
VPI Immingham Energy Park 'A' Power Station

Land adjacent to the existing Combined Heat and Power (CHP) Plant at South Killingholme, Immingham

Written Scheme of Investigation
Planning Condition 13; Application reference PA/2018/918

Town and Country Planning (Environmental Impact Assessment)
Regulations 2017



Applicant: VPI Immingham LLP
Date: July 2022

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1. Introduction

1.1 Overview

- 1.1.1 AECOM (The Consultant) have been commissioned by VPI Immingham LLP (the Client) to prepare a Written Scheme of Investigation (WSI) for an archaeological strip, map and record excavation required prior to the development of a proposed new gas-fired power station at South Killingholme, Immingham (the 'Site').
- 1.1.2 The archaeological fieldwork for this area will comprise a scheme of archaeological strip, map and sample excavation and recording to be undertaken prior to the development groundworks (see plan in Appendix A – see areas outlined in green and orange, and the Temporary Construction Road).
- 1.1.3 Planning permission (Application reference PA/2018/918) to construct a new gas-fired power station was granted in September 2018.
- 1.1.4 The archaeological fieldwork is required in line with Planning Condition 13. This states:

13.
No development shall take place until a Written Scheme of Investigation (WSI) has been submitted to and approved in writing by the local planning authority. The WSI shall include details of the following:
- (i) measures to ensure the preservation by record of archaeological features of identified importance
 - (ii) methodologies for the recording and recovery of archaeological remains, including artefacts and ecofacts
 - (iii) post-fieldwork methodologies for assessment and analyses
 - (iv) report content and arrangements for dissemination, and publication proposals
 - (v) archive preparation and deposition with recognised repositories
 - (vi) a timetable of works in relation to the proposed development, including sufficient notification and allowance of time to ensure that the site work is undertaken and completed in accordance with the strategy
 - (vii) monitoring arrangements, including the notification in writing to the North Lincolnshire Historic Environment Record of the commencement of archaeological works and the opportunity to monitor such works
 - (viii) a list of all staff involved in the implementation of the strategy, including sub-contractors and specialists, their responsibilities and qualifications.

Reason
To comply with policy HE9 of the North Lincolnshire Local Plan because the site lies in an area of archaeological interest.

- 1.1.5 This document outlines the methodology to be used for the archaeological strip, map and record excavation and has been prepared in consultation with Alison Williams, Historic Environment Officer at North Lincolnshire Council (NLC).
- 1.1.6 A Method Statement for the works has been produced by the Archaeological Contractor. This forms Appendix B.
- 1.1.7 For clarification, the following terminology is used throughout this document:
- Client (VPI Immingham LLP);
 - Consultant (AECOM);
 - Contractor (the groundworks contractor commissioned to carry out site works); and
 - Archaeological Contractor (the suitably qualified archaeological contractor commissioned to carry out the fieldwork outlined in this document)

2. Site Location, Development Description and Geology

- 2.1.1 The Site is located immediately to the north of the existing VPI CHP power station and east of the Lindsey Oil Refinery (LOR) in North Killingholme, Lincolnshire DN40 3DZ. Immingham Dock is located approximately 1.75km to the south east at its closest point. The Humber ports facility is located approximately 1.25km north at its closest point and the Humber Refinery is located approximately 500m to the south.
- 2.1.2 The villages of South Killingholme and North Killingholme are located approximately 1.4 km and 1.7 km to the west of the Site respectively, and the town of Immingham is located approximately 1.8 km to the south east. The nearest residential property comprises a single house off Marsh Lane, located approximately 650m to the east of the Site.
- 2.1.3 The Site comprises the following main parts:
- The Power Plant Site, on which the principal components of the Proposed Development will be situated;
 - Temporary Construction Laydown area for the receipt, storage and partial assembly of the project equipment and materials to be installed or constructed;
 - Site access, both for temporary construction purposes and for operational access; and
 - Gas and Electrical connection corridors to the existing CHP site to the south of the Site.
- 2.1.4 The Site is located entirely within the boundary of the administrative area of North Lincolnshire Council (a unitary authority).
- 2.1.5 The bedrock geology of the site comprises Burnham Chalk formation and the superficial geology consists of Devensian Till (Diamicton) across the majority of the site and Tidal Flats Deposit (clay and silt) in the east of the study area. (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).
- 2.1.6 Based on the results of previous investigations conducted on the site, the depth to bedrock is anticipated to vary between 15m below ground level (bgl) in the west of the site and up to 30m bgl in the eastern end of the site.

3. Archaeological Background

- 3.1.1 A study area of 1km from the centre of the site was undertaken for both designated and non-designated assets. The distance has been judged as appropriate to inform the assessment and to provide the context of and potential for heritage assets within the wider landscape. The information below has been summarised from Chapter 11 (Cultural Heritage) of the Environmental Statement for the site (AECOM 2018).
- 3.1.2 A total of 58 archaeological heritage assets were recorded on the Historic Environment Record within the defined study area. The bracketed numbers after sites within the text are detailed on Appendix C and on the figure in this appendix.
- 3.1.3 There are 11 assets of prehistoric date. The earliest recorded asset was Mesolithic (10,000 – 4,000BC) organic remains recorded from peat deposits identified from a borehole (A50). 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. Iron Age/ Roman (800BC – AD410).
- 3.1.4 There are a number of assets that date to the Iron Age (800BC – AD43) and Roman (AD43 – 410) 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 within the Proposed Development, and to the north, was undertaken in 2006 by Archaeological Project Services. This suggested the area was used for agricultural purposes during the Iron Age, as environmental samples recorded a lack of occupational debris.
- 3.1.5 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 Site and contained evidence of an early Iron Age settlement and a late Iron Age/ Roman settlement (A6). Part of this settlement survives within the eastern part of the site boundary. The second settlement (A35) is recorded to the north of Station Road and approximately 1.2km north of the Conoco CHP plant. This 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, contained 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).
- 3.1.6 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 (A36 & A49).
- 3.1.7 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. 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); both were identified through geophysical survey. 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), containing a Toynton ware pottery sherd, has also been identified to the west of Rosper Road.

- 3.1.8 There are three scheduled monuments recorded outside of the 1km 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 second site is at Baysgarth Farm, located approximately 2.5km north-west of the Proposed Development, while the third scheduled monument is North Garth moated site (1007815), located approximately 2.2km north-west of the Proposed Development. The 14th century Thornton Abbey is located approximately 4.6km north-west of the site (and 2.64km NNW of the western end of the pipeline of the proposed development). 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.
- 3.1.9 There are 11 archaeological assets of post-medieval (1500 – 1900) date recorded within the study area. 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). 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.
- 3.1.10 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. To the west of the development site is the former RAF North Killingholme as well as the Killingholme Power Stations and the Humber oil refinery.
- 3.1.11 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.
- 3.1.12 There are six assets of unknown date recorded within the study area. These include 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 Site.

4. Project Objectives

- 4.1.1 The principal objective of the archaeological fieldwork covering the area of the proposed development is to ensure the recording of archaeological remains within the site boundary.
- 4.1.2 The specific objectives of the archaeological excavation are:
- To identify, record and sample excavate any archaeological deposits, features and artefacts which may be present within the development;
 - To characterise and date any anomalies or finds recovered; and to produce a report on the findings of the works.
- 4.1.3 Specific research objectives taken from the Regional Research Framework (Cooper 2006 and <https://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/>) are as follows:
- What can we learn about the development of Iron Age field and boundary systems?
 - Does the Iron Age boundary identified during earlier evaluation tell us anything about the economic, social or political situation of the region in the period?
 - Does the boundary provide information about the agrarian landscape?
 - Did the Iron Age activity influence the Roman settlement pattern within the immediate area?
 - How did Roman field and boundary systems relate to earlier systems of land allotment, and how did these boundary networks develop over time?

5. Works Specification

5.1 General Works

- 5.1.1 All archaeological works will be carried out by a suitably qualified Archaeological Contractor in accordance with this document (and any further instruction from the Consultant). This Specification has been produced in accordance with the published guidelines for archaeological excavation and archiving produced by the Chartered Institute for Archaeologists (CIfA, 2020a; CIfA, 2020b), and the CIfA Code of Conduct (CIfA, 2021). The Archaeological Contractor shall also take into consideration other relevant guidance and good practice (see Appendix D).
- 5.1.2 The Archaeological Contractor has prepared a detailed Method Statement for the works. This must also be agreed with the Historic Environment Officer at NLC in regard to the fieldwork methodology and specific requirements of the Method Statement. This can be found in Appendix B.
- 5.1.3 The Archaeological Contractor shall ensure that the investigations are suitably staffed for the nature and extent of the fieldwork.

5.2 Archaeological Excavation

- 5.2.1 The archaeological excavation will be carried out in accordance with this document and the method statement (and any further instructions from the Consultant). Any changes to the method statement must be agreed with the Historic Environment Officer at NLC.
- 5.2.2 The Archaeological Contractor will supervise the removal of material. The excavation will be undertaken under direct archaeological supervision, using an appropriate 360° mechanical excavator fitted with a toothless ditching bucket. A toothed bucket or breaker may only be used temporarily if concrete, tarmac or other hard standing is encountered. A toothless bucket is to be used at all other times. Mechanical excavation will proceed under direct archaeological supervision in transects across the full width of the development impact zone until either the top of the first archaeological horizon or undisturbed natural deposits are encountered. Particular attention should be paid to achieving a clean and well-defined horizon with the machine. Topsoil overburden and subsoil will be stockpiled separately. The mechanical excavator will not traverse any stripped areas. A ratio of one supervising archaeologist per machine must be maintained. The purpose of the stripping is to determine the extent of any archaeological remains.
- 5.2.3 Where archaeological deposits are identified during the groundworks the Archaeological Contractor will clean, record and sample excavate the remains as appropriate. The machined surface will be hand cleaned if necessary, and inspected for archaeological features, and all identified features should be marked on the ground to ensure that they are not “lost” during the mapping stage. Pre-excavation planning will be undertaken to record all identified archaeological features. The pre-excavation plan will form the basis for discussion on site to inform the strategy for detailed excavation of the archaeological remains.

- 5.2.4 There may be pockets of made ground encountered at the site. Once uncovered, the extent should be identified and the depth investigated. Shallow levels (less than 0.25m) should be removed to determine if any archaeological features survive below them. However, if more extensive deposits are located a meeting will be held on site with the Client, the Contractor, the Archaeological Contractor and the Historic Environment Officer at NLC to determine if removal is required for archaeological purposes. Instruction to remove any made ground will be given by the Client following a price resource programme from the Archaeological Contractor. It should be noted that where this involves removing more material than anticipated, additional machining and resources may be required.
- 5.2.5 The removal of any made ground that needs to be removed for construction purposes will need to be archaeologically monitored
- 5.2.6 Hand excavation, recording and sampling will proceed in accordance with the methodology outlined in this document and confirmed in writing by the Archaeological Contractor's Method Statement, in order to meet the aims and objectives of the excavation.
- 5.2.7 Archaeological deposits will be excavated and recorded stratigraphically in accordance with a recording system approved by the Historic Environment Officer at NLC. All relationships between features or deposits will be investigated and recorded. Machine- assisted excavation may be permissible by the Archaeological Contractor employed if large deposits are encountered but only after consultation and agreement with the Consultant and the with the Historic Environment Officer at NLC
- 5.2.8 Areas affected by the groundworks (even if they reveal no archaeological features) will be recorded on a suitable base map/ development plan and the stratigraphy and depth of excavation will be recorded. Details on recording procedures where significant archaeology is discovered are detailed in the section below.

5.3 Archaeological Sampling

- 5.3.1 A sufficient sample of deposits/features will be investigated through sample excavation in each area to record the horizontal and vertical extent of the stratigraphic sequence to the level of undisturbed natural deposits. The following sampling strategies will be used as a minimum:
- 5.3.2 Any deposits relating to funerary/ritual activity (e.g., burials, cremations,) and domestic/industrial activity (post-holes, hearths, floor surfaces/floor make-up deposits) will be investigated by removing a 100% sample of the deposit from each feature.
- 5.3.3 Features relating to agricultural and other activities will be subject to the following sampling levels. Pits will require a minimum of a 50% sample of the deposits from each feature; linear features (e.g., ditches/gullies, paths/tracks) will require a minimum of a 20% sample of the deposits from each feature.

- 5.3.4 There may be cases when individual features do not merit these sampling levels. Any sampling variation would need to be approved by the Consultant and the Historic Environment Officer at NLC following on-site discussion.
- 5.3.5 Should deep features, such as wells, be uncovered that will require excavation below a safe working depth, machine excavation may be permissible in agreement with the Consultant and the Historic Environment Officer at NLC. Provision should be made for the taking of intact geo-archaeological borehole samples to the base of the feature by an appropriate professional contractor.

5.4 Environmental Sampling

- 5.4.1 The strategy for environmental sampling is included within the detailed Method Statement. This will follow Historic England's guidance on Environmental Archaeology (2011). Provision will also be made for the recovery of material suitable for scientific dating.
- 5.4.2 Any samples taken must come from appropriately cleaned surfaces, be collected with clean tools and be placed in clean containers. They will be adequately recorded and labelled, and a register of all samples will be kept. Once the samples have been obtained they should be stored appropriately in a secure location prior to being sent to the appropriate specialist.

5.5 Archaeological Recording

- 5.5.1 A unique site code should be assigned for the project. Prior to the commencement of all site investigations the Archaeological Contractor will liaise with North Lincolnshire Council to ensure that the Site Code and Context Numbering system is compatible with their adopted system. An accession code should also be obtained from the recipient museum.
- 5.5.2 Following machine excavation, the extent of the excavation area will be accurately recorded using electronic survey equipment. The data will be overlaid at a scale of 1:500 onto the Ordnance Survey National Grid (using digital map data).
- 5.5.3 A full written, drawn and photographic record will be made of each area even where no archaeological features are identified. Hand drawn plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). All plans and sections will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.
- 5.5.4 Photographs will be taken to record archaeological features and excavated areas. General site photographs will also be taken in order to provide a visual overview of the site. Attention should be paid to obtaining shots suitable for displays, exhibitions and other publicity.
- 5.5.5 A full graphic, photographic and written record of the findings will be made. Individual contexts will be recorded on separate contexts sheets within a context register. Plans shall be drawn to a 1:50 or 1:20 scale and section drawings to a scale of 1:20 or 1:10 as appropriate. Drawn records will be related to Ordnance Survey datum and published boundaries where appropriate.

- 5.5.6 Digital images should be captured on a Single Lens Reflex (SLR) camera at a minimum resolution of 10 mega-pixels. The camera must be set at the largest file size and highest picture quality. Images are acceptable as high quality .jpg files or camera .raw files. If the .raw setting is used the archive must include a set of images saved as .tiff files as manufacturer specific specialist software may be required to open the .raw files.
- 5.5.7 In addition to records of archaeological features and excavated areas, a number of general site photographs will also be taken to give an overview of the site. Particular attention should be paid to obtaining shots suitable for displays, exhibitions and other publicity. Digital photography may be used to supplement the formal photographic record, for example to produce images to illustrate the report or for publicity. Site staff visible in photographs must be wearing the full Personal Protective Equipment (PPE) required.

5.6 Artefact Recovery

- 5.6.1 All artefacts will be collected, stored and processed in accordance with standard methodologies and national guidelines (Appendix D). All non-modern artefacts will be collected and retained. Each 'small find' will be recorded three dimensionally. Similarly if artefact scatters are encountered these should be also recorded three dimensionally. Bulk finds will be collected and recorded by context.
- 5.6.2 Where necessary the artefacts will be stabilised, conserved and stored in accordance with the guidelines of the UKIC (United Kingdom Institute of Conservators). Artefacts will be stabilised for storage after excavation. If necessary, a conservator will visit the site to undertake 'first aid' conservation treatment. Should any complex or significant discoveries be encountered, the Consultant should be contacted immediately to discuss the situation in consultation with the Historic Environment Officer at NLC.
- 5.6.3 Artefacts will be stored in appropriate materials and conditions and monitored to minimise further deterioration until their final conservation and deposition.

5.7 Human Remains

- 5.7.1 Should human remains be discovered during the course of the excavations, the remains will be covered and protected and left in situ in the first instance. The removal of human remains will only take place in accordance with the appropriate Department for Constitutional Affairs and Environmental Health regulations and the Burial Act 1857, if appropriate. In the event of the discovery of human remains the Archaeological Contractor will notify the Consultant immediately. The Archaeological Contractor will be responsible for obtaining a burial licence should the need arise.

5.8 Treasure

- 5.8.1 Any artefacts that fall within the scope of the Treasure Act (1996) will be reported to the Consultant. The Consultant will contact H.M. Coroner for the North Lincolnshire area to ensure that Treasure Act procedures are followed; and ensure that all relevant parties are kept informed.

6. Completion of Fieldwork

- 6.1.1 The Archaeological Contractor shall prepare a Completion Statement at the end of the fieldwork. The Completion Statement shall be submitted to the Consultant within one working day of completion. The required investigations on site will only be deemed to be complete once a final monitoring visit has been undertaken by the Historic Environment Officer at NLC and they have confirmed in writing that all required archaeological investigations on site are complete. Once this is received, the site can be released for construction.
- 6.1.2 The area where investigations are carried out will be left in a tidy and workmanlike condition and the Archaeological Contractor will ensure that all materials brought onto site are removed.
- 6.1.3 As a minimum, an OASIS entry (Online Access to the Index of Archaeological Investigation Scheme) shall be completed within one month of the end of the fieldwork, irrespective of whether a formal report is required (available online at: <http://ads.ahds.ac.uk/project/oasis/>). If appropriate the entry should include caveats about conclusions drawn in advance of analysis. The OASIS entry may be updated and re-submitted no later than three months after the completion of the report.

7. Monitoring, Progress Reports & Meetings

- 7.1.1 The fieldwork may be subject to regular weekly monitoring visits by the Consultant, who will have unrestricted access to the records or any other information. The work will be inspected to ensure that it is being carried out to the required standards and that it will achieve the stated objectives.
- 7.1.2 Progress meetings between the Consultant and the Archaeological Contractor will be held on site during the course of the fieldwork. The Historic Environment Officer at NLC and, if required, Historic England's Regional Inspector shall be invited to attend. These meetings will be arranged by the Consultant.
- 7.1.3 The Archaeological Contractor will only accept instruction from the Consultant and the Historic Environment Officer at NLC.

8. Reporting

- 8.1.1 The appointed Archaeological Contractor shall undertake a post-excavation assessment of archive material. The strategy for assessment will be subject to agreement with the Historic Environment Officer at NLC. Each category of data and material recovered by the fieldwork (site records/stratigraphic data, each category of artefact or other find, each category of palaeoenvironmental/economic evidence, any other data) shall be examined and assessed by a suitably qualified and experienced archaeologist or specialist in line with the principles set out by Historic England in Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (MoRPHE, 2015). If necessary to achieve the aims and objectives of the post-excavation works, dating evidence shall be obtained by the application of radiocarbon, dendrochronological or other scientific dating techniques.
- 8.1.2 The finds and samples will be processed (cleaned and marked) as appropriate. A suitably qualified archaeologist or specialist will assess each category of find or environmental/industrial material and their results will be incorporated into the report. The North Lincolnshire Ceramic Type Series must be used by the relevant specialists, or where appropriate, concordance lists provided. Specialists should confirm in writing their adherence to this requirement for submission with the detailed Method Statement.
- 8.1.3 An Updated Project Design will be produced in accordance with MoRPHE and other relevant national guidelines. The Updated Project Design shall summarise and consider all preceding phases of work and set out the further analytical and reporting works, if any, that are required to achieve the research objectives identified in the post-excavation assessment report. If the assessment process identifies that no further work is required for the area, then the Updated Project Design should clearly state that this is the case.
- 8.1.4 The post-excavation assessment report for the excavation works will be prepared in line with MoRPHE.
- 8.1.5 The report will include the following:
- A non-technical summary;
 - Site area location;
 - A brief description of the background and circumstances of the work;
 - Archaeological and historical background (to include the work undertaken by all previous contractors);
 - Methodology;
 - Aims and objectives (as detailed in this project WSI and with consideration of subsequent findings detailed in the interim report for each phase);
 - Results (to include brief description, assessment of condition, quality and significance of the remains);
 - Statement of potential with recommendations;

- A statement of the significance of the results in their local, regional and national context according to the Research Framework;
 - Publication proposals if warranted;
 - Archive storage and curation;
 - General location plan of the investigation areas accurately positioned on an Ordnance Survey base map (to a known scale);
 - Detailed plans and sections, if appropriate (to a known scale);
 - A composite plan produced at a scale of 1:50;
 - A complete site matrix;
 - A quantification of the project archive; and
 - A consideration of the results of earlier field-work, post-excavation assessment and analysis.
- 8.1.6 The assessment will be completed within six months after the completion of the fieldwork, if archaeological features are located. Should no archaeological remains be identified, the report should be completed within 12 weeks. In finalising the post-excavation assessment report the comments of the Consultant and the Historic Environment Officer at NLC will be taken into account.
- 8.1.7 One copy of the complete report will be submitted to the Consultant as a draft. In finalising the report the comments of the Consultant and the Historic Environment Officer at NLC will be taken into account.
- 8.1.8 Finalised digital copies will be required within one week of the receipt of the Consultant comments on the draft report.
- 8.1.9 Electronic files will be provided in Word for Windows and pdf format.
- 8.1.10 The Consultant will submit one digital copy to the North Lincolnshire Council Historic Environment Record.
- 8.1.11 Provision will be made for a publication of the results in a recognised local or national journal or monograph series. The final report and place of publication will be approved by the Consultant and passed on to the Historic Environment Officer at NLC for final approval. The appropriate editor should be consulted, and an estimate of publication costs obtained and included in the updated costs for the production of the post-excavation analysis report and publication.
- 8.1.12 Reports for publication (and illustrations) will be peer reviewed and submitted initially to the Consultant for review, comment and approval before being provided to the Historic Environment Officer at NLC.

9. Resources and Timetable

- 9.1.1 All archaeological personnel involved in the project should be suitably qualified and experienced professionals. The Archaeological Contractor shall provide the Archaeological Consultant with staff CVs of the Project Manager, Site Supervisor, site assistants and specialists. All site assistants should have an appropriate understanding of fieldwork procedures.
- 9.1.2 The Archaeological Consultant will inform the Archaeological Contractor and the Historic Environment Officer at NLC of the start date for the works within one week of the start date. The programme is included within the detailed Method statement (see Appendix B).

10. Archive Preparation and Deposition

- 10.1.1 The archive of finds and records generated during the fieldwork will be kept secure until the deposition stage of the post-excavation process. All records and materials produced will be quantified, ordered, indexed and internally consistent by the Archaeological Contractor and cross checked accordingly upon receipt of the previous phase archive. The archives for each phase and the final collation of all archives will be produced to the standards outlined by Brown (2011, Annex 13E.3).
- 10.1.2 The Archaeological Contractor appointed to undertake the Post-Excavation Assessment will, prior to the start of the final phase, contact the recipient museum to obtain agreement in principle to accept the artefactual, documentary, digital and photographic archive for long-term storage and curation. The Archaeological Contractor will be responsible for identifying any specific requirements or policies of the museum in respect of the archive, and for adhering to those requirements.
- 10.1.3 The Archaeological Contractor will store the archive in a suitable secure location until it is deposited in the agreed museum following the final phase of work.
- 10.1.4 The final deposition of the archive forms the final stage of this project. The Archaeological Contractor shall provide the Archaeological Consultant with copies of communication with the recipient museum and written confirmation of the deposition of the archive. The Archaeological Consultant will deal with the transfer of ownership and copyright issues.
- 10.1.5 The archiving of any digital data arising from the project should be undertaken in a manner consistent with professional standards and guidance (Richards & Robinson 2000). The Archaeological Contractor should liaise with an appropriate digital archive repository to establish their detailed requirements and discuss the transfer of the digital archive, which should include any digital photographs.
- 10.1.6 The archaeological contractor should also liaise with the Historic Environment Officer at NLC, to make arrangements for digital information arising from the project to be submitted to the North Lincolnshire Council Historic Environment Record for Historic Environment Record (HER) enhancement purposes.
- 10.1.7 Finalised digital versions of the report will be required within one week of the receipt of comments on the draft report.
- 10.1.8 Electronic files will be provided in Word for Windows and pdf format.
- 10.1.9 The Archaeological Contractor will deposit the archive with an appropriate depository which must be identified in advance of the project. It is the responsibility of the Archaeological Contractor to adhere to any clauses the said depository may have.
- 10.1.10 As part of this project the Archaeological Contractor is required to fill in an OASIS data capture form on completion of each the project, and on deposition of the final archive. A copy of the OASIS

recording form should be included in the report. Details of the progress, copies of the form and guidelines for its completion can be found at <http://ads.ahds.ac.uk/project/oasis>. Failing this, the Archaeological Contractor shall contact the Archaeology Data Service directly for further advice.

11. Copyright

- 11.1.1 The Archaeological Contractor shall assign copyright in all reports, documentation and images produced as part of this project to the Client. The Archaeological Contractor shall retain the right to be identified as the author or originator of the material. This applies to all aspects of the project. It is the responsibility of the Archaeological Contractor to obtain such rights from sub-contracted specialists.
- 11.1.2 The Archaeological Contractor may apply in writing to use or disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.
- 11.1.3 The results of the archaeological works shall be submitted to the Client, the Historic Environment Officer at NLC and if required to Historic England by the Consultant and will ultimately be made available for public access.
- 11.1.4 The HER shall be able to use the reports for reference purposes, on the understanding that such licence does not cover commercial use of the material by NLC or any third party. In all cases the Archaeological Contractor and the commissioning body will retain the right to be identified as the originator of the work.

12. Access Arrangements and Site Information

- 12.1.1 Access to the application site to carry out archaeological investigations will be arranged by the Client.
- 12.1.2 Should the Archaeological Contractor require adjustment to the location of fieldwork interventions or works areas due to local conditions, this shall be agreed with the Archaeological Consultant prior to its implementation.

13. Insurances and Health and Safety

- 13.1.1 The Archaeological Contractor will provide the Client with details of their public liability and professional indemnity insurance cover.
- 13.1.2 The Archaeological Contractor, will prepare the necessary Health and Safety Plan, Risk Assessment and Method Statements, provide suitable welfare facilities and undertake Health and Safety (H&S) Site inductions for all staff that work on the project. The Archaeological Contractor will also co-ordinate their Health and Safety Plan, Risk Assessment and Method Statements following consultation with the Contractor appointed to carry out general site groundworks.
- 13.1.3 The Archaeological Contractor will have their own Health and Safety policy as required under the Health and Safety at Work etc. Act 1974. A copy of the Archaeological Contractor's latest Health and Safety policy will be submitted to the Client.
- 13.1.4 The Archaeological Contractor shall prepare Risk Assessment(s), Method Statement(s) (RAMS), and a project specific Health and Safety Plan and submit these to the Client for approval prior to starting on site. The Archaeological Contractor will not be permitted to start on site until the Client has confirmed that the Plan is acceptable for the proposed works. If amendments are required to these reports during the works, the Client and the Consultant must be provided with the revised document at the earliest opportunity.
- 13.1.5 The site supervisor will be qualified to a minimum Site Supervisor Safety Training Scheme (SSSTS) level. All other staff involved in the fieldwork will be Construction Skills Certification Scheme (CSCS) qualified. For the majority, this will comprise holding an "Academically Qualified Person" (AQP) card, though CSCS-qualified "Professionally Qualified Person" (PQP) card holders, "Labourer" green card holders, and those holding currently valid Construction Related Operation (CRO) "Archaeological Operative" cards may be deployed to the scheme. CVs will include details of SSSTS, CSCS and all other relevant qualifications and accreditations, with expiry dates.
- 13.1.6 The Client will provide the Archaeological Contractor with the results of recently conducted service and utility searches; however, the Archaeological Contractor shall be responsible for identifying any buried or overhead services and taking the necessary precautions to avoid damage to such services, prior to and during the fieldwork. The Archaeological Contractor will ensure that any individual scanning for buried services is both competent and appropriately trained. The Archaeological Contractor shall at all times maintain a safe working distance from the overhead and buried services / utilities. In addition, the Archaeological Contractor shall be responsible for any requirements with regard to work in the vicinity of watercourses and live carriageways. The Archaeological Contractor's Risk Assessment(s) and project Health and Safety Plan shall make reference to relevant guidance and good practice (for example: Health and Safety Executive SEGS6 - Avoidance of Danger from Overhead Lines; HS (G)47 - Avoiding Danger from Underground Services; Energy Networks Association The Safe Use of Mechanical Plant in the Vicinity of Electricity Overhead Lines; PAS 128 – Specification for underground utility detection, verification and location).

- 13.1.7 The Archaeological Contractor's supervisor will maintain a record of site attendance and complete a daily briefing, including a review of health & safety requirements, at the start of work for each day that there is a team in the field.
- 13.1.8 All site personnel will wear PPE as defined by the Archaeological Contractor's risk assessment undertaken in accordance with mandatory requirements. Any visitors to the investigations will require a site induction in accordance with the Archaeological Contractor's Health and Safety requirements and will have read the appropriate Archaeological Contractor's Risk Assessment and Method Statement (RAMS). The Archaeological Contractor will ensure that any visitors to the investigations are equipped with suitable PPE prior to entry to the site. All equipment that is used in the course of the fieldwork must be 'fit for purpose' and be maintained in a sound working condition that complies with all relevant Health and Safety regulations and recommendations.
- 13.1.9 The Archaeological Contractor will ensure the provision and maintenance of adequate, suitable and sufficient welfare and sanitary facilities at appropriate locations for the duration of the works. The locations for the temporary site welfare facilities will be agreed with the Client prior to the start of the works, and arrangements for temporary parking shall also be agreed should they be required. Health and Safety considerations will be of paramount importance and will override archaeological considerations at all times. This includes all stages of the archaeological works, including site-based and office-based activities. All anticipated activities should be included in the Archaeological Contractor's RAMS and suitable mitigation measures to reduce the risk of injury be put in place. The Archaeological Contractor's RAMS will be kept under continuous review throughout the works and updated as necessary.
- 13.1.10 It is not yet determined whether the Contractor will be on site while the archaeological works are being undertaken. To ensure all health and safety construction related requirements are in place, the Archaeological Contractor should discuss this separately with the Client.

13.2 Covid-19 Pandemic

- 13.2.1 The Health and Safety policies, Risk Assessments and project-specific Health and Safety Plan compiled by the Archaeological Contractor will address undertaking fieldwork during the Coronavirus COVID-19 pandemic or any prevailing pandemic / high consequence infectious diseases (HCID) outbreak. All work should be undertaken in line with current government advice, which, at the time of writing includes the Site Operating Procedures (Construction Leadership Council, 2021 and any subsequent updates).
- 13.2.2 The Archaeological Contractor's Risk Assessment and Health and Safety Plan shall address COVID-19 or other prevailing pandemic / HCID specific hazard controls; travel, site, welfare and accommodation; PPE and hygiene provisions; mental health and effects on people the site workers live with; and reporting procedures for site workers to raise any issues or concerns. They shall take account of changes to emergency procedures, factoring in, for example, increased emergency service response times and potential closures of A&E departments. Toolbox talks will adhere to social distancing.

- 13.2.3 The Risk Assessment and Health and Safety Plan will be clearly communicated to site workers with sufficient time prior to travel or commencement of work. All site personnel will familiarise themselves with site-specific COVID-19 or other prevailing pandemic / HCID mitigation measures. Signatures will be required to record that all site workers have attended appropriate site briefings and understood COVID-19 or other prevailing pandemic / HCID procedures. Site workers must be aware that COVID-19 or other prevailing pandemic / HCID controls (e.g. maintaining social distancing and hygiene standards) will take precedence until further notice. Site workers must adhere to the COVID-19 or other prevailing pandemic / HCID measures, controls and restrictions.
- 13.2.4 If tasks are identified that cannot be compliant with COVID-19 or other prevailing pandemic / HCID procedures, then work must not take place until further mitigation is put in place to remain compliant.
- 13.2.5 COVID-19 or other prevailing pandemic / HCID procedures will be under constant review as the situation evolves. The Archaeological Contractor will ensure that Risk Assessments are updated to reflect any changes to government advice be issued prior to the commencement of or during the archaeological works.

13.3 General Provisions

- 13.3.1 The Archaeological Contractor will undertake the works in accordance with this document and in any subsequent written variations. No variation from, or changes to, the specification will occur except by prior agreement with the Consultant (where appropriate in consultation with the Historic Environment Officer at NLC).
- 13.3.2 The site will be left in a tidy and workable condition and the Archaeological Contractor will ensure that all materials brought onto site are removed.
- 13.3.3 The Archaeological Contractor shall make the minimum of disturbance during the fieldwork and will avoid any unnecessary damage. If appropriate, access for temporary parking and the location of site welfare shall be agreed with the Contractor prior to the commencement of the fieldwork. The provision of welfare facilities shall be the responsibility of the Archaeological Contractor.

14. References

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<http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Accessed 26.09.2017)

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CIfA (2020a) Standards and guidance for archaeological excavation. Chartered Institute for Archaeologists, Reading, December 2014.

CIfA (2020b) Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives. Chartered Institute for Archaeologists, Reading, December 2014.

CIfA (2021) Code of Conduct. Chartered Institute for Archaeologists, Reading, December 2014.

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English Heritage (2006) Our Portable Past. English Heritage. London.

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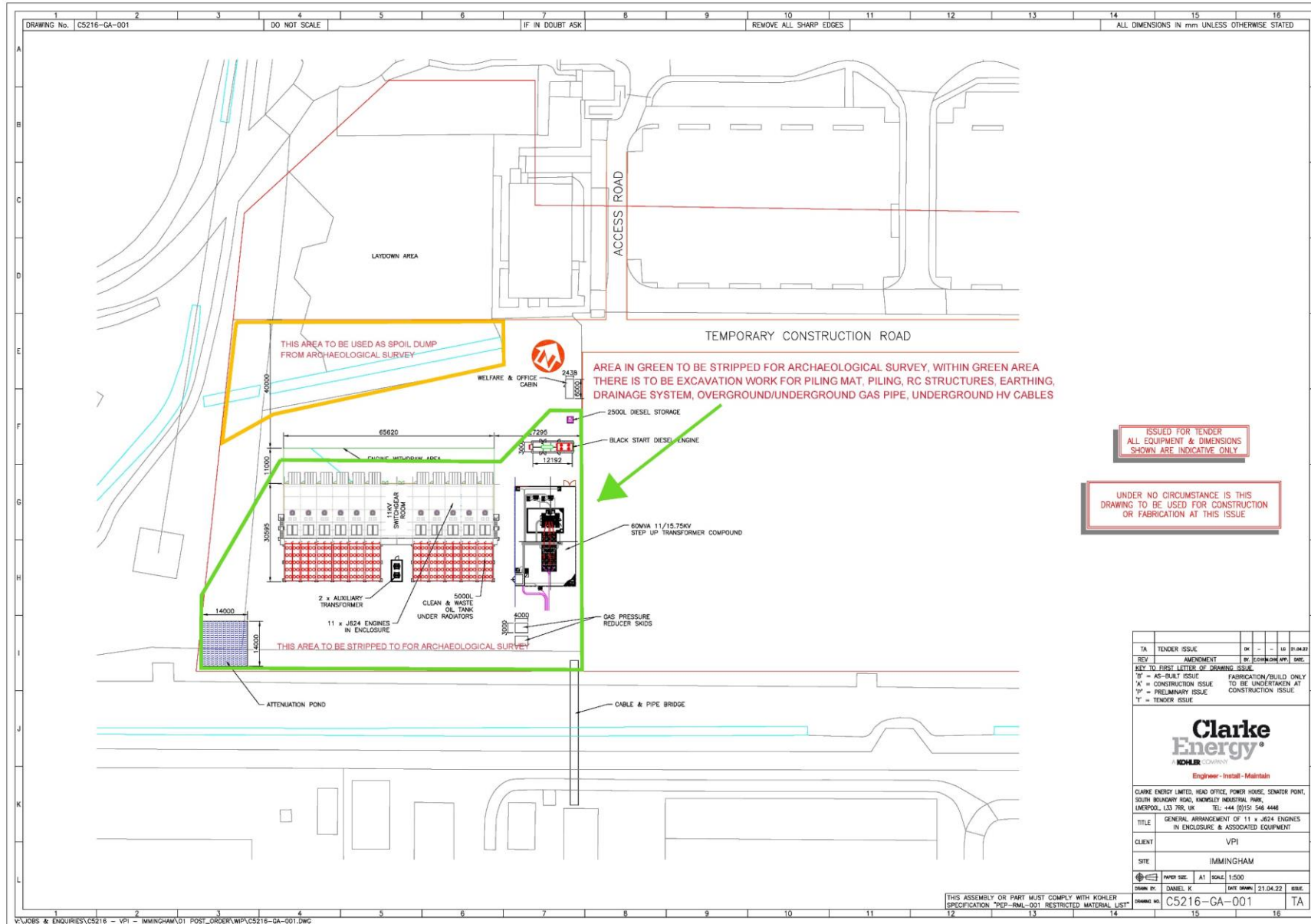
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<http://ads.ahds.ac.uk/project/goodguides/excavation/>

<https://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/>

Appendix A Indicative Area of Archaeological Investigation



ISSUED FOR TENDER
ALL EQUIPMENT & DIMENSIONS
SHOWN ARE INDICATIVE ONLY

UNDER NO CIRCUMSTANCE IS THIS
DRAWING TO BE USED FOR CONSTRUCTION
OR FABRICATION AT THIS ISSUE

TA	TENDER ISSUE	OK	-	-	18	21.04.22
REV	AMENDMENT	BY	DATE			
KEY TO FIRST LETTER OF DRAWING ISSUE						
'F'	= AS-BUILT ISSUE	FABRICATION/BUILD ONLY				
'A'	= CONSTRUCTION ISSUE	TO BE UNDERTAKEN AT				
'P'	= PRELIMINARY ISSUE	CONSTRUCTION ISSUE				
'T'	= TENDER ISSUE					
Clarke Energy A KOHLER COMPANY Engineer - Install - Maintain						
CLARKE ENERGY LIMITED, HEAD OFFICE, POWER HOUSE, SENATOR POINT, SOUTH BRIDGWAY ROAD, HINDLEY INDUSTRIAL PARK, LIVERPOOL, L3 7SR, UK TEL: +44 (0)151 546 4446						
TITLE	GENERAL ARRANGEMENT OF 11 x JB24 ENGINES IN ENCLOSURE & ASSOCIATED EQUIPMENT					
CLIENT	VPI					
SITE	IMMINGHAM					
DRAWN BY	DANIEL, K	DATE DRAWN	21.04.22	SCALE	1:500	
DRAWING NO.	CS216-GA-001		TA			

THIS ASSEMBLY OR PART MUST COMPLY WITH KOHLER
SPECIFICATION "PEP-RML-001 RESTRICTED MATERIAL LIST"

July

Appendix B Method Statement

Summary and Introduction

- 1.1 VPI Immingham LLP (the Client), working through their agent AECOM (The Consultant), require an archaeological strip, map and record excavation at South Killingholme, Immingham (the 'Site'), prior to the development of a proposed new gas-fired power station. Planning permission (Application reference PA/2018/918) was granted in September 2018 and the archaeological fieldwork is required to meet Planning Condition 13. AOC Archaeology will be the Archaeological Contractor.

Aims and Objectives

- 1.2 The principal objective of the archaeological fieldwork covering the area of the proposed development is to ensure the recording of archaeological remains within the site boundary.
- 1.3 The specific objectives of the archaeological excavation are:
- To identify, record and sample excavate any archaeological deposits, features and artefacts which may be present within the development;
 - To characterise and date any anomalies or finds recovered; and to produce a report on the findings of the works.
- 1.4 Specific research objectives taken from the Regional Research Framework (Cooper 2006 and <https://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/>) are as follows:
- What can we learn about the development of Iron Age field and boundary systems?
 - Does the Iron Age boundary identified during earlier evaluation tell us anything about the economic, social or political situation of the region in the period?
 - Does the boundary provide information about the agrarian landscape?
 - Did the Iron Age activity influence the Roman settlement pattern within the immediate area?
 - How did Roman field and boundary systems relate to earlier systems of land allotment, and how did these boundary networks develop over time?

Fieldwork

- 1.5 A senior Project Officer will manage the on-site day-to-day operations and will update Stephen Potten, the York Office Operations Manager, on a daily basis regarding results and programme. This information will be fed back to the client in weekly reports. Field staff will be suitably trained and experienced archaeologists who are CSCS certified. Site inductions and tool box talks will be provided to all staff working on the site.
- 1.6 Prior to commencing fieldwork the Client will furnish AOC with up-to-date service and utilities information for the area of investigation. AOC will then arrange GS6 applications (where required), liaise with utilities and service providers and undertake any relevant site visits.

- 1.7 A detailed Risk Assessment Method Statement (RAMS) will then be prepared and approved by our external Health and Safety consultant; this will contain a full suite of measures to manage the risks posed by COVID-19 which will be based on current government, ClfA, Prospect and FAME guidance. The RAMS will be submitted to the client for review before the commencement of the site works. A qualified First Aider will be present on site at all times.
- 1.8 It is assumed that the Client will have addressed all significant programme constraints prior to the start of fieldwork, including ecological and environmental constraints and landowner access issues. Once on site, AOC staff will visually inspect the site prior to the commencement of any machine excavation, including the examination of any available exposures. All areas of excavation will be scanned with a Cable Avoidance Tool (CAT) before excavation; this work will be undertaken by a qualified and competent person.
- 1.9 Static welfare facilities will be provided for the duration of the excavation which will include canteens, toilets, fresh water supplies and anti-bacterial hand sanitiser. These facilities will be available for all staff, subcontractors, consultants and visitors.
- 1.10 The excavation area will be accurately located using survey-grade GPS (Trimble R8) equipment. All surveys will be accurately tied into the Ordnance Survey National Grid and Ordnance Datum heights. A photographic record will be made of the excavation area prior to its excavation as a record of existing ground conditions.
- 1.11 Overburden will be stripped using tracked mechanical excavators fitted with toothless ditching buckets. Overburden will be removed down to the first archaeological horizon or to the natural substrate, whichever is encountered first. All machining will be conducted under the direct supervision of an appropriately qualified and experienced archaeologist.
- 1.12 Topsoil and subsoil will be kept separate and will be stored in separate spoil heaps in close proximity to the excavation area.
- 1.13 The maximum safe working depth of all excavation areas will be determined by the on-site Project Officer in consultation with the relevant AOC Project Manager, and will be based on an assessment of: the depth of the excavation; the type of soils / fill material; the weather conditions; the proximity to highways or buildings; and the distance from plant and other construction works. Where appropriate and practicable, trench edges will be stepped to ensure safe access and egress.
- 1.14 Following completion of the initial machine excavation, further excavation will be undertaken by hand, although mechanical equipment may be used to remove some deposits or structural elements if required and with the agreement of the Historic Environment Officer at North Lincolnshire Council (NLC).
- 1.15 Exposed surfaces will be cleaned in order to assist the identification of any features. Exposed archaeological deposits and features will then be excavated in an archaeologically controlled manner.
- 1.16 The excavation sampling policy will be as follows, unless otherwise agreed with the Historic Environment Officer at NLC:
- a 100% sample will be taken of all stake-holes;
 - a 50% sample will be taken of all post-holes, unless they are considered to be part of a building; in the latter case they will be 100% excavated;

- a 50% sample will be taken of all pits with a diameter of up to 1m, but where justified by the nature and significance of the fills, 100% will be excavated;
 - a minimum 25% sample will be taken of pits with a diameter of over 1.5m; this should include a complete section across the pit to recover its full profile; a greater sampling percentage may be required where justified by the nature and significance of the fills;
 - a minimum 20% sample will be taken of all linear and curvilinear features less than 5m in length, each excavated section to be 1m in length;
 - a minimum 10% sample will be taken of all linear and curvilinear features greater than 5m in length, each excavated section to be 1m in length; a greater sampling percentage may be required where justified by the nature and significance of the fills;
 - Deposits at junctions (and interruptions) in linear features will be excavated to determine the relationships between the different components;
 - All linear terminal ends will be excavated;
 - Any *in situ* building remains will be fully recorded for the extent that they are exposed; brick and stone samples may be taken if potentially diagnostic of date or function; and
 - Significant features will be 100% excavated, if required by the Historic Environment Officer at NLC.
- 1.17 A full written, drawn and photographic record will be made of all features revealed during the course of the archaeological excavation, including representative sample sections at an appropriate scale. A record of the full sequence of all archaeological deposits as revealed in the trenches will be produced. Plans will be completed at a scale of 1:50 or 1:20 (as appropriate), with section drawings at a scale of 1:10 or 1:20 (as appropriate). All recording will be undertaken to meet the standards and requirements of the Archaeological Field Manual (MOLAS 1994). Records will be produced using pro-forma context sheets compatible with those published by the Museum of London (MOLAS 1994). Written descriptions, comprising both factual and interpretive elements, will be recorded.
- 1.18 All site drawings will be accurately tied into the Ordnance Survey National Grid and Ordnance Datum heights.
- 1.19 A full photographic record will be maintained using a digital SLR camera. This will illustrate archaeological features, deposits and finds in detail and in a broader context. In addition, appropriate record photographs will be taken to illustrate work in progress.
- 1.20 All identified finds and artefacts will be collected and retained. A discard policy will be agreed with the Historic Environment Officer at NLC following the post-excavation assessment stage of the project. Where required, suitable specialists will be employed during fieldwork to advise, date or excavate significant finds or features.
- 1.21 All finds will be bagged according to their context, and significant finds will be allocated a recorded finds number and their positions surveyed individually. Finds requiring further analysis, excavation or conservation will be lifted and packed using suitable archival standard storage materials, and assessed in a relevant conservation laboratory.
- 1.22 Finds will be exposed, lifted, cleaned, conserved, marked, bagged and stored in accordance with the guidelines set out in the United Kingdom Institute for Conservation's *Conservation Guidelines No. 2* and the ClfA guidelines *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (2014c).

- 1.23 If required, conservation will be undertaken by approved conservators in line with the *First Aid for Finds* guidelines (Watkinson and Neal 1998). In accordance with the procedures outlined in Historic England's *MoRPHE PPN3* (2008), all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment.
- 1.24 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. All finds of gold and silver, and associated objects, will be reported to the coroner according to the procedures relating to the Treasure Act 1996 (and the act's amendment of 2003), after discussion with the client and the Historic Environment Officer at NLC.
- 1.25 The client, the coroner and the Historic Environment Officer at NLC will be informed if human remains are found. Disturbance of human skeletal remains will be kept to a minimum. Any human remains encountered will be accurately recorded in plan and, where appropriate, will be examined in situ by a palaeopathologist, but no further investigation will occur and the remains will be covered and protected.
- 1.26 Removal of human remains will only take place under appropriate government and environmental health regulations, in compliance with the Burial Act 1857 and after obtaining a Section 25 exhumation licence obtained from the Ministry of Justice.
- 1.27 The palaeoenvironmental sampling strategy will comprise the removal of bulk samples from securely sealed and hand-excavated contexts, excepting those with excessive levels of residuality or those with minimal 'soil' content (such as building rubble). Bulk samples will comprise a representative 40 litre sample. However, where a context does not yield 40 litres of material, smaller samples will be taken (generally the maximum amount of material that it is practicable to collect). Bulk samples will be used to recover a sub-sample of charred macroplant material, faunal remains and artefacts. Suitable deposits will also be sampled for industrial residues. If buried soils or other deposits are encountered, column samples may be taken for micromorphological and pollen analysis. Environmental material will be stored in controlled environments and environmental and soil specialists will be consulted during the course of the work if necessary.
- 1.28 Waterlogged organic materials will be dealt with in line with Historic England's guidance documents *Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation* (2018) and *Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood* (2010).
- 1.29 The recovery of material suitable for radiocarbon, archaeomagnetic and/or dendrochronological dating will be sought, as appropriate. Sampling of this nature will be agreed in discussion with the client, HHER/HAP and the appropriate Environmental Specialists. If sufficient dates are obtainable the use of Bayesian analysis will be considered for a suite of dates during the post-excavation assessment.
- 1.30 On completion of all archaeological excavation and recording, and following approval from the Historic Environment Officer at NLC and the Client, the excavation area will be backfilled. Topsoil and subsoil will be reinstated separately but no engineered re-instatement will be undertaken. A photographic record of the backfilled area will be made.

Reporting and Publication

- 1.31 An assessment report outlining the results of the archaeological excavation will be produced. The report will assess the stratigraphic sequence and the significance and extent of any archaeological features identified. The potential of any retrieved artefacts and soil samples for further analysis will also be considered.
- 1.32 The report will be prepared in accordance with the 2015 ALGAO guidance for post-excavation assessment (ALGAO 2015), and will contain the following:
- A concise non-technical summary of the results of the work, and its aims and objectives;
 - A frontispiece including the site code/project number, planning reference number, dates when the fieldwork took place and a full National Grid Reference;
 - An introduction, including a site description, background on the development, details of the local topography and geology, and the reasons for the archaeological work;
 - An account of the aims and objectives of the work;
 - An account of the methodology and equipment used;
 - A clear exposition of the results of the work, the structural sequence and the dates, forms and functions of the features identified; the results of any specialist assessments will be considered and incorporated;
 - A discussion which places the results of the work into the broader historical, regional and national context, and which assesses site phasing and the quality and significance of the remains encountered;
 - Specialist assessments of the artefacts recovered including an assessment of their potential for further analysis and study, and recommendations for retention / discard and illustration (where appropriate), in line with national guidelines;
 - Specialist assessments of the environmental and industrial samples taken, with a view to their potential for subsequent study;
 - Recommendations for further analysis;
 - An integrated concordance table that details every context and correlates them to group, finds, samples taken and potential for palaeoenvironmental analysis and radiocarbon dating;
 - All text will be cross-referenced with plans, photographs and other illustrative material;
 - Illustrations will include: a site location plan; an overall site plan accurately identifying the location of the excavation; individual feature plans at a suitable scale, as excavated; plans and sections at an appropriate scale showing features, deposits and the extent of the identified archaeology;
 - Photographic records of selected archaeological features and finds;
 - A description of the site archive and the name of the institution with which it will be deposited;
 - References and bibliography of all sources used;
 - Archiving arrangements.
- 1.33 A draft copy of the final report will be provided to the client and Historic Environment Officer at NLC for comment within a timescale provisional on the extent and character of the finds and samples recovered. The final version

of the report will be provided to the client and Historic Environment Officer at NLC in both hard copy and PDF formats within three weeks of receiving any comments

1.34 Digital copies of the final report will be submitted to OASIS to allow the results of the work to be accessible on-line to the wider archaeological community and general public. The OASIS form will be appended to the post-excavation assessment report.

1.35 AOC Archaeology will use the following specialists to assess archaeological finds and ecofacts:

Palaeobotany	Ciara Clake PhD (AOC)
Metalwork / Vitrified Material	Dawn McLaren PhD (AOC)
Coarse Stone	Dawn McLaren PhD (AOC)
Environmental	Jackaline Robertson (AOC)
Wood	Anne Crone PhD (AOC)
Glass	Andrew Morrison (AOC)
Ceramic Building Material	Sandra Garside-Neville (External)
Human Bone	Mara Tesorieri PhD (AOC)
Soil Micromorphology	Lynne Roy MSc (AOC)
Conservation	Gretel Evans ACR (AOC)
Ceramics	Ruth Leary (external)
Ceramics	Chris Cumberpatch (external)

1.36 Should the excavation produce archaeological results of significance, a suitable analysis, publication and dissemination programme will be agreed with the Client, the Consultant and the Historic Environment Officer at NLC.

Archiving

- 1.37 AOC Archaeology will contact the recipient museum in advance of commencing any fieldwork to determine the preparation, ownership and deposition of the archive and finds, and obtain a museum accession number.
- 1.38 The Chartered Institute of Archaeologists (CIfA 2015d) and the Society of Museum Archaeologists (SMA 1993) recommend that finds are publicly accessible and that landowners donate archaeological finds to a local museum. The landowner will be encouraged to transfer ownership of the finds to the receiving museum. A Deed of Transfer will be drawn up by the recipient museum which the landowner will be asked to sign.
- 1.39 The archive will contain all the data collected during the archaeological evaluation, including all digital and paper records, finds and environmental samples. It will be quantified, ordered, indexed and internally consistent. Adequate resources will be provided during fieldwork to ensure that all records are checked and internally consistent. Irrespective of a post-excavation assessment recommendation to proceed to analysis and publication, the evaluation will require the compilation of a site archive report (as required by ALGAO 2015). As a minimum this will comprise copies of the WSI, the relevant section of the post-excavation assessment report and any specialist reports for the site, as well as quantifications of all records and materials for the site and a site specific post-excavation concordance table.
- 1.40 Archive consolidation will be undertaken immediately following the conclusion of fieldwork and will include the following work:
- the site record will be checked, cross-referenced and indexed as necessary;
 - all retained finds will be cleaned, conserved, marked and packaged in accordance with the requirements of the recipient museum;
 - all retained finds will be assessed and recorded using pro-forma recording sheets, by suitably qualified and experienced staff. Initial artefact dating will be integrated within the site matrix;
 - all retained environmental samples will be processed by suitably experienced and qualified staff.
- 1.41 The archive will be assembled and prepared in line with the recommendations provided in Historic England's *MoRPHE Project Planning Note 3: Archaeological Excavation (PPN3)* (2008), ALGAO's *Advice Note for Post-excavation Assessment* (2015) and in accordance with the *Guidelines for the preparation of Excavation Archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and the *Standards in the museum care of archaeological collections* (Museums and Galleries Commission 1994). Provision will be made for the stable storage of paper records and their long-term storage.

Copyright and Confidentiality

- 1.42 AOC Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide an exclusive licence to the client and to the North Lincolnshire Historic Environment Record (HER) in all matters directly relating to the project as described in the WSI.
- 1.43 AOC Archaeology will assign copyright to the client upon written request but retains the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988.

- 1.44 AOC Archaeology will advise the client of any such materials supplied in the course of projects which are not AOC Archaeology's copyright.
- 1.45 AOC Archaeology will respect all requirements for confidentiality regarding the client's proposals, provided that these are clearly stated. In addition, AOC Archaeology undertakes to keep confidential any conclusions about the likely implications of such proposals for the historic environment. It is expected that the client respects AOC Archaeology's and the ClfA's general ethical obligations not to suppress significant archaeological data for an unreasonable period.

Programme

- 1.46 Fieldwork will commence during August 2022 and is expected to last approximately four weeks.
- 1.47 The post-excavation assessment report will be completed within six months of completing the fieldwork, if archaeological features are located. Should no archaeological remains be identified, the report will be completed within 12 weeks. In finalising the post-excavation assessment report the comments of the Consultant and the Historic Environment Officer at NLC will be taken into account.

Health and Safety

- 1.48 AOC Archaeology maintains the highest standards of health and safety, both on-site and in our premises, and a copy of our Health and Safety Policy can be supplied on request. The project outlined in this WSI will be carried out in accordance with safe working practices and under the defined Health and Safety Policy. A site-specific Risk Assessment Method Statement (RAMS) will be prepared prior to the commencement of the fieldwork.
- 1.49 Health and Safety will take priority over all other requirements. A conditional aspect of all archaeological work is both safe access to the area of work and a safe working environment.
- 1.50 The Construction (Design and Management) Regulations 2015 (CDM) may apply to the archaeological work depending on whether contractors other than the archaeological team are present on the site.
- 1.51 Where AOC Archaeology is not the main contractor on site, the main contractor's Risk Assessment will have primacy over the AOC Archaeology document given that:
- The main contractors' risk assessment takes account of AOC Archaeology's working practices and does not compromise normal and safe archaeological procedure as set out in the WSI and Risk Assessment.
 - AOC Archaeology is notified of the full suite of hazards present prior to arriving on site.
 - There is a proper induction and monitoring process in place and AOC Archaeology staff have been through this process.
 - There is no significant conflict between AOC Archaeology health and safety procedures and those proposed by the main contractor.
 - AOC Archaeology is made aware of new threats or hazards as they arise.
- 1.52 Where archaeological work is carried out at the same time as the work of other contractors, regard will be taken of any reasonable additional constraints that these contractors may impose.

- 1.53 The client will provide any available service plans for the site prior to the commencement of fieldwork. AOC Archaeology will use Cable Avoidance Tools to identify any services in the specific locations being excavated.
- 1.54 Staff present on site will be required to wear the appropriate Personal Protective Equipment (PPE), which will be issued as necessary.
- 1.55 Where previous works have identified the presence of contaminated ground, AOC Archaeology must be notified of the nature and extent of the contamination in advance of the fieldwork and given guidance as to the appropriate Health and Safety precautions required.
- 1.56 Specific Covid-19 working practices will be outlined in the RAMS (and adhered to on site) which will be based on current government, ClfA, Prospect and FAME guidance.

Quality Assurance

- 1.57 AOC Archaeology is an accredited **ISO 9001:2015** organisation and a **Registered Archaeological Organisation** with the ClfA, operating to nationally agreed guidelines, processes and procedures. These are set within a framework that endeavours to carry out the required work and submit the final report in a manner that meets the client's specific needs, providing quality assurance throughout the project and for the end product.
- 1.58 AOC Archaeology conforms to the standards of professional conduct outlined in the ClfA *Code of Conduct*, the ClfA *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, the ClfA *Standard and Guidance for Desk Based Assessments, Field Evaluations* etc., as well as the British Archaeologists and Developers Liaison Group *Code of Practice*.

Insurance

- 1.59 AOC Archaeology holds Employers Liability Insurance, Public Liability Insurance and Professional Indemnity Insurance to the following amounts. Copies of certificates for the following insurance can be provided on request.
- | | |
|---|-------------|
| • Public Liability | £20,000,000 |
| • Employer's Liability | £20,000,000 |
| • Professional indemnity (for any single claim) | £5,000,000 |
- 1.60 Full details of AOC Archaeology's insurance policies can be provided on request.

Appendix C Known Heritage Assets

Reference	Grid Reference	Period	Description	Number
1614	TA 1608 1662	Bronze Age; Roman	Cropmarks consisting of a linear feature and enclosure, with a Bronze Age flint knife and Roman grey ware pottery discovered within.	A1
1630	TA 165 178	Roman	Roman greyware sherds dated to the 3 rd -4 th century AD were found at a site to the east of the Lindsey oil refinery.	A2
4635	TA 164 176	Unknown	A linear and series of circular and sub-circular features cropmark site east of the Lindsey oil refinery.	A3
19726	TA 1685 1791	Prehistoric	Late Mesolithic core and three flakes, two of which are likely of Bronze Age date. These were found near Killingholme Marshes.	A4
19727	TA 168 182	Prehistoric	A scatter of Neolithic artefacts, including a scraper, two cores and nine flakes. Found to the north of station road.	A5
19771	TA 167 171	Iron Age/ Roman	An Iron Age and Roman settlement site on the site of Conoco CHP plant. There appeared to be an early Iron Age settlement on the site, followed by a late Iron Age/ Roman settlement. Most of the pottery found dates from the 2 nd -4 th centuries AD. There was also evidence of both iron and salt production in the Iron Age at the site from briquetage fragments of ceramic trays.	A6
19803	TA 1638 1847	Prehistoric	A single flint flake, dated to Mesolithic/Neolithic was found to the east of Rosper Road.	A7
19806	TA 1666 1823	Roman	A single greyware sherd found to the north of Station Road.	A8
19807	TA 1672 1796	Roman	A single greyware sherd found to the south of Station Road.	A9
20078	TA 161 167	Iron Age/ Roman	A cropmark of a rectilinear enclosure, measuring c.30m by 20m, and a small L-shaped feature was recorded on 1958 aerial photos. It has been partially or totally destroyed by the construction of the oil refinery at South Killingholme.	A10
20098	TA 15 18	Medieval	Medieval ridge and furrow recorded through geophysical and walkover surveys. The ridge and furrow system measured 122m aligned north-east to south-west.	A11
20103	TA 1674 1754	Modern	A linear anomaly recorded on geophysical survey, identified as a modern survey trench during evaluation.	A12
20104	TA 159 166	Medieval	North south oriented ridge and furrow, located to the west of Rosper Road, detected by geophysical survey.	A13
20121	TA 16505 17943	Medieval	A hedgerow which forms the parish boundary between North and South Killingholme. It is shown on enclosure maps.	A14
20124	TA 1655 1759	Iron Age; Unknown	Cropmark ditches and sub-circular features were recorded on aerial photographs. One of the sites identified Iron Age ditches but the others found no traces of archaeological features.	A15

Reference	Grid Reference	Period	Description	Number
20141	TA 17 17	Unknown	A system of creeks was detected by geophysical surveys and the deposits were thought to represent a former shoreline.	A16
20422	TA 166 176	Iron Age	A ditch running parallel to Rosper Road for over 400m recorded in 9 trial trenches. A small drainage or boundary features was also identified on the site with nine sherds of early-middle Iron Age pottery.	A17
20423	TA 1653 1776	Roman	Eight sherds of Roman greyware pottery, found in an un-stratified context on land west of Rosper Road.	A18
20424	TA 1657 1733	Medieval	A ditch containing a 13-15 th century Toynton ware pottery sherd was found to the west of Rosper Road. The ditch was 1m wide by 0.15m deep and aligned north west-south east.	A19
20569	TA 16 18	Post-medieval	Historically important hedgerows in North Killingholme Parish. The boundaries shown on maps are pre 1840.	A20
20570	TA 17 17	Post-medieval	Historically important hedgerows in South Killingholme Parish. The boundaries shown on maps are pre 1840.	A21
20789	TA 1737 1781	Unknown	An ovoid enclosure with a double ditch trackway to the east. The enclosure measures approximately 94 by 42m and the trackway varies in width from 7m to 10m. Geophysical survey on the site did not detect either of these.	A22
21101	TA 1684 1698	Post-medieval	Cropmark of a field boundary visible on aerial photography. It measures approximately 83m, and shown on 1 st edition OS map, 1887.	A23
21225	TA 1724 1821	Modern	The site of a barrage balloon anchorage, operated by 942 Squadron Balloon Command during WWII. Two shelters remain and have both been modified for use as cattle byre, and main and secondary anchorages are still in place.	A24
21315	TA 1714 1685	Unknown	An L shaped magnetic anomaly was identified by geophysical survey, although trial trenching revealed only natural deposits.	A25
21321	TA 1683 1703	Unknown	A small square enclosure visible as a cropmark on aerial photography. The site is now masked by the southern edge of the Immingham CHP plant.	A26
21322	TA 173 170	Modern	World War II Aircraft obstructions. These were shown through a T-shaped arrangement of ditches visible on wartime aerial photography. Four further sections of ditch were located to the east of Rosper Road.	A27
21323	TA 1744 1737	Modern	The site of a row of c.16 terraced houses was built on the south side of Marsh Lane in the early 20 th century. They had been demolished by 1975.	A28
21324	TA 1763 1750	Post-medieval	Site of Marsh Farm, shown on 1887 OS map, recorded as a group of four buildings. The farm is shown on mapping up to 1983. Aerial photography in 2009 records a parchmark in the grass showing the outline of one of the farm buildings.	A29

Reference	Grid Reference	Period	Description	Number
21326	TA 148 169	Modern	The Humber Commercial Railway, constructed in 1912 to link the eastern jetty at Immingham Dock with the main Grimsby- New Holland line at Ulceby.	A30
21544	TA 169 170	Prehistoric	A scatter of flint was found during field walking, west of Rosper Road. A total of 223 pieces of flint were found, mostly undiagnostic flakes and chunks. There was also a bladelet was late Mesolithic and a bladeflake was late Mesolithic or early Neolithic, two possibly Neolithic cores, and a single Bronze Age scraper. Further worked flints found during excavation.	A31
21553	TA 1745 1678	Prehistoric	A deposit of burnt stone and charcoal flakes, radiocarbon dated to the Late Bronze Age. The feature was curvilinear and 0.02m deep.	A32
21554	TA 1741 1682	Prehistoric	A probable ditch recorded during evaluation, charcoal was recorded from within the feature and radiocarbon dated to the early Bronze Age.	A33
21556	TA 1750 1676	Iron Age/ Roman	An Iron Age/ Roman settlement, located to the north of Humber Road on the edge of the Humber estuary. Evidence of salt making and iron smelting may have been occurring near the settlement.	A34
21567	TA 167 183	Iron Age/ Roman	An Iron Age/ Roman settlement recorded through geophysical survey, north of Station Road. 112 sherds of Roman pottery and 5 fragments of tile were collected during field walking and trial trenching. A number of ditches and enclosures were identified, several of the latter with possible hearths or kilns. Finds from the site include a copper alloy armlet, a coin, as well as plant and animal remains.	A35
21568	TA 1698 1830	Roman	Geophysical survey recorded a possible enclosure, north of Station Road. Two substantial ditches were recorded, one containing early Roman pottery.	A36
21569	TA 1702 1785	Iron Age/ Roman	Iron Age and Roman enclosures, to the south of Station Road, identified through geophysical survey. Trial trenches recorded ditches, mid-late Iron Age pottery and 1 st -2 nd century Roman pottery.	A37
21570	TA 1729 1826	Unknown	A geophysical survey recorded magnetic anomalies in a field to the south of Station Road. Trial trenching only revealed natural deposits.	A38
21571	TA 1745 1802	Prehistoric; Roman	An undated pit identified during excavations to the south of Station Road. Its fill consisted of a late Neolithic or Early Bronze Age flint scraper and a single Roman sherd.	A39
21959	TA 143 189	Modern	The Barton and Immingham Light Railway opened in 1910-1911. The passenger service ran until 1963, although the section between Immingham and Killingholme was still used for oil traffic.	A40
22428	TA 1708 1678	Iron Age	Two late Iron Age ditches, to the west of Rosper Road. Both ditches contained Iron Age pottery These may have been part of an occupied enclosure.	A41
22487	TA 164 179	Neolithic	A fragment of Neolithic polished stone axe was found at Burkinshaw's Covert.	A42

Reference	Grid Reference	Period	Description	Number
22497	TA 1716 1702	Modern	Site of a mission room, shown on the OS 1945 map. The building was L shaped and is shown set back from the road approximately 13m. The building originally contained a stable and a vestry was added in 1923. The building contained a date stone of 1910.	A43
22489	TA 1722 1691	Modern	Site of a day school and associated school house, shown on the OS 1945 map. It is roughly rectangular with the school house situated to the NE.	A44
22499	TA 1715 1704	Modern	Site of Myrtle Villas House, located on the east side of Rosper Road. Consisted of a rectangular building with an outbuilding to the NE, shown on OS 1945 map.	A45
22569	TA 1737 1829	Modern	Killingholme Railway Station on the Barton and Immingham Light Railway, opened in 1910 and closed in 1965.	A46
22570	TA 173 183	Modern	The former station master's house, Station Road, near the site of Killingholme railway station shown on the post 1945 OS maps.	A47
22737	TA 165 183	Prehistoric	Seven pieces of Neolithic-Bronze Age worked flint were collected in two adjoining fields during field walking. Six of these were struck flints and one was a flint nodule with some flake removal.	A48
22743	TA 1701 1740	Roman	A group of later Roman ditches, north of Marsh Lane was recorded during trial excavations. The fill contained 4 th century pottery.	A49
22851	TA 1780 1763	Mesolithic	A thin deposit of peat was recorded within a borehole at Marsh Lane. Organic samples were dated to 4651-4451 Cal BC.	A50
24999	TA 1587 1810	Post-medieval	The site of an unnamed 19 th century farmstead, North Killingholme, with a regular courtyard of U plan. It was later demolished.	A51
25000	TA 1594 1749	Post-medieval	Site of Cawber Farm, South Killingholme, a 19 th century farmstead. It consisted of a regular courtyard with multiple regular yards and the farmhouse is attached to a range of working buildings. Now demolished.	A52
25012	TA 1760 1748	Post-medieval	Site of Marsh Farm, South Killingholme, a 19 th century farmstead. It consisted of a regular courtyard of L plan; the farmhouse is detached from the main working complex. Now demolished.	A53
25013	TA 1687 1745	Post-medieval	Site of an unnamed 19 th century farmstead, South Killingholme. It comprised a regular courtyard with linked working buildings to all four sides of the yard with the farmhouse detached from the main working complex. Now demolished.	A54
25014	TA 1673 1768	Post-medieval	Site of an unnamed 19 th century farm, Killingholme. It was of regular courtyard of U shaped plan, and has now been demolished.	A55
25015	TA 1594 1801	Post-medieval	Site of Woodlands, North Killingholme, a 19 th century farmstead. The farmhouse had an attached range of working buildings, and is now demolished.	A56

Reference	Grid Reference	Period	Description	Number
26104	TA 1701 1714	Modern	Site of a chapel, shown on the OS 1945 map. It was in use in the 20 th century, forming part of the former settlement of South Killingholme haven. Now demolished.	A57
26105	TA 1623 1639	Post-medieval	The site of a former 19 th century farmstead, South Killingholme. It was shown on the 1887 OS map, and is now demolished.	A58

Appendix D – Relevant Archaeological Standards and Guidelines

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