



PORT TALBOT EAF

Draft Written Scheme of Investigation for Archaeological Mitigation Works

for Tata Steel UK Limited (Tata Steel)

28/10/2024

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works

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October 2024

Ver 2.0

PROJECT INFORMATION:

HA JOB NO.	P24-134
NGR	277899, 185772
PARISH	Margam Moors
COUNCIL	Neath Port Talbot

PROJECT TEAM:

PROJECT MANAGER, AUTHOR & GRAPHICS	Kit Byrom
APPROVED BY	Andy Towle
VERSION COMMENTS	Draft for submission



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WRITTEN SCHEME OF INVESTIGATION

1. Introduction

- 1.1.1. Turley has commissioned Headland Archaeology (UK) Ltd (on behalf of the client Tata Steel UK Limited (Tata Steel)) to agree a programme of archaeological work in support of proposed planning application. The works specified here are designed to ensure that appropriate mitigation of development impacts on archaeological remains are undertaken.
- 1.1.2. Planning permission is sought for following description of development:
- "Hybrid planning application: full planning permission for the demolition of existing buildings and structures, partial infill of the BOS lagoon, and construction of a new electric arc furnace-based steel production facility (1 no. arc furnace, 2 no. ladle furnaces). The development includes chemical/material storage and transfer infrastructure and pipework and cabling (above and below ground), buildings, fume and dust treatment plant, water treatment facility and material handling systems. Electrical control rooms and power infrastructure. Offices and ancillary facilities together with new and amended roads and rail lines, landscaping and green infrastructure, lighting, hardstanding, CCTV, drainage and associated engineering operations.*
- Outline planning permission (with all matters reserved except for access and landscaping) for the construction of a scrap metal handling facility and associated scrap yards, scrap processing facility, new substation, underground and overground electrical infrastructure, and new and amended roads and rail lines, landscape and green infrastructure, lighting, hardstanding, CCTV, drainage and associated engineering operations."*
- 1.1.3. The specified works comprises level 1 building recording involving a basic visual record, supplemented by the minimum of information needed to identify the building's location, age and type; a peat sampling methodology, radiocarbon dating and paleoenvironmental analysis of deposits (if encountered) during excavations for hoppers, and to put temporary fencing in place around a colliery monument and medieval remains to prevent accidental damage during construction works.
- 1.1.4. This document builds on previous desk-based assessment¹, preparation of an Environmental Statement² and consultation with Neath Port Talbot Council's archaeological advisors at Glamorgan-Gwent Archaeological Trust (GGAT- now renamed Heneb). This WSI should be read in conjunction with the ES chapter and supporting baseline data.
- 1.1.5. This document follows relevant Chartered Institute for Archaeologists (CIfA) Standards and Guidance comprising the *Code of Conduct* (2022), *Standard for archaeological monitoring and recording* (2023), *Standard and guidance for the archaeological investigation and recording of standing buildings and structures* (2020), *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (2020), and *Standard and guidance for the collection, documentation, conservation and research or archaeological materials* (2020).

¹ Headland Archaeology, 2024a

² Headland Archaeology, 2024b

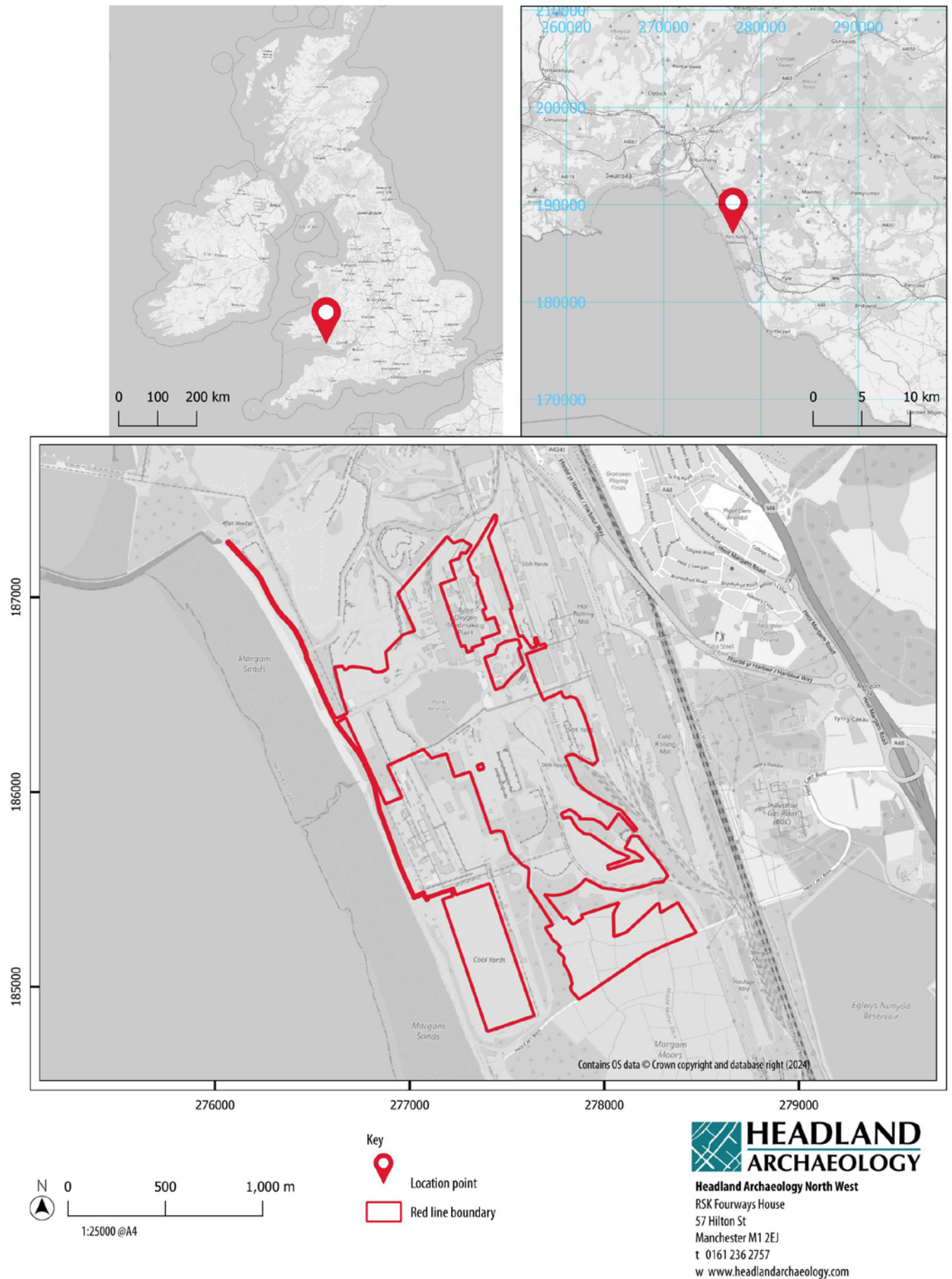
2. Site description

- 2.1.1. The red line boundary (hereafter referred to as 'the Site') is situated at NGR 277899, 185772 located at Port Talbot Steelworks, Port Talbot, SA13 2NG (see Illus 1). The site is currently in use as an active steelworks. The site is located mid-slope between Mynydd Margam and the coastline. It is a largely flat site with the eastern extent sitting between 4 and 5 m Above Ordnance Datum (AOD). The site rises to the west with the coal yards sitting at 13m AOD and the north western part of the main body of the site being 19m AOD, although on the northern extent of the haul road the height drops back down to 7m AOD.
- 2.1.2. The underlying solid geology is recorded by BGS³ as South Wales Lower Coal Measures Formation – mudstone, siltstone and sandstone. This sedimentary bedrock formed between 319 and 318 million years ago during the Carboniferous period. Two areas of superficial deposits are recorded:
- 2.1.3. Tidal Flat Deposits – clay, silt and sand are recorded in the eastern half of the site. These sedimentary deposits were formed between 11.8 thousand years ago and the present during the Quaternary period; and
- 2.1.4. Blown sand – sand is recorded in the western half of the site. This is a sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period.
- 2.1.5. Boreholes within the site confirm a layer of clinker and ashes recorded as made ground around 1m deep overlying made ground comprising sand with some black organic inclusions and cement fragments in the south of the site. This overlays various layers of superficial gravels and clay present across the site.
- 2.1.6. Deeper borehole data also shows a layer of peat of varying thickness (between 0.25m and 1.21m) between depths of 2.87m and 22.35m below ground level.

³British Geological Survey, 2024

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Illus 1 Site location

3. Archaeological and historical background

- 3.1.1. There are no designated assets located within the Site.
- 3.1.2. There are 130 designated assets located within the 5km study area. These comprise 19 scheduled monuments, seven grade I listed buildings, 14 grade II* listed buildings, 87 grade II listed buildings, one conservation area and two registered parks and gardens.
- 3.1.3. There are three non-designated historic assets located within the site:
- Morfa Colliery (421174) is a 19th century colliery in the north western area of the site;
 - Morfa Colliery Gas Works (710277) was a private gasworks used to light the colliery buildings; and
 - Theodorics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function.
- 3.1.4. Adjacent to the Site's southern boundary is Margam Warren (24479), a rabbit warren of probable Medieval origin. Although this is recorded as a single point it is likely that it covered land in the immediate vicinity, which may include land within the Site.
- 3.1.5. There are a further 32 non-designated assets located within the 1km study area. Of these, two are historic landscapes of multiple periods, one dates to the Roman period, two date to the Medieval period, 13 date to the Post-Medieval period, 13 date to the modern period, and one is of unknown date.
- 3.1.6. The desk-based assessment identifies that there is:
- A low potential for below ground archaeological remains to be present from the Mesolithic to Early Medieval periods;
 - A medium potential for archaeological remains dating to the Palaeolithic, Post-Medieval and Modern periods likely to be associated with Morfa Colliery and the steelworks respectively;
 - A high potential for archaeological remains dating to the Medieval remains within the Site, likely to be associated with the grange located within the Site or associated agricultural activity; and
 - Large areas of the Site have been disturbed or truncated by Post-Medieval mining and modern development of the steelworks and associated railway tracks. However, borehole records indicate a layer of peat below much of the Site which may contain archaeological potential for remains of low (Local) importance.
- 3.1.7. Historic Landscape Characterisation data for the study area defines the south eastern part of the site as: HLCA002 Margam Moors. This is reclaimed and enclosed salt marsh wetland pasture. There are Medieval and Post-Medieval fields and former Medieval monastic grange land with varied field patterns with typical ridge and furrow, earth bank and drainage features⁴. The rest of the site is not covered by HLC.

4. Objectives

- 4.1.1. The aim of the programme of mitigation works is to secure discharge of an archaeological condition on consent for the scheme.
- 4.1.2. Heneb (formerly Glamorgan and Gwent Archaeology) have asked for a targeted photographic survey to be undertaken prior to works that will impact upon the historic fabric of the current steelworks in the form of a Level 1 historic building record, in accordance with the levels of survey described in Historic England's guidance document *Understanding Historic Buildings: A Guide to Good Recording Practice*⁵.
- 4.1.3. A Level 1 survey is a basic visual record, supplemented by the minimum of information needed to identify the building's location, age and type.

⁴ Gwent-Glamorgan Archaeological Trust, 2021

⁵ Historic England, 2016

- 4.1.4. The objectives of the historic building recording are as follows:
- To create an internal and external photographic record of the historic Port Talbot steelworks within the Site;
 - To prepare a report on the record, including written summary descriptions of the steelworks;
 - To photograph anything of interest or merit such as any evidence of graffiti or construction marks;
 - To present a location plan as existing, indicating the location and orientation of all photographs;
 - To prepare an OASIS summary record; and
 - Submit an ordered digital archive to the ADS.
- 4.1.5. The objectives of the peat sampling strategy include:
- To complete sampling, radiocarbon dating and paleoenvironmental analysis of peat deposits (if encountered) during excavations for the hopper foundations
 - To produce and deposit a satisfactory archive and disseminate the results of the work via grey-literature reporting and publication as appropriate.
- 4.1.6. The resulting archive (finds and records) will be organised and deposited with an appropriate museum/archive repository to facilitate access for future research and interpretation for public benefit.
- 4.1.7. The Morfa Colliery (421174) memorial will be protected from accidental damage by being securely fenced-off during the construction works. This will be undertaken by the client's principal contractor. The archaeologist attending site to recover peat samples will confirm it is in place. Construction works are not planned in close proximity to the monument: the nearby colliery shaft may require attention (capping and/or grouting of cavities) so there may be plant movements in the general area.
- 4.1.8. Theodorics Grange (20041) is also located away from the planned development activities on the opposite side of a lagoon from the focus of work. It will be located within the Site area. The grange will be securely fenced along its western side to prevent accidental damage from passing plant traffic.

5. Project Team

- 5.1.1. Headland Archaeology (UK) Ltd is a Registered Organisation and abides by the Codes of Conduct (CIfA 2014a) and Approved Practice and Standards of the Chartered Institute for Archaeologists. The company has all the necessary technical and personnel resources for the satisfactory completion of the work. Alternatively, the client may wish to appoint another archaeological contractor who should also be a CIfA Registered Organisation. The appointed archaeological contractor should confirm with Heneb that the works will be undertaken in accordance with this WSI.
- 5.1.2. The project will be managed by a MCIfA accredited archaeologist. The attendant field archaeologist(s) will be CIfA-accredited and confirmed to Heneb in advance of the building recording and peat sampling. Curricula vitae of key personnel can be supplied on request. The project team will familiarise themselves with the background to the site and will be aware of the project's aims and methodologies.
- 5.1.3. Environmental analysis will be managed by a MCIfA accredited a specialist. Headland has in-house specialists who can undertake analysis of plant macrofossils, charcoal, animal bone and molluscs.

6. Strategy

6.1. Programme

- 6.1.1. This section will be updated prior to the commencement of works once the detailed programme is available in line with the indicative programme below:

Milestone Description	Date
Commencement of construction	Mid 2025
Construction complete	Late 2027
Commissioning	Mid to late 2027
Operation (first melt)	Early 2028



Illus 2 Red line boundary for level 1 historic building recording



Illus 3 Hopper locations for potential paleoenvironmental sampling



Illus 4 Proposed temporary fencing

7. Methodology

7.1. *Health and safety*

- 7.1.1. The field work will be undertaken in accordance with the health and safety procedures as set out in:
- The Health and Safety Work Act (1974) and related legislation; and
 - The Federation of Archaeological Managers and Employers' Health and Safety Manual (2010).
- 7.1.2. Site access and health and safety documentation will be prepared by the archaeological contractor. Site personnel will be briefed on the content of the risk assessment, in particular the known and potential hazards, and will ensure that control measures and PPE requirements are adhered to during the implementation of the works.
- 7.1.3. The archaeological contractor will work in compliance with the client and principle contractor's health and safety requirements.
- 7.1.4. The activities of any Headland Archaeology employees on site are covered by Headland's own insurance.

7.2. *Access*

- 7.2.1. Access to the site/structure for inspection and recording will be secured by the client.

7.3. *Level 1 historic building recording*

- 7.3.1. A level 1 historic building recording will be carried out on buildings located within the Site as indicated in Illus 2.

Photography

- 7.3.2. The photographic survey will be made using a high resolution digital SLR camera (Nikon D7000 or equivalent) and tripod/flash as necessary. All photographs will contain a scale.
- 7.3.3. The photographic records will comprise:
- General views of the structures in their wider setting
 - Square/oblique views of each structure's external elevations
 - Oblique views showing the overall appearance of the interior spaces of each structure
 - Selected detail images where appropriate, including fixtures, fittings and any evidence for graffiti, construction marks, manufacturers stamps and removed plant or machinery.
- 7.3.4. The digital file storage format will comply with Archaeological Data Service guidance on long term storage of digital media.
- 7.3.5. Additional high-level contextual images may be captured by remotely operated pole mounted cameras.

Drawings

- 7.3.6. The drawn record prepared on site will comprise roughly dimensioned sketches or annotations made to existing measured plans and elevation surveys.
- 7.3.7. On completion of the site works a location plan (1:10,000 scale) and a site plan showing the location and orientation of all photographs (1:1,250 or 1:2,500 scale as appropriate) will be prepared.

Written records

7.3.8. The written records will comprise:

- Notes of the precise location (NGR) of the structures;
- A summary of the building materials and bonding- construction technique and measurements for each structure;
- Any evidence for phasing- extensions or blocked openings.
- Where graffiti, construction marks, manufacturers stamps and evidence of removed plant or machinery are present these will be noted.
- Summary descriptions of the structure will be recorded on pro forma building recording sheets.

Report

7.3.9. On completion of the site survey, a building record report will be prepared. This will comprise a standalone document containing the following elements:

- a non-technical summary
- a table of contents
- an introduction with acknowledgements, including a list of all those involved in the project and the location and description of the site;
- a statement of the aims and objectives;
- a summary description of the structures, with notes on form, function, date and sequence of development;
- a short desk-based survey of online sources, OS mapping, and both Lancashire and Sefton Archives;
- drawings at appropriate scales, including a photograph location plan;
- other maps, plans, drawings and photographs as appropriate;
- a bibliography of sources consulted; and
- a list of contents of the project archive and a statement of its location/proposed repository (ADS).

- 7.3.10. Any observations on the content of the report made by Heneb will be taken into account before the final version is issued.
- 7.3.11. Bound and digital copies of the report will be issued to the client, Heneb and the Glamorgan-Gwent Historic Environment Record (HER).
- 7.3.12. The project data will be uploaded to the OASIS online grey literature report library.

7.4. Sampling strategy

Sampling

- 7.4.1. During excavations for the hopper footings (see Illus 3), deposits identified as archaeologically significant (i.e. peat deposits identified by geotechnical investigations), if encountered, will be sampled for environmental evidence and other finds (e.g. bone, pottery etc.). Bulk samples will be taken from selected deposits for wet sieving and floatation off site in order to recover any environmental material. A bulk sample will typically be 40 litres and will be recovered via machine bucket due to the depth of the proposed excavations. However, where large deposits are encountered more than one bulk sample may be taken. Ideally this would be from the top of the peat deposit and separately from the base in order that the date of the formation might be established by radiocarbon dating and any variation in environmental conditions identified.

Recording

- 7.4.2. Each sample will be given ID and stored appropriately.
- 7.4.3. A site plan including all areas of excavation and other pertinent information will be recorded 3-dimensionally.
- 7.4.4. Headland maintains a digitally based library of guidance documents that includes information on field evaluation and recording. Relevant parts can be forwarded on request.

7.5. Temporary fencing

- 7.5.1. Temporary Heras fencing will be installed around the colliery monument (421174) and remains of Theodorics Grange (20041) to prevent accidental damage. The suggested layout for this is shown in Illus 4.

7.6. Monitoring

- 7.6.1. Access to the site will be afforded to the archaeological advisor for monitoring purposes. The archaeological advisor to the LPA shall be given at least ten working days' notice of the commencement of the site works.

7.7. Archive

- 7.7.1. The project archive will consist of all original records and photographs. The archive will be digitised and submitted electronically to the Archaeology Data Service in accordance with their guidelines for depositors.
- 7.7.2. The archive will be deposited within twelve months of the completion of the site works.

7.8. Public benefit

- 7.8.1. The short duration and nature of the recording works is not suited to public participation on site while the project is ongoing.

- 7.8.2. The results of the record will be disseminated to the regional Historic Environment Record and online OASIS library where they will be freely accessible to the public.
- 7.8.3. The following archive repository has been agreed as the archive repository for the project . An accession number has been obtained for the project, which will be used as a reference on all material to be archived.
- 7.8.4. The project archive will be compiled in accordance with the guidelines published by the ClfA on behalf of the Archaeological Archives Forum (2011). The documentary and digital archive will be submitted to (the archive repository) within six months of completion of all work on this project. The preferred method of deposition, where possible, will be digital. Any UPD will be submitted within 3 months of GGAT's agreement to the Assessment Report and any final publication will be complete within a year of GGAT's agreement to the UPD. It is anticipated that any final publication will report the results of the project as a whole. All finds will be reported to GGAT, which will determine the ultimate destination of the material archive. Once this is determined, and within months, arrangements will be made with the specified archive repository for transfer of material and title.

8. Human Remains

- 8.1.1. Human remains are not anticipated to be encountered during the work. If encountered human remains will not be excavated until reported to the client, curator and local police and a strategy for excavation agreed with all parties. As standard when encountered, excavation of human remains is anticipated to be undertaken during the course mitigation excavation works, prior to which a license will be gained from the Ministry of Justice in accordance with Section 25 of the 1857 Burial Act. All excavation and treatment of cremated and inhumed human remains will be undertaken in cognisance of ClfA Guidelines to the Standards for Recording Human Remains (Brickley and McKinley 2004); ClfA Updated Guidelines to the Standards for Recording Human Remains (Mitchell & Brickley 2017); and all relevant BABAO Guidance including the BABAO Code of Ethics (2019) and BABAO Code of Practice (2019).

9. Treasure

- 9.1.1. Any recovered artefacts that are designated treasure as defined by the Treasure Act 1996 will be treated in accordance with said act. Headland Archaeology (UK) Ltd will follow the advice provided by the portable antiquities scheme for treasure and follow the Code of Practice attached to the Treasure Act 1996.
- 9.1.2. Should an artefact or artefacts classed as potential treasure be recovered during the course of the works, the law requires that it is to be reported to the local coroner within 14 days of discovery or realisation that the artefact(s) constitute potential treasure – this reporting requirement will be undertaken by Headland Archaeology (UK) Ltd, And the archaeological coordinator will be informed.
- 9.1.3. Where appropriate and agreed with the Client and LPA, the site/spoil should be scanned with a metal-detector and finds recorded and recovered as soon as practicable.
- 9.1.4. Any MD-user engaged or allowed to undertake this work should formally agree to an appropriate methodology for this work, that any finds remain the property of the landowner, and that all significant finds and their locations shall be fully recorded as part of the project.
- 9.1.5. Any treasure will be removed to a secure store. Where removal cannot be achieved on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.
- 9.1.6. All finds and archaeological records should be removed from the site at the end of each working day as a matter of course.

10. Health and Safety

- 10.1.1. The archaeological contractor's work will be undertaken in accordance with current Health & Safety legislation. A risk assessment will be prepared prior to the commencement of fieldwork. All staff will wear appropriate PPE, which is to include high-visibility clothing, hard hats and safety footwear. Suitable site welfare facilities will be provided by the client.
- 10.1.2. This WSI is submitted on the understanding that there will be unlimited access to all relevant areas of the development area.

11. Insurance and Copyright

- 11.1.1. Headland Archaeology (UK) Ltd carries adequate insurance for the works described in this document. Certificates can be presented on request.
- 11.1.2. Copyright will be retained by the archaeological contractor as far as it applies to any and all items produced by Headland Archaeology (UK) Ltd or its subcontractors in the course of the works. Headland will licence the client, Local Planning Authority and relevant archives as necessary for use in matters relating to the project. This licence will also extend to non-commercial use.

12. References

Archaeological Archives Forum (AAF) 2011 *Archaeological Archives A guide to best practice in creation, compilation, transfer and curation* (2nd edn) (ClfA: Reading)

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Natural Environment Research Council (NERC) 2024 *British Geological Survey* <http://www.bgs.ac.uk/> accessed 16/10/2024



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