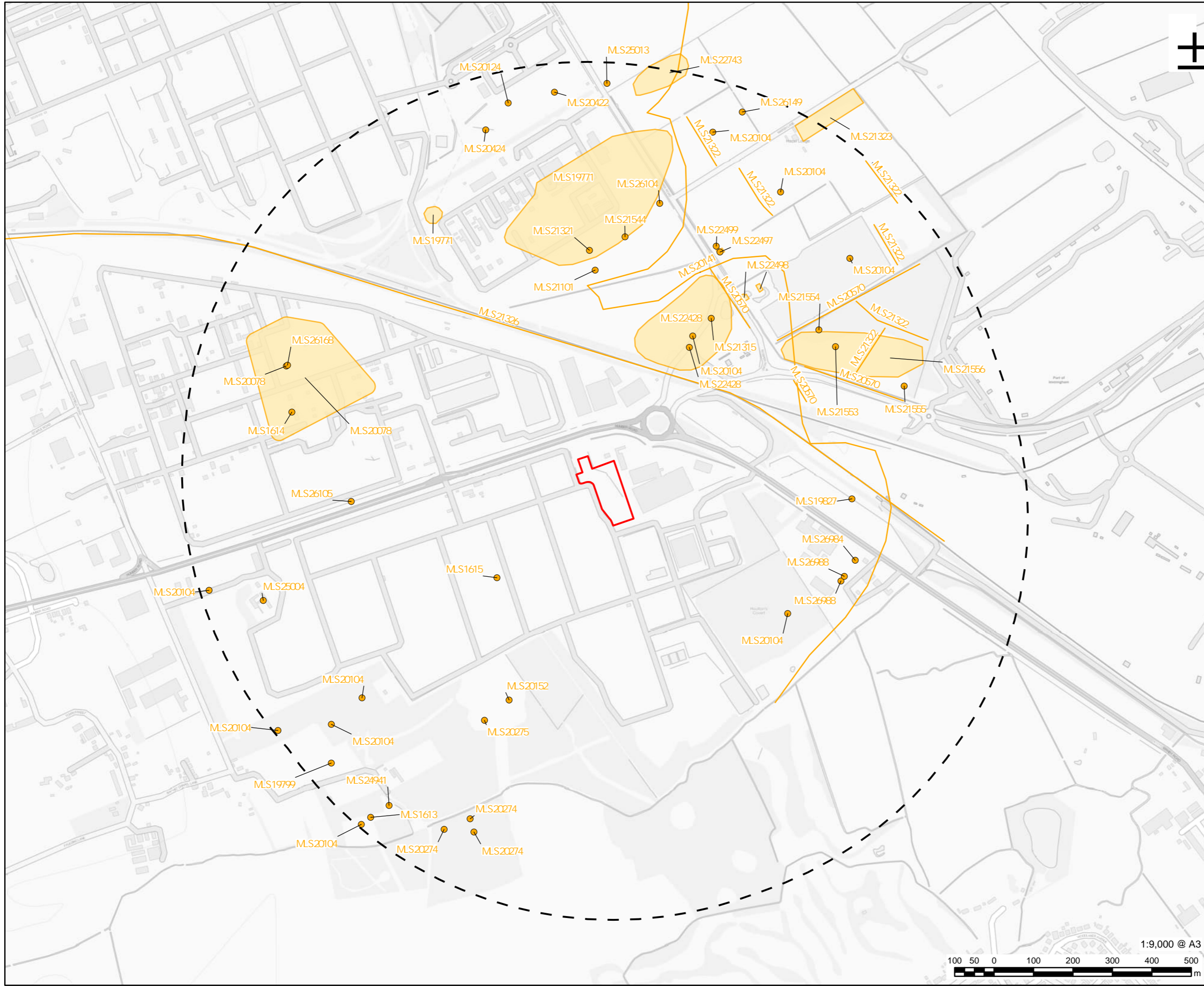
Figure 1



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, in any party that uses or relies on this drawing without AECOM's express written consent. Do not scale. This document, its contents and all measurements must be obtained from the stated dimensions.

**LEGEND**

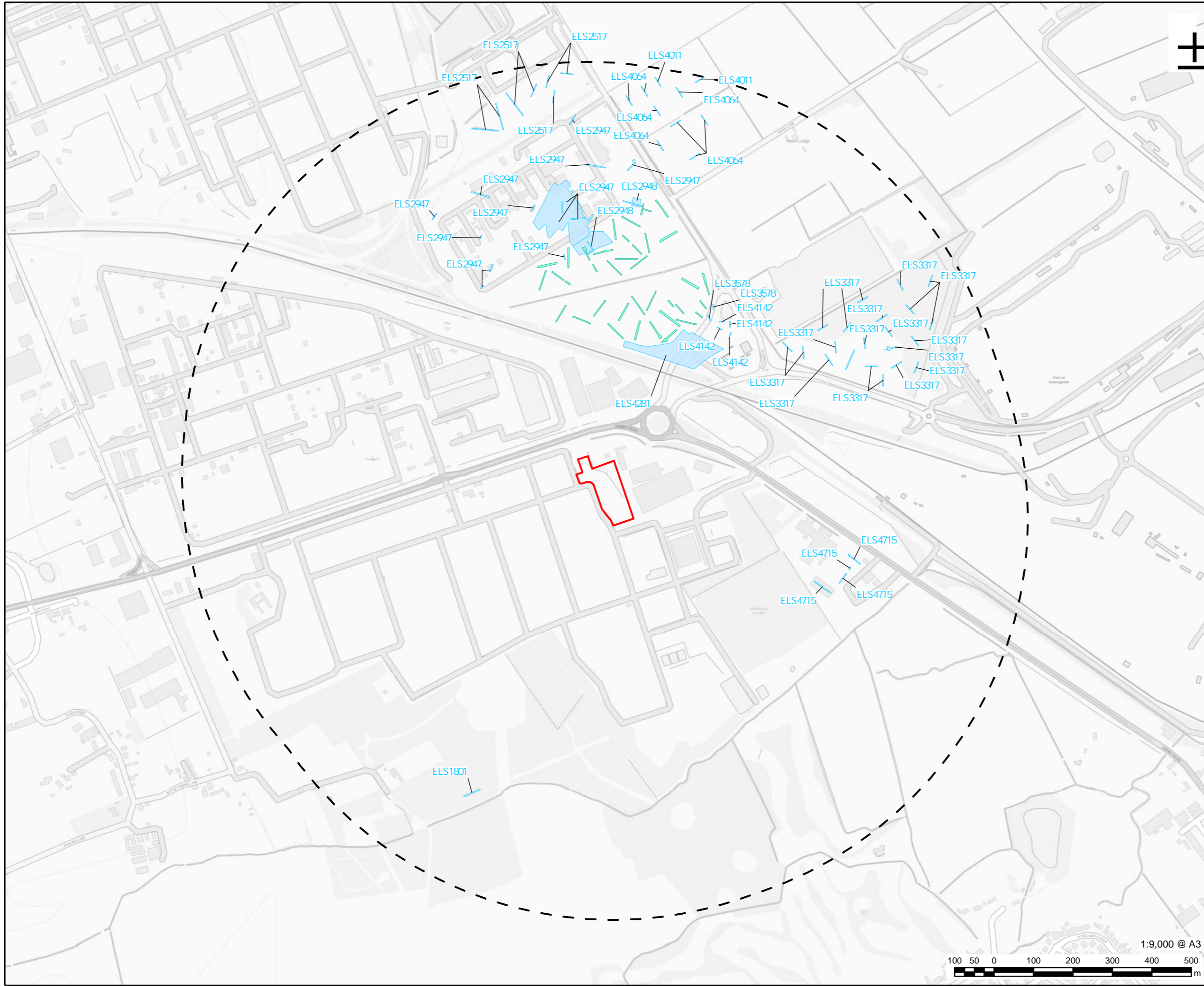
	Site Boundary
	1km Study Area
	HER Monument (Point)
	HER Monument (Line)
	HER Monument (Polygon)



**NOTES**  
 Reproduced from Ordnance Survey digital map data © Crown copyright [2024]. All rights reserved. Licence number 0100031673.

**ISSUE PURPOSE**  
 FINAL  
**PROJECT NUMBER**  
 60712174  
**FIGURE TITLE**  
 Heritage Assets within 1km of the Proposed Development (HER Monuments)  
**FIGURE NUMBER**  
 Figure 2a

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM, as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party for any loss or damage, whether direct or indirect, arising from the use of this drawing without AECOM's express written consent. Do not scale. All measurements must be obtained from the stated dimensions.



**LEGEND**

	Site Boundary
	1km Study Area
	Excavation Area
	Excavation Area (ID ELS4686)

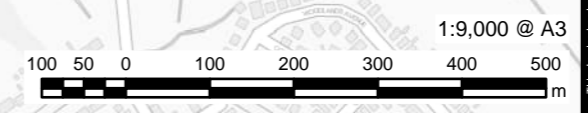
**NOTES**  
Reproduced from Ordnance Survey digital map data © Crown copyright [2024]. All rights reserved. Licence number 0100031673.

**ISSUE PURPOSE**  
FINAL

**PROJECT NUMBER**  
60712174

**FIGURE TITLE**  
Heritage Assets within 1km of the Proposed Development (Excavation Areas)

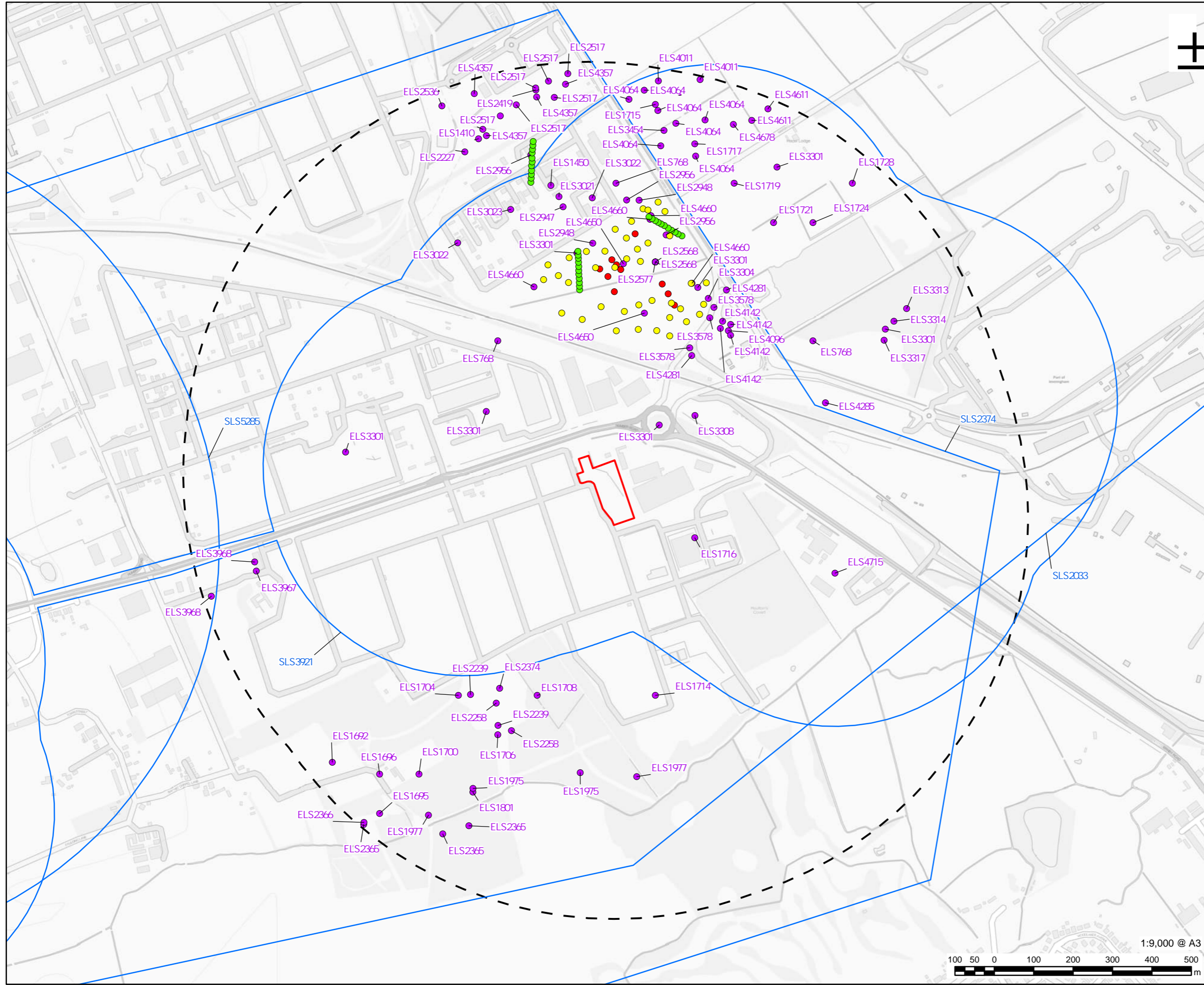
**FIGURE NUMBER**  
Figure 2b



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM, as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, in any party's reliance on this drawing without AECOM's express written consent. Do not scale. This document, its contents, and any measurements must be obtained from the stated dimensions.

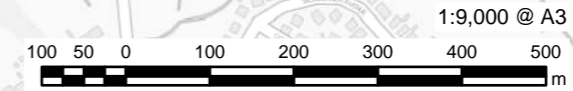
**LEGEND**

	Site Boundary
	1km Study Area
	HER Event
	HER Event (UID ELS4686)
	HER Event (UID ELS4685)
	HER Event (UID ELS3435)
	Desk Based Assessment



**NOTES**  
 Reproduced from Ordnance Survey digital map data © Crown copyright [2024]. All rights reserved. Licence number 0100031673.

**ISSUE PURPOSE**  
 FINAL  
**PROJECT NUMBER**  
 60712174  
**FIGURE TITLE**  
 Heritage Assets within 1km of the Proposed Development (HER Points and Desk Based Assessment)  
**FIGURE NUMBER**  
 Figure 2c



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM, as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any third party for any loss or damage, whether direct or indirect, arising from the use of this drawing without AECOM's express written consent. Do not scale. All measurements must be obtained from the stated dimensions.

# Appendix B Heritage Assets

1613	MED/PM SETTLEMENT AND SMV TRACES, SOUTH KILLINGHOLME	Ridge And Furrow, Shrunken Village	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 156 158 (1292m by 608m)
1614	RB OCCUPATION, OIL REFINERY	Findspot, Ditch, Enclosure	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1608 1662 (point)
1615	FLINT SCRAPER, RB POTTERY, OIL REFINERY, 1966	Findspot	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 166 162 (point)
19771	IRON AGE & ROMANO-BRITISH SETTLEMENT	Saltern, Settlement	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 167 171 (631m by 345m)
19799	FLINT FLAKES, EAST END	Findspot	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1618 1573 (point)
19827	POSSIBLE MEDIEVAL FARMSTEAD	Farmstead	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 175 164 (point)
20078	FORMER CROPMARK ENCLOSURE	Enclosure	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 161 167 (326m by 313m)
20104	OPEN FIELD SYSTEM, SOUTH KILLINGHOLME	Ridge And Furrow, Open Field	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 159 166 (3038m by 2974m)
20124	POSSIBLE CROPMARKS, SOUTH OF EAST MIDDLE MERE ROAD	Ring Ditch, Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1655 1759 (151m by 381m)
20141	FORMER SHORELINE, E OF ROSPER ROAD	Former Shoreline	NORTH KILLINGHOLME, NORTH LINCOLNSHIRE, SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 17 17 (1586m by 3617m)
20152	RB SETTLEMENT, EAST END FARM	Settlement	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 166 158 (point)
20273	GEOPHYSICAL ANOMALIES, EAST END FARM	Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1627 1555 (point)
20274	GEOPHYSICAL ANOMALIES, S OF EAST END FARM	Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 165 155 (76m by 34m)

20275	MEDIEVAL FINDS, EAST END FARM	Artefact Scatter	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 165 158 (point)
20422	IRON AGE DITCHES, W OF ROSPER ROAD	Boundary Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 166 176 (222m by 339m)
20424	MEDIEVAL DITCH, W OF ROSPER ROAD	Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1657 1733 (point)
20570	HISTORICALLY IMPORTANT HEDGEROWS, SOUTH KILLINGHOLME PARISH	Hedge	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 17 17 (1083m by 1230m)
21101	CROPMARK FIELD BOUNDARY	Field Boundary	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1684 1698 (point)
21315	GEOPHYSICAL ANOMALY, WEST OF ROSPER ROAD	Natural Feature	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1714 1685 (point)
21321	SQUARE ENCLOSURE ?, WEST OF ROSPER ROAD	Square Enclosure	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1683 1703 (point)
21322	WWII AIRCRAFT OBSTRUCTIONS	Aircraft Obstruction	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 173 170 (612m by 657m)
21323	MARSH ROW (SITE OF)	Terraced House	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1744 1737 (173m by 133m)
21326	THE HUMBER COMMERCIAL RAILWAY	Railway	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE, ULCEBY, NORTH LINCOLNSHIRE	Centred TA 148 169 (5340m by 1899m)
21544	WORKED FLINT	Artefact Scatter	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 169 170 (point)
21553	LATE BRONZE AGE FEATURE, N OF HUMBER ROAD	Feature	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1745 1678 (point)
21554	EARLY BRONZE AGE DITCH, N OF HUMBER ROAD	Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1741 1682 (point)
21555	MIDDLE BRONZE AGE MOUND, N OF HUMBER ROAD	Burnt Mound	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1763 1668 (point)
21556	IRON AGE & ROMAN SETTLEMENT, N OF HUMBER ROAD	Saltern, Settlement, Iron Working Site	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1750 1676 (359m by 115m)
22428	LATE IRON AGE ENCLOSURE AND ROUNDHOUSES, WEST OF ROSPER ROAD	Enclosed Hut Circle Settlement, Ditch, Enclosure	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1707 1684 (246m by 240m)

22497	MISSION ROOM (SITE OF) ROSPER ROAD	Mission Hall	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1716 1702 (21m by 18m)
22498	DAY SCHOOL AND SCHOOL HOUSE (SITE OF), ROSPER ROAD	School	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1722 1691 (60m by 46m)
22499	MYRTLE VILLAS (SITE OF), ROSPER ROAD, SOUTH KILLINGHOLME	House	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1715 1704 (point) Centred TA 1701 1747 (141m by 104m)
22743	LATE ROMAN DITCHES, NORTH OF MARSH LANE	Ditch	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	
24941	SITE OF UNNAMED FARMSTEAD, SOUTH KILLINGHOLME	Farmstead	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1632 1562 (point)
25004	WALMER HOUSE FARM, SOUTH KILLINGHOLME	Farmstead	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1600 1614 (point)
25013	SITE OF UNNAMED FARMSTEAD, SOUTH KILLINGHOLME	Farmstead	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1687 1745 (point)
26104	SITE OF CHAPEL, WEST SIDE, ROSPER ROAD	Chapel	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1701 1714 (point)
26105	SITE OF FARMSTEAD, NORTH SIDE OF A160	Farmstead	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1623 1639 (point)
26149	SECOND WORLD WAR BOMB CRATER, SOUTH KILLINGHOLME	Bomb Crater	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1722 1738 (point)
26168	SECOND WORLD WAR SEARCHLIGHT EMPLACEMENT, NORTH KILLINGHOLME	Searchlight Emplacement	NORTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1606 1673 (point)
26984	POSSIBLE RING DITCH AND GULLY	Ring Ditch, Gully	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	TA 1750 1624 (point)
26988	UNDATED GULLIES	Gully	SOUTH KILLINGHOLME, NORTH LINCOLNSHIRE	Centred TA 1747 1619 (9m by 11m)

