

P24-134



## EAF PROJECT

### Archaeological Desk-Based Assessment

for Tata Steel UK Limited (Tata Steel)

30/05/2024

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for Tata Steel UK Limited (Tata Steel)

CONFIDENTIAL

May 2024

Ver 2.2

## PROJECT INFORMATION:

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

## PROJECT TEAM:

|                                                        |                            |
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| VERSION COMMENTS                                       | Final draft for submission |



## TABLE OF CONTENTS

|                                                                      |     |
|----------------------------------------------------------------------|-----|
| TABLE OF CONTENTS.....                                               | II  |
| LIST OF ILLUSTRATIONS.....                                           | III |
| 1. .... INTRODUCTION.....                                            | 1   |
| 1.2.    SITE DESCRIPTION .....                                       | 1   |
| 1.3.    GEOLOGY AND GEOMORPHOLOGY .....                              | 2   |
| 2. .... LEGISLATION, POLICY AND GUIDANCE .....                       | 4   |
| 2.1.    STATUTORY PROTECTION.....                                    | 4   |
| 2.2.    NATIONAL PLANNING POLICY .....                               | 8   |
| 2.3.    LOCAL PLANNING POLICY .....                                  | 8   |
| 2.4.    GUIDANCE.....                                                | 9   |
| 2.5.    CONSULTATION.....                                            | 9   |
| 2.6.    PROFESSIONAL STANDARDS AND ACKNOWLEDGEMENTS.....             | 9   |
| 3. .... AIMS AND OBJECTIVES .....                                    | 10  |
| 4. .... METHODOLOGY .....                                            | 11  |
| 4.1.    TERMINOLOGY – ‘SIGNIFICANCE’ AND ‘IMPORTANCE’ .....          | 11  |
| 4.2.    IDENTIFICATION OF HISTORIC ASSETS THAT MAY BE AFFECTED ..... | 11  |
| 4.3.    LIMITATIONS OF DATA .....                                    | 13  |
| 4.4.    IMPACT ASSESSMENT .....                                      | 13  |
| 5. .... RESULTS.....                                                 | 17  |
| 5.1.    OVERVIEW OF THE HISTORIC ENVIRONMENT .....                   | 17  |
| 5.2.    PREVIOUS INVESTIGATIONS .....                                | 17  |
| 5.3.    SITE VISIT .....                                             | 23  |
| 5.4.    ARCHAEOLOGICAL AND HISTORICAL NARRATIVE .....                | 34  |
| 6. .... STATEMENT OF SIGNIFICANCE AND IMPORTANCE .....               | 59  |
| 6.1.    KNOWN AND POTENTIAL HISTORIC ASSETS WITHIN THE SITE.....     | 59  |
| 6.2.    SETTING OF HISTORIC ASSETS IN THE STUDY AREA .....           | 59  |
| 7. .... PROPOSED DEVELOPMENT .....                                   | 61  |
| 8. .... PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT.....           | 63  |
| 8.1.    DIRECT IMPACTS.....                                          | 63  |
| 8.2.    SETTING IMPACTS.....                                         | 64  |
| 8.3.    HISTORIC LANDSCAPE CHARACTER.....                            | 64  |
| 9. .... RECOMMENDATIONS FOR FURTHER ASSESSMENT AND CONCLUSIONS.....  | 65  |
| GLOSSARY.....                                                        | 66  |
| REFERENCES.....                                                      | 70  |
| APPENDIX 1: KNOWN HISTORIC ASSETS WITHIN THE STUDY AREAS .....       | 73  |

## LIST OF ILLUSTRATIONS

|                                                                                                                                                                                                                        |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Illus 1 Site location.....                                                                                                                                                                                             | 3  |
| Illus 2. Designated historic assets within 5km – listed buildings .....                                                                                                                                                | 19 |
| Illus 3. Designated historic assets within 5km – scheduled monuments, registered parks and gardens and conservation areas .....                                                                                        | 20 |
| Illus 4. Non-designated historic assets within 1km.....                                                                                                                                                                | 21 |
| Illus 5. Previous archaeological investigations within 1km .....                                                                                                                                                       | 22 |
| Illus 6. View of the site from the east near the Gorsedd Stones, facing west.....                                                                                                                                      | 24 |
| Illus 7. Disused hardstanding and conveyor, facing south .....                                                                                                                                                         | 24 |
| Illus 8. Part disused steelworks building, facing north west .....                                                                                                                                                     | 25 |
| Illus 9. Concrete footing remains, potentially part of a previous phase of the steelworks, facing north west .....                                                                                                     | 25 |
| Illus 10. Disused concrete lined pit, facing west.....                                                                                                                                                                 | 26 |
| Illus 11. Morfa Colliery (421174) memorial, facing south west .....                                                                                                                                                    | 26 |
| Illus 12. Henbiniwn Grange (00740w), located outside the site boundary to the east, facing south west .....                                                                                                            | 27 |
| Illus 13. Henbiniwn Grange (00740w), structural supports, facing north east.....                                                                                                                                       | 27 |
| Illus 14. Margam Warren and potential ridge and furrow (24479), facing north west.....                                                                                                                                 | 28 |
| Illus 15. Margam Warren and potential ridge and furrow (24479), facing west .....                                                                                                                                      | 28 |
| Illus 16. Rifle range firing point remains, facing south west.....                                                                                                                                                     | 29 |
| Illus 17. Internal view of firing point remains, facing south.....                                                                                                                                                     | 29 |
| Illus 18. Margam Park (151), site visible through trees, facing west .....                                                                                                                                             | 30 |
| Illus 19. Margam Park (151), site visible from multiple areas, facing west.....                                                                                                                                        | 30 |
| Illus 20. View from Margam Abbey (GM005), site visible behind trees, facing west.....                                                                                                                                  | 31 |
| Illus 21. Margam Abbey (GM005), site visible behind wall and trees, facing west .....                                                                                                                                  | 31 |
| Illus 22. View from Mynydd-y-Castell Camp (2864), site visible on right side, facing south west.....                                                                                                                   | 32 |
| Illus 23. Mynydd-y-Castell Camp (2864), site visible, facing west.....                                                                                                                                                 | 32 |
| Illus 24. View from Hen Eglwys (GM163), site visible through trees and vegetation, facing south west .....                                                                                                             | 33 |
| Illus 25. Hen Eglwys (GM163), facing south east.....                                                                                                                                                                   | 33 |
| Illus 26 Extract from 1813 Thomas Budgen OSD 1:31608 .....                                                                                                                                                             | 50 |
| Illus 27 Extract from 1877 1:2500 County Series 1st edition .....                                                                                                                                                      | 51 |
| Illus 28 Extract from 1899 1:2500 County Series 1st revision .....                                                                                                                                                     | 52 |
| Illus 29 Extract from 1919 1:2500 County Series 2nd revision .....                                                                                                                                                     | 53 |
| Illus 30 Extract from 1940 1:2500 County Series 3rd revision.....                                                                                                                                                      | 54 |
| Illus 31 Extract from 1964 1:10560 County Series 1st revision .....                                                                                                                                                    | 55 |
| Illus 32 Extract from 1982 1:10000 National Grid 1st metric edition.....                                                                                                                                               | 56 |
| Illus 33 Extract from 1993 1:10000 National Grid latest edition.....                                                                                                                                                   | 57 |
| Illus 34 Processed LiDAR data for within the site .....                                                                                                                                                                | 58 |
| Illus 35. Proposed development layout – red line indicates proposed planning boundary, purple line indicates proposed outline application, grey buildings are existing and blue buildings/structures are proposed..... | 62 |

## NON-TECHNICAL SUMMARY

*This report was commissioned by Tata Steel UK Limited (Tata Steel) and presents the results of an archaeological desk-based assessment (DBA) to support a hybrid planning application for construction of a new electric arc furnace based steel production facility and associated development, including scrap handling, on land at Port Talbot Steelworks, Port Talbot, SA13 2NG (NGR 277899, 185772)*

*The DBA study area includes a 1km buffer surrounding the site boundary for non-designated assets and a 5km buffer around the site boundary for designated assets, within which the archaeological and historical development of the site and surrounding area is discussed. In accordance with national and local planning policy and guidance, the possible impacts that the proposed development could have on known and potential below-ground archaeological remains within the site boundary, and the setting of historic assets is considered.*

*There are no designated assets located within the site.*

*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.*

*There are three non-designated historic assets located within the site boundary:*

*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*

- Theodrics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function.*

*There are a further 31 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 dates to the Medieval period, 13 date to the Post-Medieval period, 13 date to the modern period, and one is of unknown date.*

*A review of sources presented in this report demonstrates 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; and*
- A high potential for archaeological remains dating to the Medieval period, likely to be associated with the monastic grange located within the site or associated agricultural activity.*

*Through consultation with the archaeological officer for GGAT, it is understood that the following mitigation will be required:*

*An archaeological watching brief with the aim to collect paleoenvironmental samples from the excavations for two hoppers which are anticipated to require foundations 9m below ground level; and*

*Utilization of temporary fencing around the areas of Theodric's Grange (20041) and the Morfa Colliery (421174) memorial to ensure that accidental encroachment or damage to these assets does not occur.*

*Any such works should be conducted by a suitably qualified archaeological organisation in accordance with a written specification agreed in advance with the Local Planning Authority.*

*It is understood that a photographic and video survey of the current operations is being prepared in co-ordination with Cadw and the National Library of Wales, supported by the collection of artefacts to illustrate the operation of the plant. This represents a "preservation by record" of the current steelworks ahead of a major shift in technology to use of electric arc furnaces.*

*It is not anticipated that any proposals to develop the site should represent a conflict with legislation or national or local planning policies. The likely development impacts are not considered sufficiently significant to warrant refusal of a planning application to develop the site.*

# ARCHAEOLOGICAL DESK-BASED ASSESSMENT

## 1. INTRODUCTION

### 1.1. PLANNING BACKGROUND

- 1.1.1. This report was commissioned by Tata Steel UK Limited (Tata Steel) and presents the results of an archaeological desk-based assessment (DBA) to support a planning application to carry out the demolition of existing buildings and structures, and construction of a new electric arc furnace based steel production facility on land at Port Talbot Steelworks, Port Talbot, SA13 2NG (NGR 277899, 185772) (Illus 1). The Proposed Development is described as follows:

*'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 an upgraded slag processing facility, 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 transport infrastructure, landscaping and green infrastructure, and associated development.*

*Outline planning permission (with all matters reserved except for access) for demolition and the construction of a scrap metal handling facility and associated scrap yards, scrap processing facility, underground and overground electrical infrastructure, and new and amended transport infrastructure, landscaping, and associated development.'*

- 1.1.2. This report describes and assesses the significance of known historic assets and potential archaeological remains within the site boundary. It provides an assessment of the likely impact of the Proposed Development on the significance of historic assets, and the contribution made by their setting, in order to identify potential historic environment planning constraints. This approach is consistent with the requirements of national and local planning policies on the historic environment in the planning process (see section 2).

### 1.2. SITE DESCRIPTION

- 1.2.1. The approximately 160ha site is located 1.4km to the south west of the suburb of Margam, 3.3km south east of Port Talbot, and 13.2km south east of the city of Swansea on land at Port Talbot Steelworks, Port Talbot, SA13 2NG (NGR 277899, 185772) (Illus 1).
- 1.2.2. The site boundary is irregular in shape and includes parts of the extant steelworks:
- A continuous casting plant, slab yards, and part of a basic oxygen steelmaking plant in the northern part of the site;
  - An operational lagoon, a steel service centre, and Margam colliery memorial in the central area of the site;
  - A haul road which forms the westernmost boundary; and
  - Coal yards in the south western area of the site.
- 1.2.3. Historic remains of Morfa Colliery (421174) and part of a ruined Medieval building thought to form a monastic grange (20041) are also present within the site.
- 1.2.4. Beyond the site boundary but within the steelworks are:
- Margam Knuckle Yard and haulage yard to the south east;

- Refractory stores adjacent to the site boundary's eastern extent;
- Cold and hot rolling mills to the east of the site;
- A blast furnace gas holder and a flare stack to the north;
- Henbiniwn Grange (an historic ruin) to the east of the site;

1.2.5. Beyond the steelworks the following areas form part of the site's immediate environs:

- Beyond the hot and cold rolling mills are the South Wales Main Line and Ogmore Vale Extension railway lines directly to the east of the steelworks;
- Further east is Fford Harbour Way (A4241), beyond which is Margam village, Margam Country Park, and a cluster of historic assets;
- Eglwys Nunydd Reservoir is to the south east of the site;
- Margam Moors, Margam Burrows and Margam Landfill are located to the south of the site, beyond which is Kenfig Burrows.
- Margam and Taibach are located to the north east of the site; and
- Port Talbot Docks and Port Talbot are to the north.

1.2.6. 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.

### 1.3. GEOLOGY AND GEOMORPHOLOGY

1.3.1. The underlying solid geology is recorded by BGS<sup>1</sup> 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:

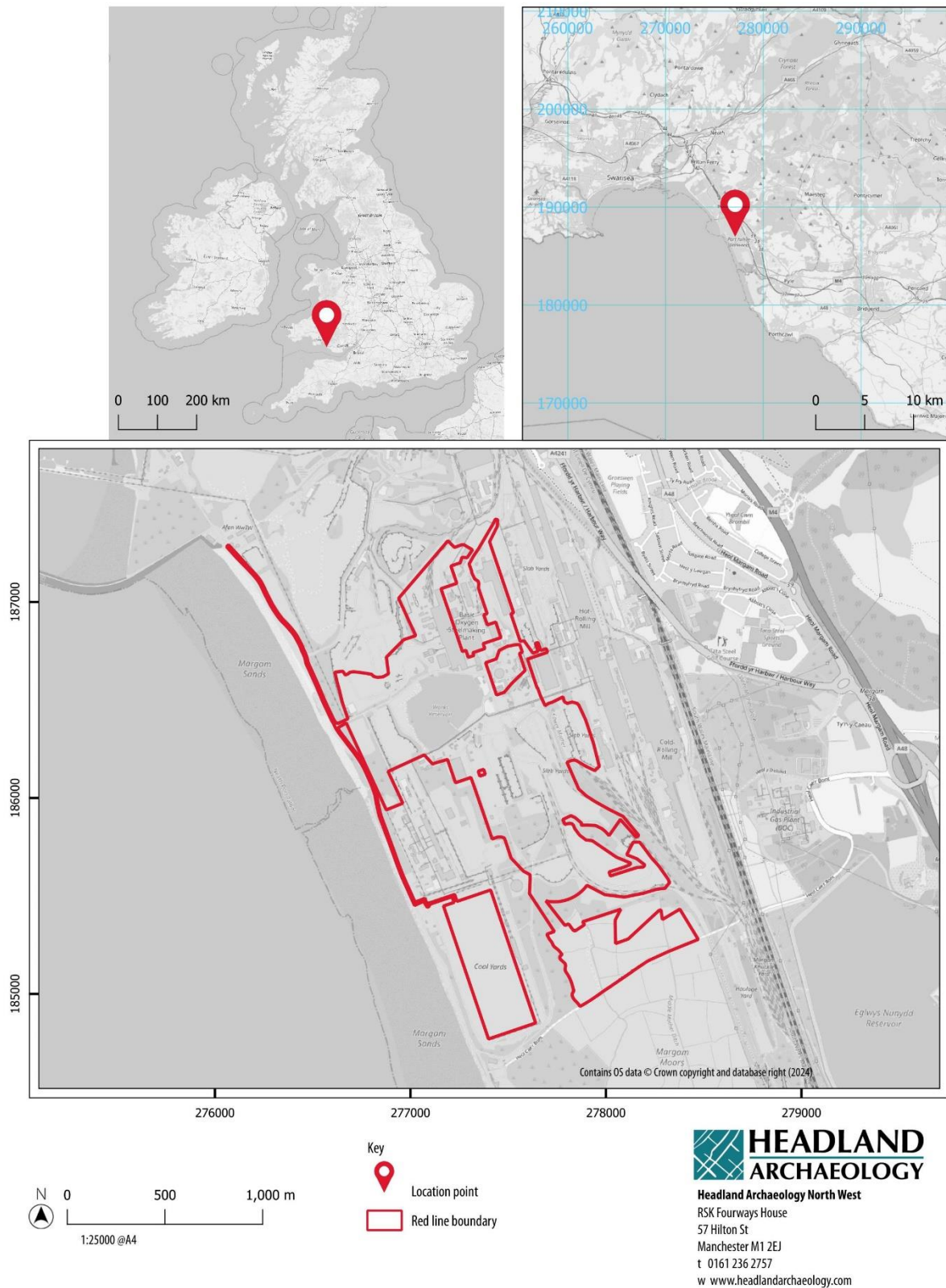
- Tidal Flat Deposits – clay, silt and sand are recorded in the eastern half of the site. These sedimentary deposits were formed between 11.8 thousand years ago and the present during the Quaternary period; and
- Blown sand – sand is recorded in the western half of the site. This is a sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period.

1.3.2. Boreholes within the site confirm a layer of clinker and ashes serving 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.

1.3.3. 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.

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<sup>1</sup> British Geological Survey, 2024



Illus 1 Site location

## 2. LEGISLATION, POLICY AND GUIDANCE

### 2.1. STATUTORY PROTECTION

2.1.1. The relevant heritage legislation in the context of the present site is described in Table 1 below.

*Table 1. Historic Environment Statutory Legislation*

| Legislation                                         | Key Issues                                                                                                                                                                                                                                                        |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ancient Monuments and Archaeological Areas Act 1979 | It is a criminal offence to carry out any works on or near to a Scheduled Monument without Scheduled Monument Consent. Development must preserve in-situ protected archaeological remains and landscapes of acknowledged significance and protect their settings. |

| Legislation                                                 | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Planning (Listed Buildings and Conservation Areas) Act 1990 | <p>Section 1 of the Act requires the Secretary of State to compile and maintain lists of buildings of special architectural or historic interest.</p> <p>Buildings on the list are assessed and graded against the criteria of architectural and historic interest. Buildings listed at Grade I are defined as those considered to be of exceptional interest. Grade II* Listed Buildings are particularly important buildings of more than special interest, while Grade II Listed Buildings are of special interest. This may include the extent to which the exterior of a building contributes to the interest of a group of buildings, i.e. 'group value'.</p> <p>The Act requires Local Planning Authorities to have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses when they are considering whether to grant planning permission for an application for development which affects a listed building or its setting.</p> |

| Legislation                               | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Planning Act (Wales) 2015             | <p>Outlines a legal framework for the National Development Framework, making provision for pre-application consultation and introduces a streamlined planning system <i>"delivering timely, fair and consistent decisions that will enhance the built, natural and historic environment in Wales"</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The Historic Environment (Wales) Act 2023 | <p>This Act makes amendments to the Ancient Monuments and Archaeological Areas Act 1979, primarily in relation to ancient monuments in Wales. It also makes provision for the Welsh Ministers to compile and maintain a register of Historic Parks and Gardens.</p> <p>It also makes amendments to the Planning (Listed Buildings and Conservation Areas) Act 1990 (c.9) in relation to buildings in Wales that are of special architectural or historic interest ('Listed Buildings').</p> <p>The Act makes other provisions including:</p> <ul style="list-style-type: none"> <li>(a) for the compilation of a list of historic place names in Wales;</li> <li>(b) for the compilation of a historic environment record for each local authority area in Wales; and</li> <li>(c) for the establishment, constitution and functions of the Advisory Panel for the Welsh Historic Environment.</li> </ul> |

| Legislation                           | Key Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Planning Policy Wales Edition 12 2024 | <p>Sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with Planning Policy Wales provide the national planning policy framework for Wales.</p> <p>TAN 24: The Historic Environment includes guidance on World Heritage sites, Scheduled Monuments, archaeological remains, Listed Buildings, Conservation Areas, Historic Parks and Gardens, historic landscapes and historic assets of special local interest.</p> |

## 2.2. NATIONAL PLANNING POLICY

- 2.2.1. TAN 24: The Historic Environment provides guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building (LBC) applications.
- 2.2.2. This report contributes to meeting the following Policies on the historic environment contained in the document (paragraph numbers in bold text):

***1.15** Heritage impact assessment is a structured process that enables the significance of a designated asset to be taken into account when considering proposals for change.<sup>12</sup> Heritage impact assessments should be proportionate both to the significance of the historic asset and to the degree of change proposed, and should include sufficient information to enable both the significance of the asset and the impact of change to be understood. The results of the heritage impact assessment should be summarised in a heritage impact statement which must form part of any listed building consent, conservation area consent and, when requested, scheduled monument consent applications.*

***1.23** Planning Policy Wales identifies how local planning authorities must treat World Heritage Sites, scheduled monuments, unscheduled nationally important archaeological remains<sup>21</sup>, listed buildings, conservation areas and registered historic parks and gardens in Wales in their consideration of planning applications and producing development plans. This includes the impact of proposed developments within the settings of these historic assets, buildings, conservation areas and registered historic parks and gardens in Wales in their consideration of planning applications and producing development plans. This includes the impact of proposed developments within the settings of these historic assets.*

***1.25** The setting of an historic asset includes the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.<sup>24</sup> Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset.'*

## 2.3. LOCAL PLANNING POLICY

- 2.3.1. The Neath Port Talbot Local Development Plan (2011-2026)<sup>2</sup> contains policy SP 21 Built Environment and Historic Heritage, which states:

*'The built environment and historic heritage will, where appropriate, be conserved and enhanced through the following measures:*

- 1. Encouraging high quality design standards in all development proposals;*

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<sup>2</sup> [Neath port Talbot County Borough Council, 2016](#)

2. Protecting arterial gateways from intrusive and inappropriate development;
3. Safeguarding features of historic and cultural importance;
4. The identification of the following designated sites to enable their protection and where appropriate enhancement:
  - (a) Landscapes of Historic Interest;
  - (b) Historic Parks and Gardens;
  - (c) Conservation Areas;
  - (d) Scheduled Ancient Monuments; and
  - (e) Listed Buildings and their curtilage.'

## 2.4. GUIDANCE

- 2.4.1. This DBA has been prepared with reference to the ClfA's *Standard and Guidance for Historic Environment Desk-Based Assessment* (2020) and *Code of Conduct* (2022), *The Planning Act (Wales) 2015*, *The Historic Environment (Wales) Act 2023*, *Planning Policy Wales Edition 12 2024*, *Technical Advice Note 24: The Historic Environment* (2017), The Institute of Environmental Management and Assessment (IEMA), the Institute of Historic Building Conservation (IHBC) and ClfA's *Principles of Cultural Heritage Impact Assessment in the UK* (2021), Cadw's guidance on *Heritage Impact Assessment in Wales* (2017) and *Setting of Historic Assets in Wales* (2017), RCAHMW *Guidelines for Digital Archives Version 1* (2015) and National Panel for Archaeological Archives in Wales' (NPAAW) *National Standard and Guidance to Best Practice for Collecting and Deposition of Archaeological Archives in Wales* (2017). Any data submitted to the HER will conform to standards set out in the Welsh Archaeological Trusts' *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (2018).

## 2.5. CONSULTATION

- 2.5.1. This report has been prepared following the methodology outlined in an EIA technical note (Headland Archaeology, 2024), which was agreed by the Archaeological Planning Officer for Glamorgan-Gwent Archaeological Trust (GGAT (now Heneb)), with guidance from the Stewardship Officer for GGAT.

## 2.6. PROFESSIONAL STANDARDS AND ACKNOWLEDGEMENTS

- 2.6.1. Headland Archaeology (UK) is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA), an audited status which confirms that all work is carried out in accordance with the highest standards of the profession.
- 2.6.2. Headland Archaeology (UK), as part of the RSK Group, is recognised by the Institute of Historic Building Conservation (IHBC) under their 'Historic Environment Service Provider Recognition' scheme. This quality assurance standard acknowledges that RSK works to the conservation standards of the IHBC, the UK's lead body for built and historic environment practitioners and specialists.
- 2.6.3. Headland Archaeology (UK) operates a quality management system to help ensure all projects are managed in a professional and transparent manner, which enables it to qualify for ISO9001 Quality Management, ISO45001 health and safety management and ISO14001 environmental management.
- 2.6.4. Ordnance Survey data is produced under © Crown copyright and database rights Licence 100065113.
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### 3. AIMS AND OBJECTIVES

- 3.1.1. The aim of this DBA is to inform determination of a planning application for redevelopment of the site in relation to its likely impact on the historic environment. The assessment aims to identify all known historic assets potentially affected by the Proposed Development, and the potential for currently unknown historic assets.
- 3.1.2. The purpose is to gain an understanding of the historic environment resource in order to formulate an assessment of the potential for historic assets to survive within the site, their significance, and strategies for further evaluation, mitigation or management as appropriate.
- 3.1.3. The ClfA's *Standard and Guidance for Historic Environment Desk-Based Assessment* (2017<sup>3</sup>) defines a DBA as '*...a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the Study Area, including appropriate consideration of the settings of historic assets... ...Significance is to be judged in a local, regional, national or international context as appropriate.*'
- 3.1.4. The objectives are therefore to:
- Collate all available written, graphic, photographic and electronic information relevant to the site;
  - Describe the nature, extent and significance and importance of the historic environment within the area potentially affected by the Proposed Development, identifying any uncertainties in existing knowledge;
  - Determine the potential for previously unknown archaeological remains;
  - Determine the likely impact of the Proposed Development;
  - Identify historic assets beyond the site boundary that may be affected by development within their setting, to describe their significance and the contribution made by their setting, and make an assessment of how this significance may be affected by the Proposed Development; and
  - Identify any requirements for further investigation that may be necessary to understand the impacts of the Proposed Development on the historic environment.

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<sup>3</sup> [https://www.archaeologists.net/sites/default/files/ClfAS%26GDBA\\_4.pdf](https://www.archaeologists.net/sites/default/files/ClfAS%26GDBA_4.pdf)

## 4. METHODOLOGY

### 4.1. TERMINOLOGY – ‘SIGNIFICANCE’ AND ‘IMPORTANCE’

- 4.1.1. Historic assets are assessed in this report in terms of their significance and importance, following the requirements in TAN24, and taking account of Cadw’s guidance on *Heritage Impact Assessment in Wales* (2017) and *Setting of Historic Assets in Wales* (2017).
- 4.1.2. Impact assessment is concerned with effects on significance, the value or interest that applies to all historic assets and relating to the ways in which the historic environment is valued both by specialists and the public.
- 4.1.3. The significance of a historic asset will derive from factors including fabric, setting, rarity, completeness, historic and cultural associations, community, research and place-making potential. Significance is assessed in relation to the criteria in Cadw’s guidance on *Heritage Impact Assessment in Wales* (2017) and *Setting of Historic Assets in Wales* (2017), which are intended primarily to inform decisions regarding heritage designations, but may also be applied more generally in identifying the ‘special characteristics’ of a historic asset, which contribute to its significance and should be protected, conserved and enhanced.
- 4.1.4. This use of the word ‘significance’, referring to the range of values or interest attached to an asset, should not be confused with the unrelated usage in EIA where the ‘significance of an effect’ reflects the weight that should be attached to it in a planning decision.
- 4.1.5. Relative importance of each identified historic asset potentially affected by the Proposed Development has been determined to provide a framework for comparison between different historic assets and to inform subsequent stages of archaeological assessment and the development of any appropriate mitigation which may be required (See Table 2 below).
- 4.1.6. For further terminology and definitions, see Glossary.

### 4.2. IDENTIFICATION OF HISTORIC ASSETS THAT MAY BE AFFECTED

#### *STUDY AREA*

- 4.2.1. The Study Area for this assessment comprises a 1km buffer surrounding the site for non-designated assets and a 5km buffer around the site for designated assets, as required by GGAT, within which the archaeological and historical development of the site and surrounding area has been considered.

#### *DATA SOURCES*

- 4.2.2. The assessment has been based on a study of all readily available documentary sources, following the ClfA Standards and Guidance. The following sources of information were referred to:
- Designation data from the Cof Cymru - National Historic Assets of Wales, downloaded from the Cadw website<sup>4</sup> on 29 April 2024;
  - Records from the National Monuments Record of Wales (NMRW), produced by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) received on 21 May 2024;
  - Archaeological records and aerial photographs held by the GGAT Historic Environment Record (HER) received on 3 May 2024;

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<sup>4</sup> <https://cadw.gov.wales/advice-support/cof-cymru/downloads>

- Natural Resources Wales LiDAR data<sup>5</sup>;
- Geological data available online from the British Geological Survey<sup>6</sup>; and
- Readily available published sources and unpublished archaeological reports.

4.2.3. Historic assets within the Proposed Development Area are shown in Illus 2, Illus 3 & Illus 4 with detailed descriptions compiled in a gazetteer (Appendix 1).

4.2.4. Designated historic assets are referenced in this report by their Cadw reference number. Non-designated assets are referenced by their HER reference or RCAHMW reference. Any newly discovered assets are assigned a number prefixed HA for Historic asset. A single asset number can refer to a group of related features, which may be recorded separately in the HER and other data sources.

## *SITE VISIT*

4.2.5. Site visits were undertaken on 4 November 2021 and 3 February 2022, during which notes were made regarding site characteristics, any visible archaeology and geographical/geological features. These elements may have a bearing on previous land use and archaeological survival, as well as those which may constrain subsequent archaeological investigation.

4.2.6. Whilst these visits were made in relation to an earlier iteration of the scheme, the observations made during these visits are applicable to the current iteration as it covered much of the same ground. It is considered that both iterations of the Proposed Development shared the same location and line of site/zone of influence due to the size and massing of the Proposed Development, and any differences in the layout within the site have been analysed extensively through HER data, listing data and LiDAR data for the site to ensure robust assessment.

4.2.7. Records were made regarding extant archaeological features, such as earthworks or structural remains, any negative features, local topography and aspect, exposed geology, soils, watercourses, health and safety considerations, surface finds, and any other relevant information.

4.2.8. This approach was agreed with GGAT via an informal technical scoping note prior to the commencement of work.

## *HISTORIC MAP REGRESSION*

4.2.9. The historic mapping sequence corresponding with the site was consulted to collect information on former land use and development throughout the later historic periods.

## *LIDAR*

4.2.10. Light Detection and Ranging (LiDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground. Up to 500,000 measurements per second are made of the ground, allowing highly detailed terrain models to be generated in which it is possible to identify shallow or otherwise imperceptible topographic features.

4.2.11. A Composite Digital Terrain Model (DTM) has been produced by removing objects from the Digital Surface Model (DSM) which is available at 1m resolution for the site. Composite data breaks down by spatial resolution i.e. 2m, 1m, 50cm and 25cm and is made up from a combination of the full EA dataset which has been merged and re-sampled to give the best possible coverage. This means that a 1m resolution tile may contain decimated 50cm data as well as native captured 1m data. It is not possible using only the composite to know which part of a given tile was surveyed at which resolution.

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<sup>5</sup> <https://lle.gov.wales/catalogue/item/LidarCompositeDataset/?lang=en>

<sup>6</sup> <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

- 4.2.12. Analysis was undertaken by a professional archaeologist using QGIS imaging and geo-referencing/mapping software.

### 4.3. LIMITATIONS OF DATA

#### *DATA SOURCES*

- 4.3.1. Information held by public data sources is generally considered to be reliable. However, the following general points are noted:
- Tithe mapping was not available for consultation for this DBA;
  - Documentary sources are rare before the medieval period;
  - Whilst it is accepted that historic documents may be biased depending on the author, with content seen through the lens of context, wherever such documentary sources are used in assessing archaeological potential professional judgment is used in their interpretation in that the functionality of the document is considered;
  - HER records can be limited because opportunities for research, fieldwork and discovery depend on the situation of commercial development and occasional research projects, rather than the result of a more structured research framework. A lack of data within the HER records does not necessarily equal an absence of archaeology;
  - Where archaeological sites have been identified solely from aerial imagery without confirmation from archaeological excavation or supporting evidence in the form of find-spots for example, it is possible the interpretation may be revised in the light of further investigation;
  - The significance of sites can be difficult to identify from HER records, depending on the accuracy and reliability of the original source; and
  - There can often be a lack of dating evidence for archaeological sites.

#### *SITE VISIT*

- 4.3.2. Any archaeological site visit has inherent limitations, primarily because archaeological remains below ground level may have no surface indicators.

### 4.4. IMPACT ASSESSMENT

#### *ASSESSMENT OF IMPORTANCE*

- 4.4.1. The importance of a historic asset is the overall value assigned to it reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 2).
- 4.4.2. Any feature which does not merit consideration in planning decisions due to its significance may be said to have negligible importance. It is the role of the professional judgements made by the assessor to identify any historic remains within the site that are considered to be of negligible importance, to justify no further works.

*Table 2. Criteria for Assessing the Importance of Historic assets*

| Importance of the asset   | Criteria                                                                                                                       |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Very High (International) | World Heritage Sites and other assets of equal international importance, that contribute to international research objectives. |

| Importance of the asset       | Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High (National)               | Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated historic assets of equivalent importance that contribute to national research objectives. Also Conservation Areas, Grade II Registered Parks and Gardens and Grade II Listed Buildings which have particular characteristics that merit a high level of importance. |
| Medium (National or Regional) | Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings except where their particular characteristics merit a higher level of importance, historic assets on local lists and undesignated assets that contribute to Regional research objectives.                                                                                                                                                            |
| Low (Local)                   | Locally listed historic assets, except where their particular characteristics merit a higher level of importance, undesignated historic assets of Local importance, including assets that may already be partially damaged.                                                                                                                                                                                                               |
| Negligible                    | Identified historic remains of no importance in planning considerations, or historic assets and findspots that have already been removed or destroyed (i.e. 'site of').                                                                                                                                                                                                                                                                   |
| Unknown / Uncertain           | Historic assets for which a level of importance cannot be defined on current information.                                                                                                                                                                                                                                                                                                                                                 |

- 4.4.3. The importance of historic assets that may be affected by the Proposed Development is identified in the impact assessment and summarised in the Gazetteer (Appendix 1).

#### POTENTIAL FOR UNKNOWN HISTORIC ASSETS

- 4.4.4. Archaeological features are often impossible to identify through desk-based assessment. The likelihood that significant undiscovered historic assets may be present within the Proposed Development Area is referred to as *archaeological potential*. Overall levels of potential can be assigned to different landscape zones, following the criteria in Table 3, while recognising that the archaeological potential of any zone will relate to particular historical periods and types of evidence. The following factors are considered in assessing archaeological potential:
- The distribution and character of known archaeological remains in the vicinity, based principally on an appraisal of data from Glamorgan-Gwent Archaeological Trust Historic Environment Record (HER), Cadw and RCAHMW.
  - The history of archaeological fieldwork and research in the surrounding area, which may give an indication of the reliability and completeness of existing records;
  - Environmental factors such as geology, topography and soil quality, which would have influenced land-use in the past and can therefore be used to predict the distribution of archaeological remains;
  - Land-use factors affecting the survival of archaeological remains, such as ploughing or quarrying; and

- Factors affecting the visibility of archaeological remains, which may relate to both environment and land-use, such as soils and geology (which may be more or less conducive to formation of cropmarks), arable cultivation (which has potential to show cropmarks and create surface artefact scatters), vegetation, which can conceal upstanding features, and superficial deposits such as peat and alluvium which can mask archaeological features.

Table 3. Archaeological potential

| Potential  | Definition                                                                                                                                                                  |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High       | Undiscovered historic assets of high or medium importance are likely to be present.                                                                                         |
| Medium     | Undiscovered historic assets of low importance are likely to be present; and it is possible, though unlikely, that assets of high or medium importance may also be present. |
| Low        | The study area may contain undiscovered historic assets, but these are unlikely to be numerous and are highly unlikely to include assets of high or medium importance.      |
| Negligible | The study area is highly unlikely to contain undiscovered historic assets of any level of importance.                                                                       |
| Nil        | There is no possibility of undiscovered historic assets existing within the study area.                                                                                     |

### IMPACT ASSESSMENT

- 4.4.5. Impact assessment considers the effects of the Proposed Development on the significance of the identified historic assets, or its assessed archaeological potential, including both beneficial and adverse ('harm') impacts.
- 4.4.6. The assessment of physical impacts considers the extent or degree of harm proposed relative to the importance of the physical remains.

### SETTING IMPACTS

- 4.4.7. Consideration of setting related effects most commonly relates to visual impacts but other introduced environmental factors can affect setting such as noise, light or air quality. Impacts may be encountered at all stages in the life cycle of a development from construction to decommissioning but they are only likely to lead to substantial harm during the prolonged operational life of the development.
- 4.4.8. Where potential impacts on the settings of a historic assets are identified, the assessment of significance includes 'assessing whether, how and to what degree these settings make a contribution to the significance of the historic asset(s)', following Step 2 of the staged approach to setting recommended in Cadw's guidance on *Heritage Impact Assessment in Wales* (2017) and *Setting of Historic Assets in Wales* (2017)
- 4.4.9. An assessment of the sensitivity of a historic asset to change within its setting is a professional judgement, based on consideration of the asset's significance and the contribution its current and historical setting makes to that significance.
- 4.4.10. In accordance with Cadw's guidance on *Heritage Impact Assessment in Wales* (2017) and *Setting of Historic Assets in Wales* (2017) a screening exercise has been undertaken to identify the historic assets that are likely to be affected by the Proposed Development and therefore require detailed assessment.

- 4.4.11. Historic assets identified as with a potential line-of-sight with the site to the steelworks were visited and assessed with a view to potential setting impacts. Although these visits were made in relation to an earlier iteration of the scheme, the observations made during these visits are applicable to the current iteration as it covered much of the same ground. It is considered that both iterations of the Proposed Development shared the same location and line of site/zone of influence due to the size and massing of the Proposed Development, and any differences in the layout within the site have been analysed extensively through HER data, listing data and LiDAR data for the site to ensure robust assessment. The site visit enabled assessment of likely impacts of the Proposed Development: locations which would remain unaffected, locations which have some visibility but that is minimal and does not affect the existing condition, and locations where visibility is possible/prominent.
- 4.4.12. The scope of this DBA is limited to identifying where no substantial setting impacts are anticipated requiring no further works, or where substantial setting impacts are anticipated, to identify which historic assets are considered likely to be affected, and to make recommendations for proportionate further detailed assessments.

### *MINIMISING HARM*

- 4.4.13. Where appropriate, measures for further assessment of, or mitigation of identified impacts are recommended.
- 4.4.14. A summary is presented of the measures to remove, reduce or mitigate harm to historic assets.

## 5. RESULTS

### 5.1. OVERVIEW OF THE HISTORIC ENVIRONMENT

- 5.1.1. The full list of known historic assets is presented in the gazetteer (Appendix 1), and the locations of each are shown on Illus 2, Illus 3 & Illus 4.
- 5.1.2. The significance of these assets is discussed by period in the Statement of Significance and Importance (Section 6) below.
- 5.1.3. There are no designated assets located within the red line boundary.
- 5.1.4. 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.
- 5.1.5. There are three non-designated historic assets located within the site:
- Morfa Colliery (421174) is a 19<sup>th</sup> 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

    - Theodrics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function.
- 5.1.6. There are a further 31 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.
- 5.1.7. 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 features<sup>7</sup>. The rest of the site is not covered by HLC.

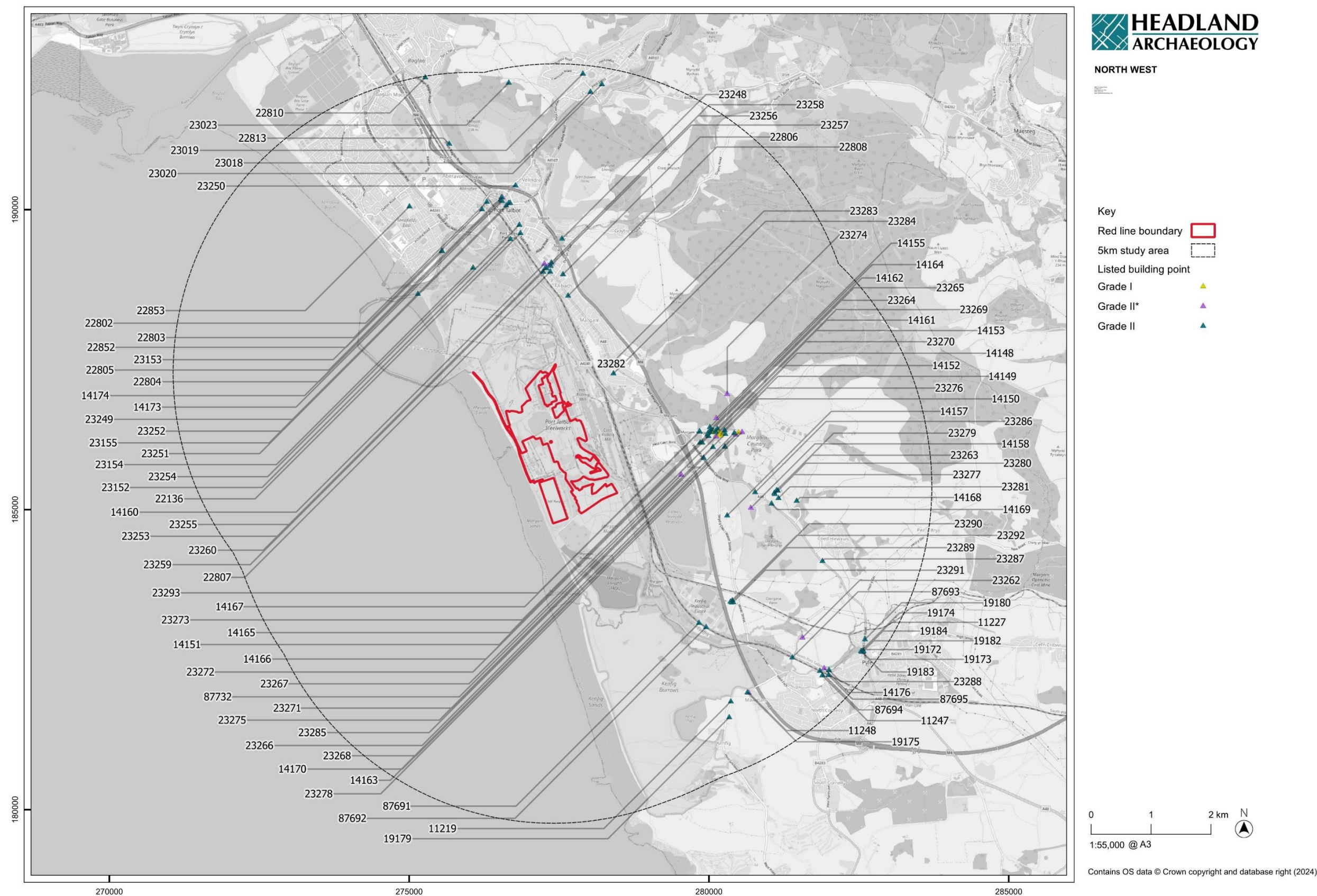
### 5.2. PREVIOUS INVESTIGATIONS

- 5.2.1. The locations of the investigations detailed below are shown on Illus 5.
- 5.2.2. Eight previous archaeological investigations are recorded within the red line boundary:
- A partial excavation was undertaken of Theodrics Grange (20041) by T. Gray in 1903 (E000456). A building found three years prior was cleaned back and a piscina was found amongst the ruins indicating the location of a chapel;
  - An archaeological watching brief was carried out for the Marlas-Raos sewage pipeline by GGAT in 1992 (E003718). Observations that were possible suggested that the potential for the preservation of archaeological remains, particularly from the prehistoric period, is high;
  - A desk-based assessment for Ysgol Newydd, Margam was carried out by Rubicon Heritage Services in 2016 (E007984). The assessment identified 69 known cultural heritage assets in the study areas, and none in the development area itself. It was determined that there would be no direct or indirect impact on any known cultural heritage assets and nor an impact on the setting of any assets;

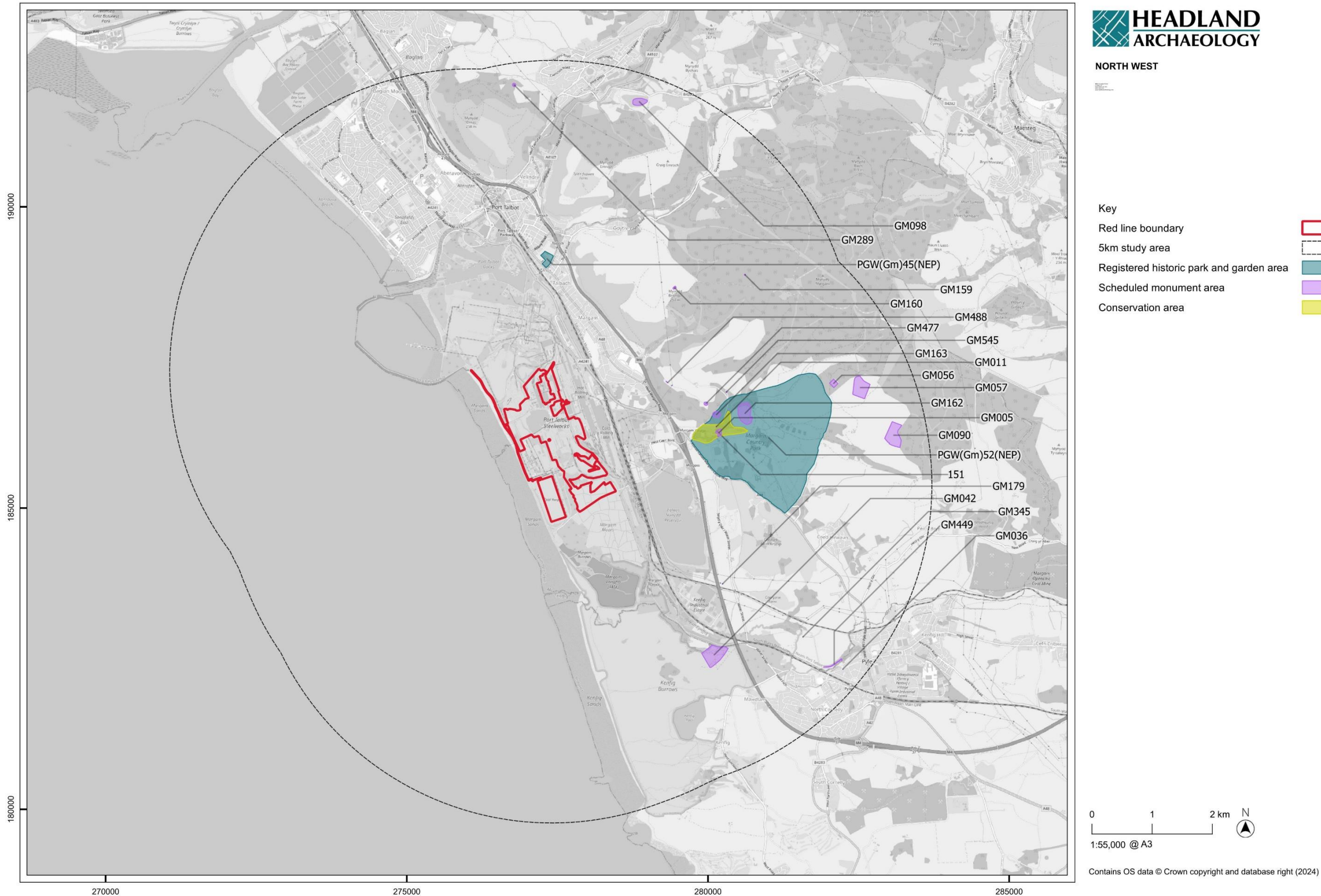
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<sup>7</sup> Gwent-Glamorgan Archaeological Trust, 2021

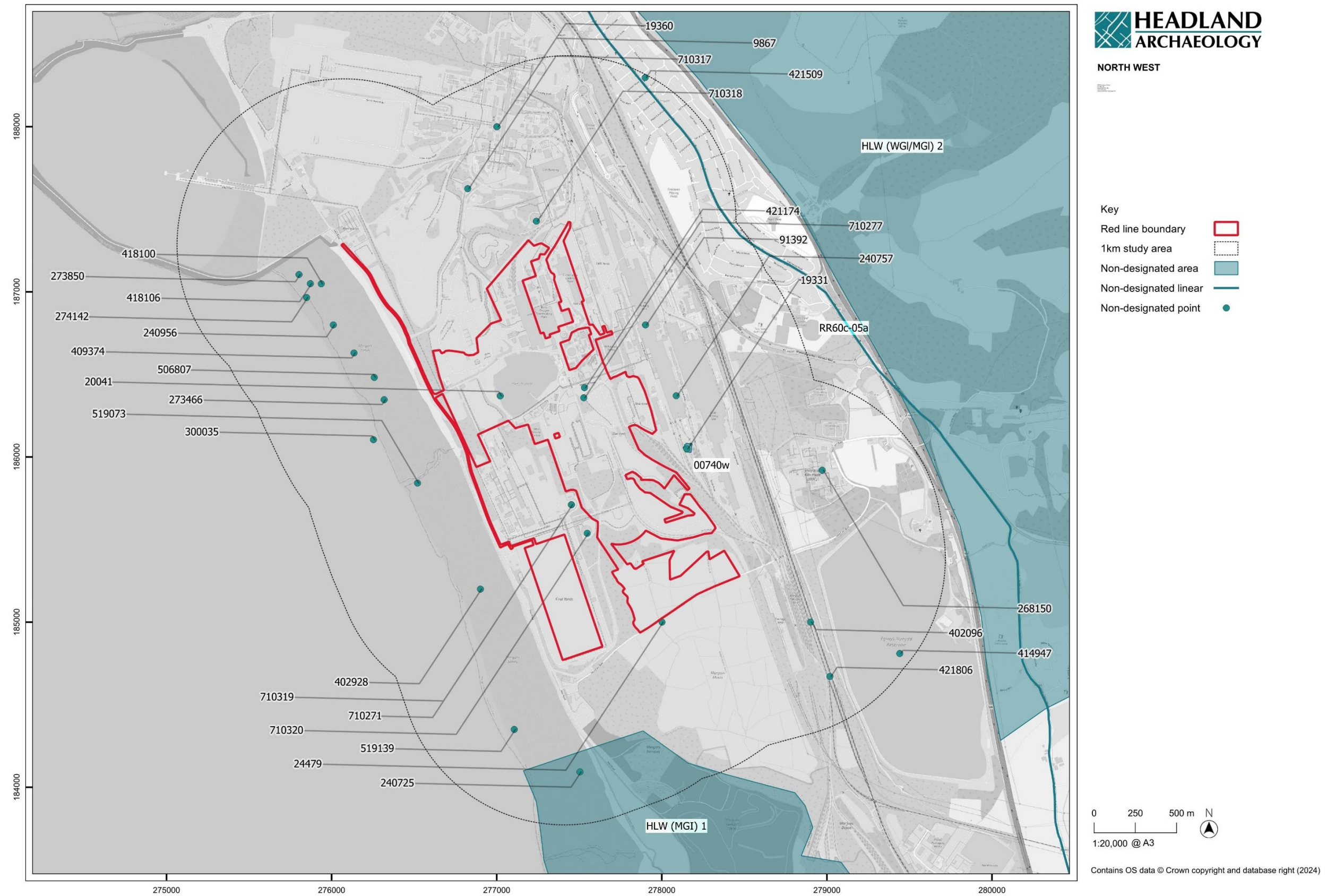
- A desk-based assessment was carried out on high-status settlement in Glamorgan-Gwent by GGAT in 2010 (E007242). A total of 277 medieval/post-medieval sites were initially assessed, following which 58 continued to a more detailed assessment. Of those, between 33 and 37 were considered to be/potentially be of National Significance, 19 of which are already Scheduled Ancient Monuments. Nine sites were considered to be at least of Regional Significance;
- A desk-based assessment was carried out as part of a rapid archaeological appraisal on land at Mynydd Margan, Mynydd Ty-talwyn and Mynydd Baedan near Margam by GGAT in 2013 (E006900). Six new archaeological sites were identified during the study. The report concludes that the planned work would not pose any constraints on the archaeology;
- A landscape survey was carried out as part of GGAT150: rapid coastline assessment by GGAT in 2018 (E006100), who undertook a scoping exercise in 2016—2017 to define a coastal zone area in relation to currently mapped risks associated with climate change and determined what work should be done to bring the quality and scope of data on the coast of Glamorgan and Gwent up to present standards;
- A landscape survey was carried out as part of the Arfordir Coastal Heritage project by GGAT in 2014 (E007638), which aimed to identify new sites and monitor archaeological sites and to engage interested local people. It especially aimed to record and monitor sites under threat of coastal erosion or other forms of damage and to involve interested individuals and community groups in taking an active role in caring for their coastal heritage on an independent and sustainable basis; and
- An historic area assessment was carried out at Newland Farm by the University of Leicester in 2013 (E007771) The Assessment of the Significance of Impact of Development on Historic Landscapes, 2nd edition (ASIDOHL2) aimed to assess the direct, physical impacts of a wind turbine development as well as indirect physical and visual impacts upon the landscape surrounding Newland Farm. Overall the impact from the proposed turbine was determined to be Slight, with a slightly higher impact on the landscape of Kenfig Burrows, especially those areas closest to the turbine.



Illus 2. Designated historic assets within 5km – listed buildings



Illus 3. Designated historic assets within 5km – scheduled monuments, registered parks and gardens and conservation areas



*Illus 4. Non-designated historic assets within 1km*



### 5.3. SITE VISIT

- 5.3.1. A site visit was made on 4 November 2021 which covered the current development location as part of an earlier iteration of the scheme, including the steelworks and nearby Scheduled Monuments. Weather was partially cloudy with intermittent downpours, visibility was good outside of these short periods.
- 5.3.2. The current steelworks is a dominant feature within the local landscape and dominates the skyline (Illus 6). The complex has buildings and infrastructure of varying heights and massing
- 5.3.3. There is evidence of previous phases of the steelworks visible above ground comprising disused building remains, earthworks and road surfaces (Illus 7, Illus 8, Illus 9, Illus 10).
- 5.3.4. There is a memorial to the 1890 disaster at Morfa Colliery within the site boundary (Illus 11). It is understood that this is planned for retention.
- 5.3.5. Potential ridge and furrow earthworks at Margam Warren seen on LiDAR data were not observable during the site visit (Illus 14, Illus 15). This may be due to ground conditions, as the area had quite high grass, or a potential indicator of degradation of the earthworks.
- 5.3.6. Part of a firing point associated with a 1940s rifle range and adjoining noted on historic mapping has above ground remains within the Margam Warren area. This is in very poor condition and has multiple modern repairs and fencing (Illus 16, Illus 17).
- 5.3.7. A second site visit was carried out on 3 February 2022 to assess the local landscape and setting of nearby designated assets. Although this visit was carried out using an earlier iteration of the proposed site layout, at the scale of the visit encompassing designated assets (5km) the observations made also cover the current development layout. It is considered that both iterations of the Proposed Development shared the same location and line of site/zone of influence due to the size and massing of the Proposed Development, and any differences in the layout within the site have been analysed extensively through HER data, listing data and LiDAR data for the site to ensure robust assessment. Weather was once again partially cloudy with intermittent downpours. Visibility was good in the morning but worsened slightly over the day as it became overcast.
- 5.3.8. Henbiniwn (00740w), located alongside and outside the site boundary, was visited during the visit to assess its setting. This asset is in poor repair, with several modern supports to slow further decay or collapse (Illus 12, Illus 13).
- 5.3.9. Intervisibility between the site and historic assets in Margam Park and surrounding area was assessed to inform the settings assessment in this report.
- 5.3.10. The steelworks is visible from multiple points within Margam Park Conservation Area and Margam Mountain Historic Landscape (HLW (WGI/MGI) 2). Vegetation and trees would likely shield the assets slightly more in the summer when foliage would be denser (Illus 18, Illus 19).
- 5.3.11. Half Moon Camp (GM477), Margam Abbey (GM005), Mynydd-y-Castell Camp (GM162), and Hen Eglwys (GM163) all have at least some intervisibility with the site (Illus 20, Illus 21, Illus 22, Illus 23, Illus 24, Illus 25).



*Illus 6. View of the site from the east near the Gorsedd Stones, facing west*



*Illus 7. Disused hardstanding and conveyor, facing south*



*Illus 8. Part disused steelworks building, facing north west*



*Illus 9. Concrete footing remains, potentially part of a previous phase of the steelworks, facing north west*



*Illus 10. Disused concrete lined pit, facing west*



*Illus 11. Morfa Colliery (421174) memorial, facing south west*



*Illus 12. Henbiniwn Grange (00740w), located outside the site boundary to the east, facing south west*



*Illus 13. Henbiniwn Grange (00740w), structural supports, facing north east*



*Illus 14. Margam Warren and potential ridge and furrow (24479), facing north west*



*Illus 15. Margam Warren and potential ridge and furrow (24479), facing west*