



Tata Steel UK Limited (Tata Steel)

Electric Arc Furnace (EAF)

Volume 1, Non-Technical Summary



RSK Project no. 664195575




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PREFACE

Tata Steel UK Limited (Tata Steel) is proposing to construct an Electric Arc Furnace (EAF) based steel production facility, located inside the existing Port Talbot Steelworks at Margam in South Wales.

RSK Environment Limited has been commissioned by Tata Steel UK Limited (Tata Steel) to undertake an Environmental Impact Assessment of the Proposed Development. This Environmental Statement reports the findings of the assessments of the likely environmental impacts of the Proposed Development.

The Environmental Statement comprises four volumes:

- Volume 1 – Non-Technical Summary
- Volume 2 – Environmental Statement
- Volume 3 – Technical appendices
- Volume 4 – Figures

A copy of the Environmental Statement, together with the Non-Technical Summary outlining the information provided in the Environmental Statement, is available to download from the following websites:

- NPTC online planning register at: [Planning applications - Neath Port Talbot Council \(npt.gov.uk\)](http://npt.gov.uk)
- Tata Steel UK Limited (Tata Steel)'s project website: [Planning process | Tata Steel in Europe \(tatasteel.com\)](http://tatasteel.com)

A hard copy of the Environmental Statement report, together with the Non-Technical Summary, will be available at the following deposit point:

Neath Port Talbot Council
The Quays, Brunel Way, Neath, SA11 2GG

Alternatively, upon request paper copies will be made available at a reasonable cost to cover printing and postage, from:

RSK Environment Ltd. (c/o Rob Edwards)
The Old School, Stillhouse Lane, Bedminster, Bristol, BS3 4EB, UK

Hard copies of the non-technical summary and/or a digital version of the Environmental Statement on a USB stick can be obtained, upon request, for a fee of £10.

Expressions of support, representations or opinions should be sent to Neath Port Talbot Council at the following address:

Planning East Team, The Quays, Brunel Way, Neath, SA11 2GG
Email: planning@npt.gov.uk

EIA Quality Mark

This Environmental Statement, and the Environmental Impact Assessment (EIA) carried out to identify the significant environmental effects of the proposed development, was undertaken in line with the EIA Quality Mark Commitments.

The EIA Quality Mark is a voluntary scheme, operated by IEMA, through which EIA activity is independently reviewed, on an annual basis, to ensure it delivers excellence in the following areas:

- *EIA Management*
- *EIA Team Capabilities*
- *EIA Regulatory Compliance*
- *EIA Context & Influence*
- *EIA Content*
- *EIA Presentation*
- *Improving EIA practice*



To find out more about the EIA Quality Mark please visit: <http://www.iema.net/eia-quality-mark/>

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1 INTRODUCTION

1.1 Background to Proposed Development

1.1.1 This is a Non-Technical Summary of the Environmental Statement that has been prepared for a proposed Electric Arc Furnace (EAF) based steel production facility, located inside the existing Port Talbot Steelworks at Margam in South Wales.

1.1.2 Tata Steel UK Limited (Tata Steel) (referred to as 'the Applicant') is seeking to obtain planning permission for the construction and operation of an EAF-based steel production facility (which will be referred to as 'the Proposed Development') by way of a hybrid planning application to Neath Port Talbot Council under the Town and Country Planning Act 1990 (as amended).

1.1.3 Planning permission is being sought for the following description of the Proposed Development:

“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, 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.”

1.1.4 Port Talbot Steelworks is an ageing industrial installation, and the facility is in critical need of structural investment. The primary steelmaking, or 'heavy end' of the steelworks comprises the existing stockyard, sinter plant, coke ovens, blast furnaces and steel converter. The majority of these elements are outside of the planning application boundary. Much of the 'heavy end' facilities are in decline and have been closed as a result. The Applicant has previously announced that the closure of the 'heavy end' will occur irrespective of the EAF proposals; this process commenced on a phased basis in early 2024 and was completed in September 2024. Prior to this, the steelworks was a heavy carbon user and greenhouse gas emitter.

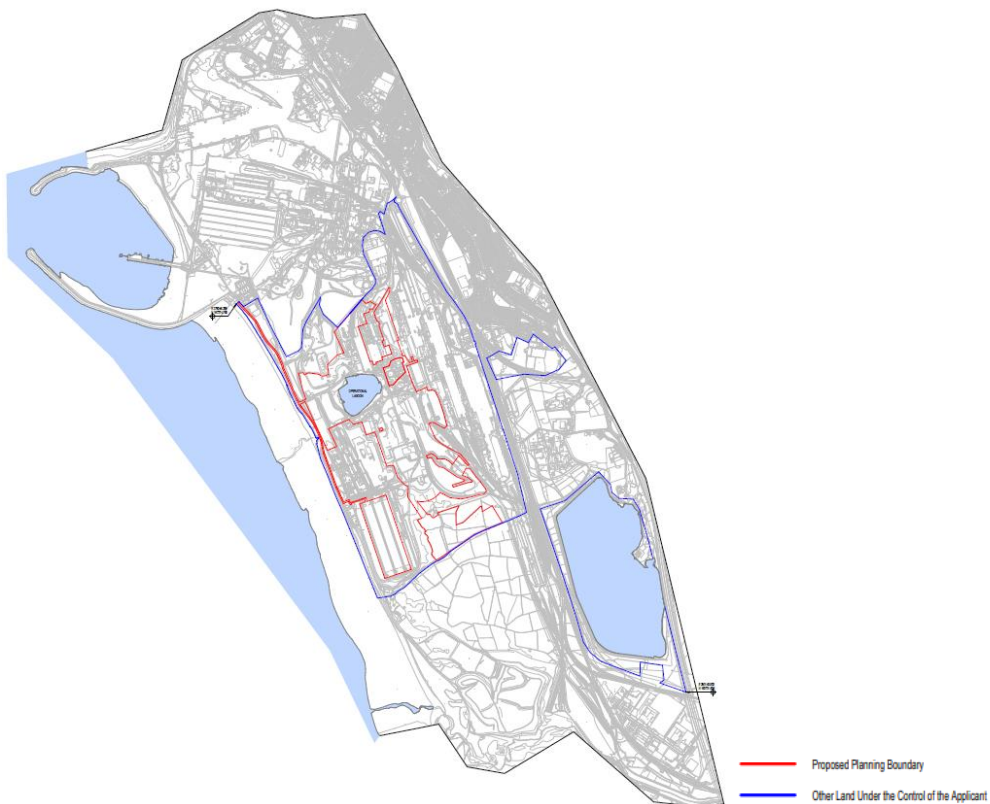
1.1.5 This development follows a significant investment of £1.25bn from both the Applicant and the UK Government with the goal of replacing the existing blast furnaces at Port Talbot with new EAF technology. This transition is designed to secure the sustainable future of the Welsh steel industry.

1.2 Environmental Impact Assessment

- 1.2.1 In Wales, the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (referred to as 'the EIA Regulations') sets out the types of development that are subject to an Environmental Impact Assessment. The Proposed Development falls under Paragraph 4 of Schedule 2 of the EIA Regulations as a development likely to have significant effects on the environment by virtue of factors such as its nature, size or location. Paragraph 4 applies to the 'production and processing of metals' and the floorspace threshold of more than 1,000m² is met. Therefore, the Applicant has elected to undertake an Environmental Impact Assessment and to submit an Environmental Statement with the planning application.
- 1.2.2 Environmental Impact Assessment is a process for identifying the likely significant effects of a development on the existing biological, physical and human environment. The process is undertaken to ensure that the environmental effects of certain types of development proposals are fully investigated, understood and taken account of in the planning process.
- 1.2.3 The Environmental Statement is presented in 4 volumes:
- Volume 1: Non-Technical Summary;
 - Volume 2: Environmental Statement;
 - Volume 3: Appendices; and
 - Volume 4: Figures
- 1.2.4 Volume 1, which is this Non-Technical Summary, provides a standalone document that represents a summary of the principal findings of the Environmental Impact Assessment in non-technical language.



NTS Figure 1a: Site location and application boundary (red line) and land within the wider Tata Steel UK Limited (Tata Steel) site (blue line)



NTS Figure 1b: Site location and application boundary (red line) and land within the wider Tata Steel UK Limited (Tata Steel) site (blue line)

2 PROPOSED DEVELOPMENT

2.1 Introduction

- 2.1.1 The Proposed Development is located in the central and southern areas of the long-established Port Talbot Steelworks at Margam, South Wales, SA13 2NG (grid reference: SS 78154 86921). The Site is approximately 160 hectares in size, located in a complex of extensive active steelworks, brownfield land and sections of open greenfield land. The Site location and planning application boundary are shown in **NTS Figure 1a** and **1b**.
- 2.1.2 The Site has a rich industrial background, having originally hosted the Grange Works, built and demolished circa 1954 and 2004 respectively. Today, the Site continues to play a key role in the UK steel industry thanks to the Applicant's long-established operational steelworks.

2.2 Need for the Proposed Development?

- 2.2.1 The Applicant is the largest steel producer in the UK, and the Port Talbot steelworks is of considerable socio-economic importance not only in South Wales, but across the UK. The steelworks offer crucial employment opportunities for local communities and are a key contributor to the UK's economy. That said, the Port Talbot steelworks are increasingly seen as an ageing asset, and one that is a significant carbon user and greenhouse gas emitter in a world where achieving 'net zero' carbon targets has become a national and global priority.
- 2.2.2 Spurred by a heightened global awareness of climate change and the pressing need for decarbonisation, European steel manufacturers, including the Applicant, are transitioning to EAF technology. In the UK, this transition is not only crucial for keeping pace with global competitors, but also for modernising and decarbonising the UK's steel industry. The adoption of such technology is key for maintaining a competitive advantage and accelerating progress to meet the 'net zero' carbon targets for the UK and Wales, and placing the UK amongst global leaders in addressing climate change.
- 2.2.3 Finally, the Proposed Development offers additional benefits beyond carbonisation. Investing in EAF will enhance supply-chain resilience, strengthen domestic control over decarbonisation efforts, create jobs, support regional development, and once again place the UK at the technological forefront of steelmaking.

2.3 Consideration of alternatives

- 2.3.1 The EIA Regulations require an assessment of reasonable alternatives to explain the basis for the Proposed Development in terms of its location, design and potential significant effects.

Do nothing/do minimum scenario

- 2.3.2 As a result of ageing assets and difficulties maintaining profitability in the UK, the Applicant has reported an unsustainable loss of approximately £1 million a day. The 'do nothing' scenario (a scenario where the Proposed Development does not occur) would

therefore constitute the cessation of steel production at Port Talbot. The Site would likely be re-developed for unknown purposes.

- 2.3.3 The Applicant has previously announced that continued operation of the 'heavy end' is no longer safe or economically viable and the closure of the 'heavy end' will occur irrespective of whether the EAF goes ahead. In April 2024, following consultation with its staff and trade unions, the Applicant confirmed its intention to proceed with the EAF project, and to close the blast furnaces and associated 'heavy end' of the steelworks.

Alternative sites

- 2.3.4 While the Applicant has seven rolling mills within the UK, the Port Talbot site is the only one with 'heavy-end' plants – such as coke ovens and blast furnaces – approaching the end of their operational lifespan. It is for this reason that the Applicant and the UK Government are evaluating current options for an EAF, as investing further in these traditional 'heavy end' technologies is not financially viable, and would require long-term commitments to coal beyond 2050.

- 2.3.5 A comprehensive site selection process concluded that the Port Talbot site is the only viable UK location available to the Applicant with the necessary infrastructure and land availability to support the development of an EAF. The opportunity to utilise existing buildings, plant and infrastructure to integrate a new EAF facility in the most operationally effective and cost-efficient way is the only means of meeting the budget for the Proposed Development. Using the existing skilled workforce and maintaining steelmaking at the heart of the locality is a significant economic and social benefit of locating the Proposed Development in Port Talbot.

Alternative designs

- 2.3.6 Initial designs for the EAF considered a location further south within the existing steelworks, extending into greenfield land north of Longland Lane. This was done with the intention of continuing the existing 'heavy end' processes whilst the EAF was being constructed and commissioned, subsequently leading to the transition to the EAF through a phased closure of the 'heavy end'.
- 2.3.7 After it was determined that continuing the 'heavy end' processes was economically unfeasible, the location of the Proposed Development was moved north into the steelworks. This allows the Proposed Development to make use of more brownfield land, increase the distance from public access routes and their users, reduce the impact on greenfield areas and ultimately lead to a better environmental outcome.

Alternative technologies and rationale for choosing EAF

- 2.3.8 Two other steel manufacturing and processing technologies were considered by the Applicant when determining the future use of the Site:
1. **Blast Furnace & Carbon Capture, Use and Storage:** This alternative entailed retrofitting existing facilities to capture and store CO₂. This technology has not yet been applied at a large scale within the steel industry and would prolong reliance on coal, making this an unsuitable alternative.
 2. **H₂ direct reduced iron (DRI) & electric arc furnaces:** This alternative entailed replacing carbon in the ironmaking process with renewably sourced hydrogen, offering a route to carbon-free iron production. However, renewable sourced hydrogen is unlikely to be widely available in the UK until 2035 which would

impact on the ability to meet net zero targets, making this an unsuitable alternative.

2.3.9 EAF technology emerged as the most appropriate solution for the future of Port Talbot, as it focuses on recycling steel, of which the UK has a surplus, and promises considerably reduced emissions if powered by renewable energy. Compared to the two alternatives, EAF technology is already well established at scale and is compatible with green DRI.

2.3.10 Finally, EAF technology will create opportunities for a circular economy within the steel industry as follows:

- **EAF Steel Production:** Enables new steel to be manufactured from scrap metal.
- **Manufacturing of products:** During the manufacturing of steel products, any scrap steel can be re-introduced into EAF steel production.
- **Steel in use:** Steel is 100% recyclable and can be used indefinitely.
- **Post-consumer steel scrap:** Steel is easily identifiable and recyclable, contributing to sustainable supply chains across many industries.

2.4 The Proposed Development

2.4.1 The Proposed Development would require demolition of some existing buildings and structures, and the construction of a new EAF steel production facility. A detailed layout plan of the Proposed Development is provided in **NTS Figure 2** below.

2.4.2 The new EAF steel production facility would feature a range key of components and infrastructure. These are summarised as follows;

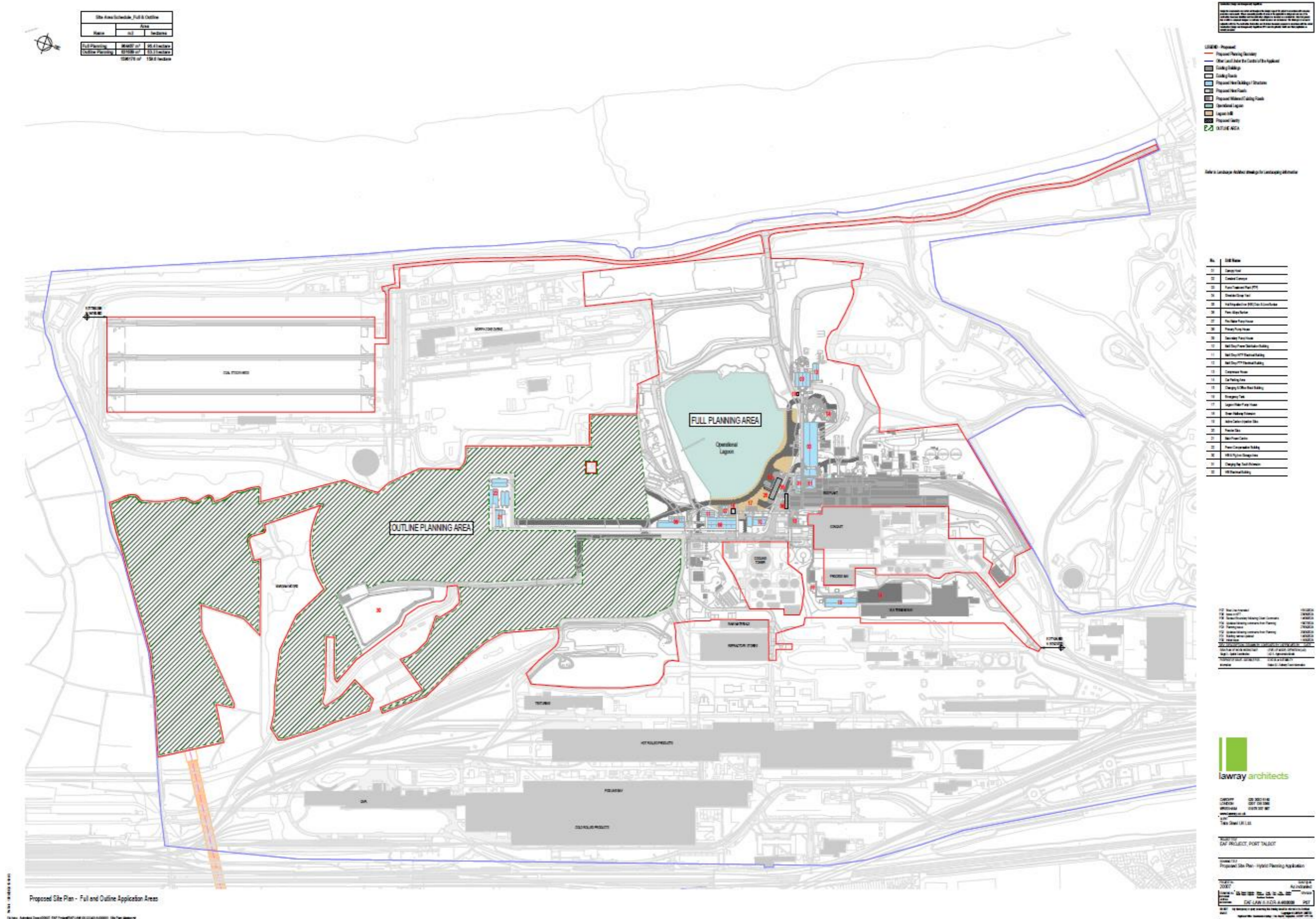
- **New EAF steel production facility:** A new electric arc furnace-based steel production facility would replace older steelmaking processes and include essential systems such as chemical and material storage and transfer infrastructure, water cooling, water treatment, and fume and dust treatment systems.
- **Scrap metal handling:** Scrap yards and a facility for handling, processing and recycling scrap metal would be established.
- **Storage and ancillary infrastructure:** The Proposed Development would include storage areas and buildings, material handling systems and ancillary infrastructure such as electrical control rooms with cable carrier systems and other electrical infrastructure.
- **Transport and access:** New and improved access roads, parking areas and rail tracks.
- **Landscape and green infrastructure:** The Proposed Development would aim to enhance both the visual appearance and environmental quality of the Site via landscaping proposals and green infrastructure.
- **Additional facilities:** Other facilities associated with the Proposed Development include a firefighting pump house, oxygen and argon vessels, and upgraded laboratories. Other infrastructure includes lighting, hardstanding, CCTV, drainage and associated engineering operations.

Electrical distribution

- 2.4.3 In order to power the new facility, upgrades to the electrical distribution network are required. This includes the installation of a new substation and a number of new power distribution buildings.

Staff facilities

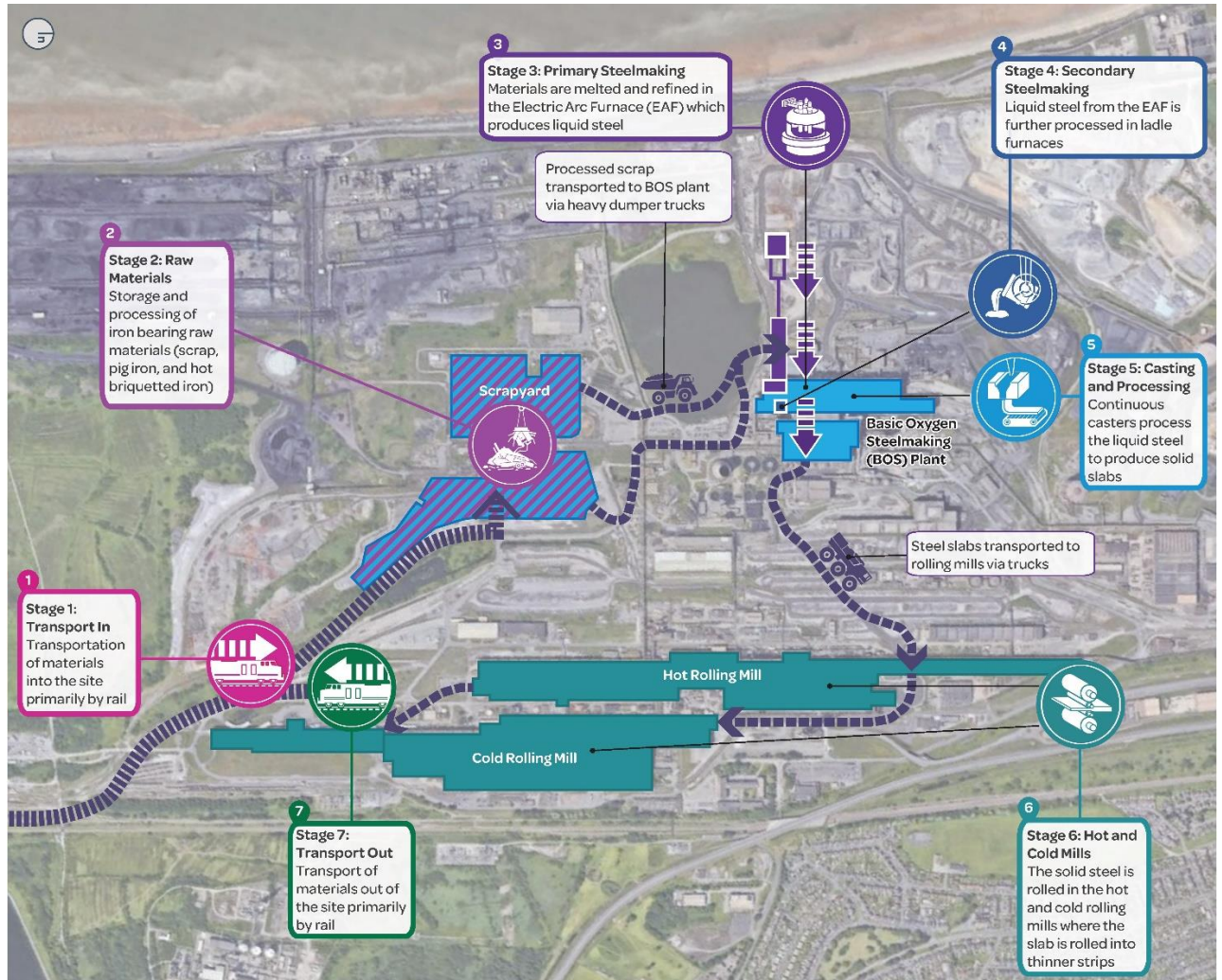
- 2.4.4 A new office building would be constructed to house construction staff and, eventually, site personnel. Additionally, there would be a new car parking facility, along with an extended walkway to improve site access and safety for workers.



NTS Figure 2: Proposed Site Plan - Hybrid Planning Application

2.5 EAF process

2.5.1 The process diagram below (NTS Figure 3) captures the essential elements of the Proposed Development facility and how it would operate at Port Talbot.



NTS Figure 3: EAF process overview

2.5.2 The EAF process involves several key steps, from handling raw materials to producing steel and managing waste. This process is summarised below.

Raw materials handling:

- The main raw materials – scrap metal, hot briquetted iron, and pig iron – are delivered to the Site by train. These materials are stored in designated areas prior to being processed.
- Scrap metal is checked for radioactivity to avoid the hazardous material entering the furnace. It is then stored, processed and prepared for use in the EAF.



Steel production:

- A newly established internal road network would support the movement of heavy good vehicles carrying raw materials to the EAF.
- Scrap metal is continuously fed into the furnace through a conveyor system that pre-heats the material to make the process more efficient. Inside the EAF, carbon electrodes create an electric arc that rapidly heats and melts the scrap metal.
- Once melted, lime is added to remove impurities. This forms a slag layer which is later removed from the molten steel.
- The molten steel is then refined to achieve the desired grade and transported to the casting plant to be solidified into steel slab to be used in the on-site rolling mills.

Waste management

- The steelmaking process generates two primary waste products: EAF slag and EAF dust.
- EAF slag, which contains impurities, is processed on-site and can be repurposed for road construction.
- EAF dust, a mixture of dusts extracted from various stages of the EAF process flow, is captured and filtered. This dust can be recycled off-site to extract materials such as zinc.

3 SITE SETTING

3.1 Site location

- 3.1.1 The Port Talbot Steelworks at Margam in South Wales is of an irregular shape as it covers approximately 160 hectares at the central and southern areas of the established Port Talbot steelworks at Margam in South Wales. The Site comprises an extensive complex of active industry, previously developed brownfield land, and sections of open greenfield land.
- 3.1.2 Today the Site is a major industrial landmark that continues to play a key role in UK steel manufacturing, forming part of a long-established operational steelworks. Major industrial buildings of significant scale and mass are common in this location of Port Talbot, including large emissions stacks and two blast furnaces.
- 3.1.3 The surrounding vicinity comprises a variety of different uses and character, including:
- West – Morfa Beach and coastline;
 - East – mainline railway line, Eglwys Nunydd Reservoir, and M4 beyond;
 - South – Longland Lane access track and public right of way runs along the southern boundary of the Site, beyond which are coastal floodplain grassland, Margam Moors Site of Special Scientific Interest and Kenfig Industrial Estate; and
 - North – the Applicant’s operational steelworks, along with the harbour and docklands managed by Associated British Ports.
- 3.1.4 The Site is well connected, with access to major road networks including the M4 and A4241 to the east, and A48 to the north. An internal railway system serves both the Site and wider Port Talbot steelworks.

3.2 Landform and topography

- 3.2.1 The Site is topographically flat, albeit with a slight downward slope westwards towards the sea.
- 3.2.2 The bedrock geology underneath the Site is known as the South Wales Middle and Lower Coal Measures Formation, and is made up of coal-bearing mudstone, siltstone and sandstone. The superficial geology underneath the Site are tidal flat deposits (clay, silt and sand), blown sand and marine beach deposits (sand and gravel).

3.3 Settlements and transportation

- 3.3.1 The Site is located approximately 5 km south-east of Port Talbot town centre, 1 km south-west of the residential estate of Margam and 2 km north-west of the residential estate of Eglwys Nunydd.
- 3.3.2 There is an internal rail system within the Site and the wider Port Talbot Steelworks which connects to the main line railway running to the east of the Site. The Site is well connected to the surrounding road network, including the M4 and A4241 to the east and A48 to the north.

3.3.3 National Cycle Network Route 4 runs approximately 1 km to the east of the Site.

3.4 Land use

3.4.1 Land uses within the Site include:

- **Operational areas of the steelworks** – the Site comprises a number of existing areas of the steelworks, including:
 - A wide variety of industrial buildings, plant and equipment associated with the existing steelworks complex, including a continuous casting plant, and part of a basic oxygen steelmaking (BOS) plant in the northern part of the Site.
 - An operational lagoon (a large central body of water) at the northern extent of the Site.
 - A haul road which forms the westernmost boundary.
 - Coal stockyard – located in the south-western section of the Site, adjacent to Morfa Beach.
- The rail network, open storage yards, scrap processing facilities and associated steelmaking infrastructure are located to the south and south west of the Site.
- **Infrastructure** – sections of the incoming and outgoing railway line infrastructure, and a number of existing internal and private roads used by staff and visitors to the steelworks also cross the Site.
- **Open areas** – within the Site are areas of undeveloped and/or re-vegetated industrial land. These are predominantly located in the southern section of the Site. This land includes watercourses and drainage ditches (known as ‘reens’).
- **Access** – The main access road into the Site lies to the east, off the A4241 Harbour Way. There is also a pedestrian access point into the central area of the steelworks, across Harbour Way.

3.5 Surface water and waterbodies

3.5.1 The Site is adjacent to Swansea Bay/Bristol Channel and is surrounded by several watercourses. Two main rivers – the River Afan to the north, and the River Kenfig to the south – are located within 5 km of the application boundary.

3.5.2 There is a network of small ditches and drainage channels to the south-east of the Site associated with Margam Moors.

3.5.3 There are a number of waterbodies either within the Site or within its immediate vicinity, including a works lagoon within the application boundary.

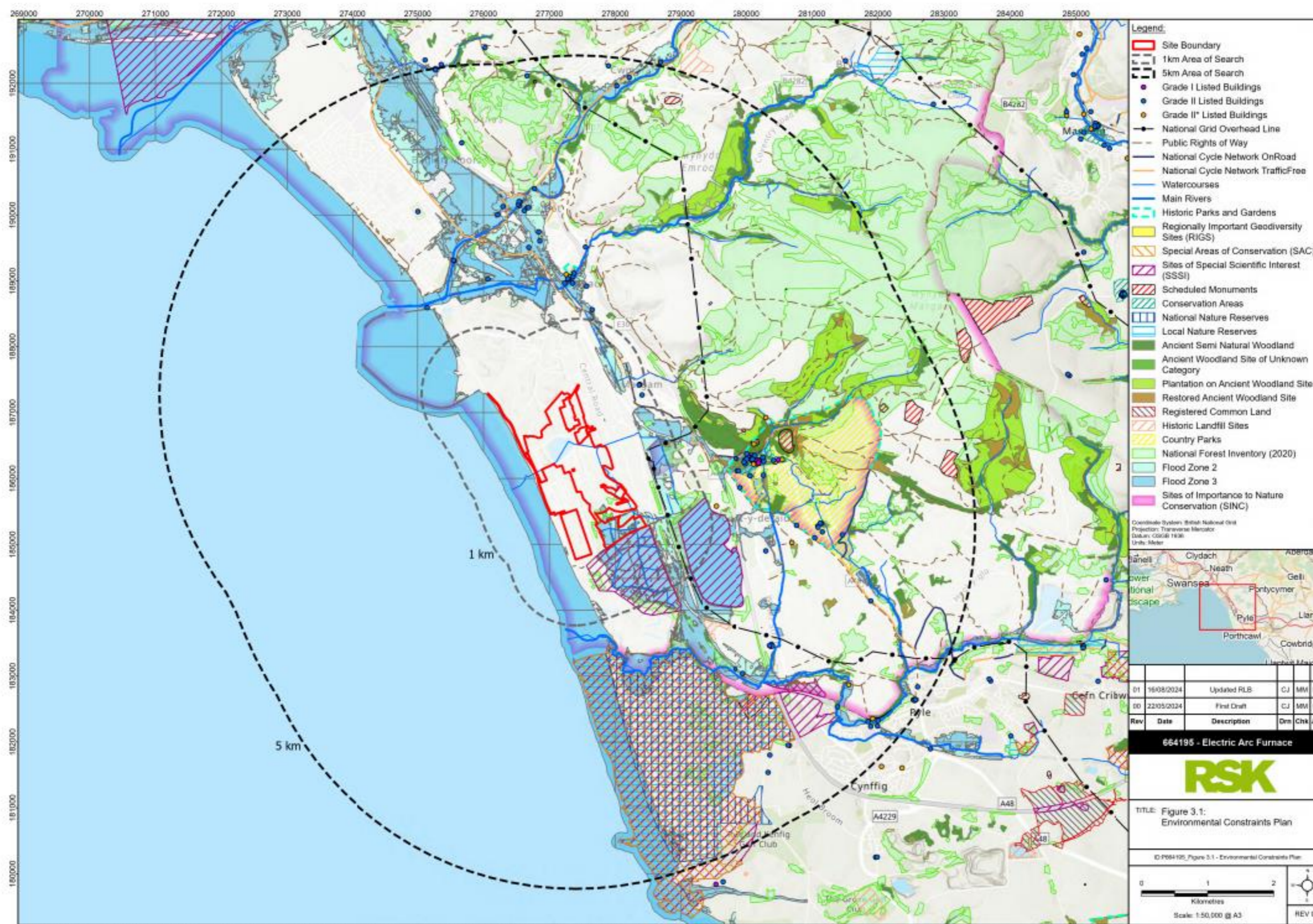
3.5.4 A small proportion of the southern extent of the Site is located within Flood Zones 2 and 3 for rivers and the sea. Throughout the Site, there are small areas within Flood Zones 2 and 3 for surface water and small watercourses, particularly near the works lagoon which is designated Flood Zone 3.

3.6 Environmental designations

3.6.1 Key designations in close proximity to the Site are summarised as follows:

- There are four statutory designated sites for nature designation within 2 km of the Site, namely:
 - Margam Moors Site of Special Scientific Interest (SSSI) and Eglwys Nunydd Reservoir SSSI are located adjacent and 310 m to the south of the Site respectively. Kenfig/Cynffig SSSI is located over 1km to the south of the Site;
- Kenfig/Cynffig Special Areas of Conservation (SACs) is located over 1 km to the south of the Site;
 - Kenfig Pool and Dunes National Nature Reserve (NNR) is located over 1 km to the south of the Site; and
- Kenfig Pool and Dunes Local Nature Reserve (LNR) is located over 1 km to the south of the Site.
- There are three non-statutory sites for nature designation within 1 km of the Site:
 - Neath Port Talbot Watercourses Site of Nature Conservation Importance (SINC) is located within the Site; and
 - Eglwys Nunydd (coincident with SSSI boundary as above) and Junction 38 Wetland Complex SINC are both located within 1 km of the Site to the southeast and east of the Site respectively.
- Margam Country Park is a country park located approximately 1 km to the east of the Site;
- There are two areas of National Forest Inventory woodland located within the Site. A further six areas are located within 1 km of the Site;
- Margam Park Conservation Area is located approximately 1.3 km to the east of the Site;
- Listed Buildings: There are two Grade II* and three Grade II Listed Buildings within 1 km of the Site. The closest of these is the Grade II listed milepost at Tollgate Park, approximately 850 m north-east of the Site; and
There are two non-designated heritage assets located within the Site. These are Morfa Colliery and Theodric Grange. Additionally, there are 17 non-designated heritage assets located within 1 km of the Site
- There is an Air Quality Management Area located approximately 550m east of the application boundary. The Air Quality Management Area covers the majority of land and properties between the Site and the M4 Motorway and was designated in June 2000 due to the risk of exceeding air quality targets for particulate matter, which is largely attributed to industrial emissions.

3.6.2 The environmental constraints plan provided in **NTS Figure 4** presents the main environmental features and designations within the vicinity of the Site.



NTS Figure 4: Environmental Constraints Plan

4 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

4.1 Introduction

4.1.1 Environmental Impact Assessment is a process for identifying the consequences of a development on the existing biological, physical and human environment. The outcome of the Environmental Impact Assessment process has run alongside and influenced the design process of the Proposed Development.

4.2 Scoping

4.2.1 Scoping is an exercise that helps to identify which environmental effects associated with a development are likely to be significant. It is undertaken in consultation with the local planning authority and statutory consultees to agree which environmental effects should be included in the Environmental Impact Assessment process and the methods for assessment.

4.2.2 For the Proposed Development, the Applicant did not formally seek an Environmental Impact Assessment scoping opinion to agree with the local planning authority on the scope and level of detail to include in the Environmental Statement. However, informal pre-application consultation workshops were held between the Applicant and Neath Port Talbot Council to discuss an appropriate scope of the Environmental Impact Assessment. Scoping concluded that the following aspects were relevant for investigation in the Environmental Impact Assessment and were taken forward to be given their own chapter in the final Environmental Statement:

- Landscape and visual impact;
- Air quality;
- Noise;
- Biodiversity;
- Water;
- Ground conditions;
- Heritage;
- Traffic;
- Climate;
- Socio-economics and health; and
- Major accidents and disasters.

4.2.3 The following environmental issues were also discussed but ultimately scoped-out of the Environmental Impact Assessment:

- **Material assets and waste** – measures to manage materials consumption and waste disposal are discussed in full in Chapter 2 ‘Project description’ of the Environmental Statement. Waste is typically managed during construction through the principles of the waste hierarchy, which are ‘eliminate, reduce, reuse, recycle, dispose’. Where necessary this would be controlled through permitting processes. Material procurement and waste management systems would be put

in place during the operational phase, and these processes are central to the design of the Proposed Development; and

- **Daylight, sunlight and overshadowing** – the Proposed Development is too distant from the nearest sensitive receptors to cause a material adverse impact in daylight, sunlight and overshadowing terms.

4.3 Environmental Statement

4.3.1 The delivery of an Environmental Statement involves several key steps. Each of these steps are summarised below:

Establishing the baseline environment

4.3.2 The Environmental Impact Assessment has followed standard methods, including establishing significance using topic-specific guidance as appropriate. This includes undertaking an assessment against a baseline setting without the Proposed Development, and determining what potential environmental changes could arise to the baseline setting at the time of both construction and operation of the Proposed Development.

4.3.3 One of the key functions of an Environmental Impact Assessment is to consider the likely significant effects on environmental receptors. A detailed appraisal of the baseline environment was undertaken to confirm the presence of environmental receptors (for example, humans, property, landscape, ecology, water, atmosphere) in and around the Proposed Development and to identify their relative importance and sensitivity to change. The appraisal combined desk-based studies and detailed site surveys.

4.3.4 The study area boundaries vary depending on the environmental topic being considered. For some, the study area may be relatively localised while others extend further to capture more distant, environmentally sensitive receptors. The study area is defined more precisely for each of the topics in section 5 of this non-technical summary below.

4.3.5 The baseline scenarios relevant to the Proposed Development that have been used for this Environmental Impact Assessment are:

- **Established baseline:** The steelworks with 'heavy end' as operating in early 2024 and for the majority of the preceding 50+ years; and,
- **Interim baseline:** The steelworks as they would operate at the time of planning determination with closure of the 'heavy end'.

4.3.6 The 'heavy end' is defined as the existing stockyard, sinter plant, coke ovens, blast furnaces and steel converter. Closure of the coke ovens took place in March 2024, with the closure of the remainder of the 'heavy end' taking place between May – September 2024. These closures took place irrespective of the grant of planning permission for the Proposed Development, but the EAF application is ultimately driven by the Applicant's desire to replace these 'heavy end' processes with alternative, greener and more economic methods of steel manufacture.

4.3.7 The description of the established baseline makes use of data spanning the period during which the coke ovens have ceased operation, so baseline data collected before 2024 includes the coke oven operation, and more recent data reflects the phased closure of the coke ovens.

- 4.3.8 The 'established baseline' remains a relevant reference point to the Environmental Statement because:
- It is the situation that has occurred in Port Talbot for the majority of the past 50+ years and has strongly influenced the 'current state of the environment' at the Site; and,
 - It is the position reflected in the Environmental Permit issued by Natural Resources Wales, under which the Site currently operates.
- 4.3.9 The majority of baseline monitoring and data collection used in the Environmental Statement represents the established baseline as that is the position that has occurred through the majority of the Environmental Impact Assessment preparation.
- 4.3.10 Accordingly, each technical chapter of the ES has assessed and reported the likely significant effects of the Proposed Development with reference to the established baseline.
- 4.3.11 The 'interim baseline' is considered in the Environmental Impact Assessment because the closure of the 'heavy end' infrastructure will happen regardless of whether the EAF is approved and constructed, and would pre-date the EAF commencing operations. However, commentary on the interim baseline is only provided to take account of this emerging baseline scenario. The inclusion of the interim baseline ensures an understanding of how the effects of the development differ from the established baseline. This ensures the application presents a complete understanding of the likely significant effects of the Proposed Development.

Impact prediction and assessment

- 4.3.12 Once the baseline has been established, the next step is to predict and assess the potential impacts of the Proposed Development. These impacts represent identifiable changes to the baseline environment as a result of the Proposed Development, and can be either beneficial or adverse.
- 4.3.13 Environmental Impact Assessment is both quantitative (number based and measurable) and qualitative (observational and descriptive) in nature, depending on the assessment methodology agreed at scoping stage. It is based on comparisons between the environmental conditions before construction of the Proposed Development begins and the predicted environmental conditions arising from the construction and operation of the Proposed Development.

Environmental mitigation

- 4.3.14 Mitigation measures can be embedded into the design of a development as it evolves to prevent, reduce or offset any significant adverse effects. For example, these measures might include materials for external walls or landscape design proposals, or they can be standard best practices, for example, dust control during construction. Mitigation may also take the form of outline proposals that require further design and agreement, such as offsite planting to screen the view of a development from nearby residences.
- 4.3.15 Additional mitigation measures are those required to reduce or offset likely significant adverse environmental effects of the Proposed Development, and these are discussed within each relevant environmental topic specific chapter.
- 4.3.16 In identifying appropriate mitigation measures, impact avoidance is prioritised so that mitigation prevents an impact from happening. Where this can't be achieved, a reduction

in the magnitude of impact is sought and where reduction can't be achieved, compensatory mitigation is provided. Many mitigation measures can be enforced by the local authority if they are not properly provided through planning conditions attached to a planning consent.

Significance of environmental effects

- 4.3.17 Effects are measured according to the receptor's value and sensitivity, and the predicted magnitude of impact. Professional judgement and established criteria and standards have been used to report the environmental effects, which can be referred to as occurring before any mitigation is put in place or as residual effects occurring post-mitigation.
- 4.3.18 The significance of an environmental effect is identified by combining a range of well-established, standard criteria. This ensures effects are measured in a comparable manner. For some topics, alternative assessment criteria may be used depending on the Environmental Impact Assessment guidance specific to that topic. Where alternative assessment criteria have been used, this is explained in the individual chapters of the Environmental Statement.

Environmental Statement/Assessment reporting

- 4.3.19 The assessment of each topic scoped into the Environmental Impact Assessment is presented as a chapter in the final Environmental Statement following a common format that provides: an introduction to the assessment; a summary of the legal and policy requirements relevant to the topic; a description of the consultation undertaken; a description of the relevant primary (embedded) mitigation measures; a description of the scope and methodology for the assessment; a description of the existing environmental features (i.e. the environmental baseline); a description of the predicted impacts; details of the secondary and tertiary mitigation measures proposed; and a summary of the residual effects after mitigation. Cumulative effects are also described.
- 4.3.20 An abridged version of the Environmental Statement is presented in this Non-Technical Summary.

4.4 Assumptions and limitations

- 4.4.1 The Environmental Impact Assessment was undertaken using the information made available to the Environmental Impact Assessment team by the Applicant and members of their project team, together with other readily available and publicly accessible information. The topic specialists in the Environmental Impact Assessment team carried out their own site visits, surveys and investigations at or in the vicinity of the Site to provide more information for the assessments and to fill data gaps.
- 4.4.2 The Environmental Impact Assessment was undertaken during the initial design phase of the project and therefore some of the technical aspects of the construction and operation had yet to be determined. The Environmental Impact Assessment has taken a precautionary approach so that a reasonable 'worst-case' scenario was assessed. Whilst the Environmental Statement is based on the best available information at the time of publication, further information may become available during the detailed design phase, that will be used to inform the Proposed Development, if relevant.
- 4.4.3 Assumptions adopted in the evaluation of impacts are reported in each of the relevant technical Environmental Statement chapters. However, these assumptions are often implicit and rely on expert professional judgement. Any assumptions and known technical deficiencies have been documented in the relevant Environmental Statement chapter.

5 ENVIRONMENTAL EFFECTS AND MITIGATION

5.1 Introduction

5.1.1 This section provides a summary of the predicted environmental effects of Proposed Development and associated mitigation measures that are presented in full in the technical chapters of the Environmental Statement (Volume 2).

5.2 Landscape and visual impact

Scope and methodology

5.2.1 The landscape and visual impact assessment chapter assesses the potential impacts of the Proposed Development on the landscape and visual amenity within the Site and the wider vicinity. It accounts for both landscape and visual impacts during construction and operation of the Proposed Development.

5.2.2 The assessment used a study area with a 15km radius around the application boundary, which indicated the areas where the development could potentially have an impact on landscape and visual assets. Landscape and visual receptors in which the Proposed Development would be most visible were identified within this area. Landscape and landscape related designations include land use, landscape elements and features, settlements and built elements, whereas visual receptors include residential receptors, recreational receptors such as Public Rights of Way and cycle routes, and social and community facilities such as leisure centres and schools.

Baseline

5.2.3 The landscape baseline of the Site is characterised as an industrial area sited on coastal plain. The Site is dominated by the operational steelworks. The area therefore already contains significant industrial infrastructure, including large-scale stacks which influence the landscape and its visual perception.

5.2.4 The national landscape in Wales is divided up into distinctive Landscape Character Areas. Landscape character is the distinct pattern of elements and features which together make up the pattern or sense of place. The key Landscape Character Areas for the Proposed Development are situated both within the Site, and within the wider study area. Notable among these are:

- Port Talbot Docks and Margam Works - The majority of the Site is situated within this area.
- Margam Marsh – Contains a small area of the Site in its northern extent.
- Margam Park – Located approximately 1.2 km east of the Site,
- Mynydd Bromil, Mynydd Emroch & Mynydd Dinas, 1.9 km east of the Site.

5.2.5 For the visual baseline, various viewpoints were established from where the Proposed Development may be visible. The nearest of these to the Proposed Development are as follows:

- Longland Lane – along the southern application boundary
- Morfa Avenue – 0.75 km north-east of the application boundary
- Recreation Ground – 1.1 km east of the application boundary
- Eglwys Nunydd Reservoir – 310m south-east of the application boundary
- Wales Coast Path near Mynydd Brombil – 1.7 km north-east of the application boundary
- Wales Coast Path at Mariner's Point – 1.75 km north-west of the application boundary.

Predicted impacts

Effects on landscape character

- 5.2.6 At most there would be a large to medium scale change within the existing steelworks as a result of the construction of the Proposed Development of the scrap facility. During the construction and operational phases, effects on landscape character would be greatest on the host landscape character areas, namely Port Talbot Docks and Margam Works, and Margam Marsh. As these areas are currently industrial and dominated by the existing steelworks, they are considered to have low sensitivity. The effects would be limited to the Site and the fields of coastal marshes within which the Site is partially located in, to the north of Longland Lane.
- 5.2.7 Landscape character effects would reduce rapidly beyond approximately 0.5 km of the Site, as visibility begins to become restricted by intervening vegetation or built form and the Proposed Development would be viewed within the context of the wider industrial complex it forms part of.
- 5.2.8 Effects on landscape character are determined to be less than small beyond 3.5 km of the application boundary. At this point, the Proposed Development would simply be viewed as a minor addition to pre-existing industry on the coastal plain.
- 5.2.9 Beyond 5km, the Proposed Development would be virtually indistinguishable from existing industry and the scale of effects on landscape character at this distance are determined to be negligible.

Effects on viewpoints

- 5.2.10 The greatest impact of views would naturally be at those locations within the immediate vicinity of the Site. Significant moderate adverse effects during construction would be limited to users of Longland Lane where visual effects would be experienced as a result of the near to medium distance views in the context of an existing industrial landscape. These would be short-term effects and localised in nature, arising from views during construction for walkers on the path. Once the works are completed, and with the implementation of the landscape strategy, these effects would reduce to non-significant.
- 5.2.11 Beyond the immediate vicinity of the application boundary, many visual receptors within a 2 km radius – particularly those within Port Talbot and Margam – would experience limited views of the Proposed Development due to screening by intervening and existing townscape.

- 5.2.12 The scale and significance of visual effects would reduce beyond this 2 km radius as the Proposed Development becomes increasingly viewed as a small industrial element within a wider industrial complex and visual effects.
- 5.2.13 Beyond approximately 5 km radius of the Site, the Proposed Development becomes difficult to distinguish from the existing industrial complex and the magnitude and significance of visual effects would reduce further.
- 5.2.14 Proposed lighting would be visible as points of light, especially at sensitive receptors such as Longland Lane, nearby Public Rights of Way and Kenfig National Nature Reserve. The effects of lighting on these would be limited though, as the area is already quite well-lit from existing industrial lighting.

Mitigation and residual effects

- 5.2.15 There would be no significant construction or operational effects on landscape character. Although there would be some temporary significant residual effects due to construction works on public rights of way, all other construction effects are not considered to be significant.
- 5.2.16 Mitigation is considered inherent within the siting and design of the scheme. The Proposed Development is located within the existing industrial area of the Site and would largely be perceived as part of the existing Site infrastructure and works. Additionally, a landscape strategy proposes screening and restoration of grazing meadows particularly around Margam Mash and Margam Park, to reduce the visual impact of the Proposed Development.
- 5.2.17 The scale of the proposals would not extend the working area of the Site, and the height and scale of buildings would be in keeping with existing plant and buildings, with the exception of the proposed flume. The Proposed Development would provide opportunities to undertake improvements to natural and semi-natural infrastructure, which would also provide a biodiversity net benefit.
- 5.2.18 There would be no residual effects for visual receptors during operation due to the extent of local screening and extent of existing industrial development on the Site and in the coastal plain area. While the Proposed Development may be visible from some nearby viewpoints, such as Longland Lane or the Ogwr Ridgeway, these effects would be minimal considering the Proposed Development would not look out of place in the surrounding industrial context.
- 5.2.19 All long-term visual effects have been assessed as not significant for all sensitive receptors as it is considered that the Proposed Development could be successfully integrated into the existing landscape.

5.3 Air quality

Scope of assessment and methodology

- 5.3.1 The air quality assessment considers the existing air quality conditions and the potential impacts on air quality that would result from the construction and operation of the Proposed Development. The assessment considers a range of potential sources of

emissions, including dust generated from construction activities, vehicle movements, and emissions from operational processes.

- 5.3.2 The assessment makes use of a study area with a 10 km radius around the Site, and considers sensitive receptors such as residential areas, particularly those closest to the Site or nearby affected roads, ecologically sensitive sites.

Baseline environment

- 5.3.3 Many of the closest residences are located to the east of the Site, within the Air Quality Management Area that is approximately 550m to the east. The area was designated due to the risk of exceeding the air quality standards for particulate matter in relation to industrial emissions.
- 5.3.4 To provide a reference point against which potential air quality impacts can be measured, baseline conditions were established using data from the operational site in 2023. The baseline study considered the concentration of existing pollutants including particulate matter, sulphur dioxide, nitrogen oxides, carbon monoxide and dioxins. The concentrations of these pollutants were measured at several monitoring locations that represent human health receptors, such as nearby residential properties, as well as ecological sites, such as the Margam Moor Site of Special Scientific Interest.
- 5.3.5 The baselines considered in the air quality assessment are as described on section 4.3 above:
- The 'established baseline' assessment indicated that existing air quality was most influenced by industrial activities in the vicinity of the Site, as well as traffic emissions from nearby road; and,
 - The 'interim baseline' anticipates a reduction in emissions following the closure of the 'heavy end' infrastructure.

Predicted impacts

Construction phase

- 5.3.6 The construction phase of the development is expected to generate dust and particulate matter through construction activities (demolition, earthworks, construction, etc.) and construction vehicle emissions. The assessment found that, although the construction phase would impact air quality, particularly at residential areas and ecological sites close to the Proposed Development, there would in fact be an overall reduction in emissions from the current baseline conditions due to the closure of the operational 'heavy end' infrastructure.

Operational phase

- 5.3.7 During the operational phase, the main source of emissions is expected to result from fugitive dust emissions generated from operational activities (such as scrap metal handling) and vehicle emissions. Similarly to the construction phase, the operational phase would have minor effects on air quality at residential areas and ecological sites, as there would be an overall reduction in emissions due to the closure of the heavily emitting operational steelworks in favour of new EAF technology.

Mitigation and residual effects

Construction phase

- 5.3.8 Mitigation measures during construction would be implemented through a Dust Management Plan in accordance with commitments made in a Construction Environmental Management Plan to control any significant effects.
- 5.3.9 The assessment of emissions associated with construction vehicle movements and industrial sources, when compared to the established baseline, has been assessed as being not significant, always beneficial at human receptors and generally beneficial at ecological receptors.

Operational phase

- 5.3.10 Once construction is finished, the 'heavy end' infrastructure is decommissioned, and the new EAF is operational, the processing of scrap for use in the EAF is expected to be the main source of fugitive dust. The EAF facility itself would also generate dust, although this would be mitigated via an extraction canopy at the roof of the plant. Further dusts would also be generated from material handling systems and ladle furnaces.
- 5.3.11 Due to the closure of carbon emitting steelworks in favour of new EAF technology, emissions of pollutants are expected to fall. Consequently, the assessment determined that once operational, the Proposed Development would likely have negligible to beneficial impacts on air quality for human receptors and ecological receptors.
- 5.3.12 The Site is governed by an Environmental Permit issued by Natural Resources Wales, which imposes conditions for regulating air quality. This permit would require updating due to the new proposed EAF. In addition to regulating activities on the Site through permits, 'Best Available Technology' would be implemented. This means the Applicant would use techniques that are the best for preventing or minimising emissions from plant to be installed with the EAF. Using these measures to mitigate emissions based on design and technology will reduce emissions from fugitive dust generated by the EAF and scrapyard.
- 5.3.13 The emissions from road traffic would also reduce during the operational phase, when compared to the 'established baseline', due to there being a smaller number of vehicles present.
- 5.3.14 Air quality at the Site and surrounding environs is generally good, with the exception of particulate matter. Air quality, including particulate matter concentrations, in the vicinity of the Site is likely to improve over time in the future.
- 5.3.15 As no significant adverse effects are predicted, it is concluded that no further mitigation measures to be required.

Comparison with 'interim baseline'

- 5.3.16 An assessment against the interim baseline has been included in the air quality assessment for context only, so no significance of the effects is reported. The 'interim baseline' and EAF operational scenarios do not include any new combustion sources. As the EAF is continuously charged, it inherently releases less dust than the previous 'established baseline' process, and therefore the expectation is that dust emissions from the process would be absent once the EAF is operating. Additionally, the proposed extraction system has a higher capacity than the existing extraction system.

- 5.3.17 The results of the comparison between the interim baseline and future construction and operational scenarios showed concentrations of the pollutants generated from road traffic were slightly greater in the 'with development' scenario than the interim construction baseline, which is as expected. At the ecological receptor locations, for the 'interim baseline', increases in the concentration of some pollutants were occasionally observed. In summary, predicted pollutant concentrations were only slightly greater during EAF operational phase than those in the interim baseline at human and ecological receptor locations, as expected.

5.4 Noise and vibration

Scope of assessment and methodology

- 5.4.1 The noise and vibration impact assessment identifies any potential adverse noise and vibrational impacts that would arise from the construction and operation of the new EAF facility.
- 5.4.2 The scope of the assessment included comprehensive baseline noise surveys, accounting for existing noise in and around the area surrounding the Site. The results of these surveys have informed the assessment. The methodology for the surveys was agreed in consultation with Neath Port Talbot Council and Natural Resource Wales.
- 5.4.3 The study areas included receptors representative of humans (residential properties, and designated 'Quiet Areas') and ecology (Margam Moors SSSI and Eglwys Nunydd Reservoir Nature Reserve), with a particular focus on those areas closest to the Site.

Baseline

- 5.4.4 Baseline noise surveys were conducted to establish the existing baseline ambient noise experienced within the Site and the surrounding area (both human and ecological receptors). The surveys captured the typical noise levels at residential areas and ecological sites, and served to provide a reference point against which the potential noise impacts from the EAF could be assessed.
- 5.4.5 Receptors nearest to the Proposed Development, and those considered to be most affected, that have been surveyed include:
- **Residential areas:** Properties at West End, Prince Street, Brynhyfryd Road, Longland Lane, and Eglwys Nunydd.
 - **Ecological sites:** SSSIs (Margam Moors, and Eglwys Nunydd Reservoir); and
 - **Quiet areas:** Vivian Park and Talbot Memorial Park.
- 5.4.6 These locations are considered to be suitably representative of neighbouring receptors.
- 5.4.7 The established baseline noise levels were revealed to be mostly influenced by the ongoing industrial activities in and around Port Talbot, particularly those associated with 'heavy end' infrastructure of the existing steelworks. Other prominent sources included road traffic, other industrial noise and localised domestic noise.

Predicted impacts

- 5.4.8 The noise and vibration impact assessment presents a prediction and assessment of the likely construction and operational noise levels.

Construction phase

- 5.4.9 Construction noise, construction vibration and construction traffic noise resulting from the Proposed Development were not found to be significant enough to disturb residential areas. Noise levels are predicted to increase temporarily, particularly during periods of high and intensive construction activity. However, these increases are predicted to remain within acceptable noise limit
- 5.4.10 Vibration associated with the construction phase is not predicted to be felt beyond the immediate vicinity of construction plant, and therefore would not travel beyond the application boundary.
- 5.4.11 Residual effects of noise and vibration during construction are determined as not significant.

Operational phase

- 5.4.12 Following the implementation of noise control through the design of the development, predictions of operational noise, resulting from scrap material handling, plant activities, and operational traffic are found not to be significant. In simple terms, the development has considered and embedded noise barriers, and/or enclosures as part of the design.
- 5.4.13 Noise levels in residential areas are not predicted to discernibly increase those already experienced under current operations, with a reduction in operational noise expected at most residential receptors. This means residents would not experience a change to what is audible in the existing environment during both day (07:00-23:00) and night time (23:00-07:00) periods. Individual area noise experiences are presented below:

Residential properties at and around 'West End' (R1)

- 5.4.14 This urban location is dominated by sounds generated by human activity, specifically noise from nearby industrial sites (predominantly the existing steelworks). Towards the end of West End, road traffic noise from the A4241 becomes dominant. Occasional railway noise due to the nearby line is also audible during train movements. Sounds from nature include bird calls and some noise from foliage moving in the wind. Prior to recent changes across the Site, the noise from the Port Talbot steelworks 'heavy end' was clearly audible here.
- 5.4.15 Following the construction and operation of the Proposed Development, residents in and around West End would experience similar sounds to those they experience now, with actual noise from industry expected to be perceptibly lower during many periods (especially once the 'heavy end' ceases operation).

Residential properties at 'Prince Street' (R2)

- 5.4.16 This urban location is dominated by sounds generated by human activity, specifically noise from nearby industrial sites (predominantly the existing steelworks). Road noise from the A4241 road is also prominent. Sounds from nature include occasional bird calls and foliage moving in the wind. Prior to recent changes across the Site, the noise from the Port Talbot steelworks 'heavy end' was clearly audible here.

- 5.4.17 Following the construction and operation of the Proposed Development, residents in and around Prince Street would experience similar sounds to which they experience now, with actual noise from industry expected to be perceptibly lower during many periods (especially once the ‘heavy end’ ceases operation).

Residential properties at ‘Brynhyfryd Road’ (R3)

- 5.4.18 This urban location is dominated by sounds generated through human activity, specifically noise from nearby industrial site (predominantly the existing steelworks) and roadway traffic from the A4241 and A48. Sounds from nature include bird calls and some noise from foliage moving in the wind. Prior to recent changes across the Site, the noise from the Port Talbot steelworks ‘heavy end’ was audible here.

- 5.4.19 Following the construction and operation of the Proposed Development, residents in and around Brynhyfryd Road would experience similar sounds to which they experience now, with actual noise from industry expected to be perceptibly lower during many periods (especially once the ‘heavy end’ ceases operation).

Residential properties at ‘Longland Lane’ (R4)

- 5.4.20 This urban location is dominated by sounds generated by human activity, specifically noise from the nearby industrial site (BOC and the Port Talbot steelworks) and roadway traffic from the A48 and M4 motorway. Sounds from nature include bird calls and some noise from foliage moving in the wind. Prior to recent changes across the Site, the noise from the Port Talbot steelworks ‘heavy end’ was audible here.

- 5.4.21 Following the construction and operation of the Proposed Development, residents in and around Longland Lane would experience similar sounds to which they experience now. Actual noise from industry has the potential to be perceptibly lower during many periods (especially once the ‘heavy end’ ceases operation).

Residential properties at ‘Eglwys Nunydd’ (R5)

- 5.4.22 This urban location is dominated by noise from motorised traffic on the nearby motorway (M4) which is approximately 200 m west of the location and the B4283. There is also a distant industrial ‘hum’, believed to be from the Port Talbot steelworks, and other industry such as BOC. Sounds from nature included occasional bird calls. Prior to recent changes across the Site, the noise from the Port Talbot steelworks ‘heavy end’ would have contributed to levels here.

- 5.4.23 Following the construction and operation of the Proposed Development, residents in and around Eglwys Nunydd would experience similar noise sources to which they experience now, with actual noise from industry expected to be perceptibly lower during many periods, once the ‘heavy end’ ceases operation.

Ecological receptors

At ecological receptors (the SSSI and Nature Reserve to the south, south-east), operational noise levels are unlikely to change the character or magnitude of the existing noise climate, therefore resulting in no significant impact.

Mitigation and residual effects

Construction phase

- 5.4.24 The construction phase would follow best practice to mitigate construction noise. Examples of such measures include prior consent agreement for any works outside weekdays and Saturday core hours, where there is potential for significant adverse effects. Quiet and low noise equipment would be prioritised and located where required to minimise noise disturbance at nearby residential areas. Mitigation measures during construction would be implemented through a Noise and Vibration Management Plan in accordance with commitments made in a Construction Environmental Management Plan to control any significant effects. This plan would be submitted for approval by the regulatory authority.

Operational phase

- 5.4.25 The Proposed Development has been designed sympathetically with noise emissions taken into consideration, and has embedded noise control measures, in accordance 'Best Available Technology' and with relevant sector specific guidelines. This means that the Applicant is committing to implementing techniques that are best at preventing or minimising noise emissions within the Proposed Development. In simple terms, the development has considered and embedded noise barriers, and/or enclosures as part of the design.
- 5.4.26 Therefore no additional mitigation measures to those embedded in the design are required, and as such residual effects remain the same as those predicted during the impact assessment, i.e. not significant.
- 5.4.27 As part of the detailed design phase of the Proposed Development, the operational phase noise assessment would be refined to ensure those embedded noise controls are still considered to be effective and efficient to meet the same conclusions as presented in the Environmental Statement.

5.5 Biodiversity

Scope of assessment and methodology

- 5.5.1 The biodiversity chapter of the Environmental Statement assesses the potential impacts of the construction and operation of the Proposed Development on existing ecological receptors within the Site and the surrounding area.
- 5.5.2 The study area encompassed the Site, extending to a wider zone of influence that captures relevant ecological receptors that could potentially be impacted by the Proposed Development.
- 5.5.3 The assessment methodology made use of both desk-based studies and an extensive list of field surveys, carried out over several seasons to build a comprehensive ecological baseline upon which potential effects could be assessed against.

Baseline

- 5.5.4 The baseline conditions at the Site revealed a diverse range of habitats. Within the application boundary are habitats consisting of scrub, semi-improved natural grasslands, coastal floodplain grazing marsh, and water bodies such as lagoons and drainage



channels. These habitats support various species, including several protected or notable species. For instance, the grassland habitat areas on site demonstrated the potential to serve as important breeding grounds for bird breeds, such as Cetti's warbler and skylark, while the water bodies on site support a range of invertebrate species.

5.5.5 Several designated sites of ecological importance can be found within the wider study area. Notable among these are two SSSIs; Margam Moors, and Eglwys Nunydd Reservoir, both located in close proximity to the south and east of the Site boundary. These sites host a variety of nationally significant rare species including bats, birds, invertebrates and reptiles.

Predicted impacts

5.5.6 A programme of baseline ecological surveys were completed between September 2021 and August 2024. The following surveys were undertaken:

- Habitat surveys;
- Invertebrate surveys;
- Badger surveys;
- Wintering and breeding bird surveys;
- Bat surveys;
- Great crested newt surveys
- Reptile surveys;
- Otter and water vole surveys; and
- Dormouse surveys.

5.5.7 All surveys were undertaken following the most relevant industry guidelines. The methodology for the surveys was agreed in consultation with Neath Port Talbot Council and Natural Resource Wales. As well as the above surveys, a desk study was also undertaken.

5.5.8 The primary ways in which the Proposed Development may affect ecological features are:

- Direct effects associated with habitat loss or damage;
- Direct effects on protected species associated with resting place destruction, killing or injury of individuals;
- Indirect effects on habitats and species associated with dust, emissions, siltation, leaks and spillages;
- Indirect effects on protected species associated with disturbance; and
- Indirect effects on protected species through pollution of habitats/watercourses affecting food sources.

5.5.9 The construction and operation of the Proposed Development is expected to have several direct and indirect impacts on biodiversity, particularly on habitats within 1km of the Site and the various species associated with them. The following ecological receptors were identified to have the potential to be impacted by the Proposed Development:

- Statutory and non-statutory designated sites;
- Coastal floodplain grazing marsh;
- Reptiles;
- Invertebrates;
- Open mosaic habitat (scrub and ephemeral);
- Breeding birds;
- Wintering birds;
- Foraging/commuting bats.

5.5.10 Direct impacts would result primarily from the construction phase. These include the loss and degradation of ecologically significant habitats, such as the open mosaic habitats and small amounts of coastal floodplain grazing marshes within the Site, which host species including birds, reptiles and invertebrates.

5.5.11 Indirect impacts may result from changes in air quality, light pollution, and noise during both the construction and operation of the Proposed Development. The air quality assessment concludes that air quality would see an overall improvement, resulting from the closure of the steelworks' 'heavy end'. New sources of light and noise pollution are unlikely to disrupt bat and bird species across the Site, therefore resulting in no significant impact.

Mitigation and residual effects

5.5.12 A range of mitigation measures have been incorporated and embedded into the design of the Proposed Development to minimise ecological impacts. Notably, these include the following:

- The layout of the Proposed Development has been adjusted to minimise impacts to the southern fields which contain lowland floodplain grazing marsh;
- The layout of the Proposed Development has avoided impacts to sensitive habitats where possible, for example the areas of soil with the highest peat content and the habitats of highest conservation value;
- Where avoidance has not been possible, the infrastructure would be constructed in such a way as to maintain the integrity and connectivity of the hydrology of hydrologically sensitive habitats; and
- Access tracks would be designed in keeping with good practice, of which further detail is provided in **ES Chapter 9 Surface water, flood risk and drainage**.

5.5.13 Further mitigation measures embedded into the Proposed Development would be implemented through a Construction Environmental Management Plan, that specifies undisruptive working hours, pollution prevention and management measures, surface water management measures and a dust management plan. Controls would also be put in place during construction through creation of a site-specific Species Protection Plan and appointing an Ecological Clerk of Works to monitor adherence to such plans.

5.5.14 Additional mitigation measures would be implemented with the aim of habitat creation and management. Great emphasis has been placed on the replacement or enhancement of any ecological features that are cleared for development.

5.5.15 Areas cleared for development would be either restored or replaced with habitats designed to carry out similar ecological functions. The Proposed Development could

deliver approximately 18 hectares of new and enhanced habitats, including mixed scrub, ephemeral soil heaps, reedbeds, grassland and coastal floodplain grazing marsh species.

- 5.5.16 In addition, a Landscape and Ecological Management Plan, Net Biodiversity Benefit Report and a Green Infrastructure Statement have been designed in alignment with the principle of Biodiversity Net Benefit and enhancements required within the Environment (Wales) Act.
- 5.5.17 Following implementation of mitigation measures, the ecological effect of the Proposed Development is expected to be non-significant. Habitat creation resulting from the Proposed Development would result in permanent beneficial outcomes for biodiversity, as the creation and management of habitats not only enhances the ecological condition of the Site, but also benefits existing species, and can potentially attract new species. For example, the proposals to include a bespoke habitat creation scheme in the southern fields of the Site is committed to by the Applicant through the submitted Landscape and Environment Management Plan (compliance to which will be secured by way of a planning condition). This sets out proposals for the creation of new open mosaic habitat with bunds using soils sourced from within the Site and therefore contains a local seed bank. The majority of land within the wider Tata Steel UK Limited (Tata Steel) site would also continue to be maintained in its entirety and this, together with the proposed enhancement scheme, would continue to provide foraging habitat for bats and breeding/foraging habitat for birds.
- 5.5.18 Overall, the assessment concludes that with the implementation of mitigation measures, the Proposed Development would not have a significant effect on biodiversity, and in some instances, would result in long-term ecological benefits.

5.6 Surface water, flood risk and drainage

Scope of assessment and methodology

- 5.6.1 The surface water, flood risk and drainage chapter of the Environmental Statement assesses the potential impacts of the Proposed Development on surface water, flood risk and drainage within the Site and wider vicinity. It accounts for both direct and indirect effects on water resources and flood risks during the construction and operation phases of the development.
- 5.6.2 The assessment makes use of a study area that captures water resources within the Site, plus nearby waterbodies that are hydrologically linked to the Site or used for process abstraction, and other sites designated for water related attributes.

Baseline

- 5.6.3 The Site is located adjacent to the Bristol channel. The Site features a mix of industrial land and natural environments, including open coastal floodplain and the Margam Moors wetlands. The topography of the Site is generally flat, sloping in a south-easterly. The eastern side of the Site is generally lower than the west, with Site levels typically remaining 10m above sea level.
- 5.6.4 The Site has a complex network of surface water drainage that manage both process water and surface runoff. This includes various ditches, drainage channels and culverts and waterbodies that could be affected by water quality impacts, such as the on-site

watercourses, Lower and Middle Mother Ditch, as well as the underlying aquifer, known as the Swansea Carboniferous Coal Measures groundwater body.

- 5.6.5 Receptors to the impacts of water resource use include waterbodies utilised for process water abstraction. These are identified as NRW Rivers Nant Ffrwdwyllt, Afon Cynffig, Afon Afan as well as Port Talbot Docks, Eglwys Nunydd Reservoir and Middle Mothers Ditch.
- 5.6.6 With regards to flood risk, the Proposed Development is not considered to impact off-site flood risk. Therefore, the flood risk receptor is the on-site industrial development, and the potential impacts are associated with heavy rain and surface water flooding at the Site itself.
- 5.6.7 Within the wider vicinity are key river catchments and waterbodies from the north east and south of the Site. Notable among these are, Afon Cynffig, Afon Afan and Nant Ffrwdwyllt rivers, and the Eglwys Nunydd Reservoir, which is a designated SSSI and supplies water to the steelworks.
- 5.6.8 The Site's drainage system discharges into Swansea Bay through the site outfall.

Predicted impacts

- 5.6.9 The Proposed Development could result in several impacts on surface water, drainage and flood risk during the construction and operation.

Construction phase

- 5.6.10 The construction phase has the potential for temporary impacts to water environment, particularly water quality. Potential impacts could result from the demolition of buildings, transport and storage of potentially contaminating materials, infilling of the onsite reservoir, groundworks, construction of hardstanding and vehicle movements.
- 5.6.11 The primary impacts associated with the aforementioned construction activities include:
- Increased sedimentation of waterbodies;
 - Pollution of waterbodies from construction materials;
 - Changes to drainage patterns resulting from ground disturbance; and
 - Abstraction of water for construction use.
- 5.6.12 Additionally, there are risks from increased overland flow entering on-site watercourses, and impediments or diversions to existing flow pathways, causing changes to drainage patterns and localised flood risk.

Operational phase

- 5.6.13 The operational phase has the potential for long term and permanent effects on the water environment receptors. The Proposed Development is expected to reduce the current water abstraction volumes for operational activities, having a potentially positive effect. However, the introduction of hardstanding could lead to increased surface water runoff.

There is also potential for pollution of waterbodies from hazardous compounds during general site activities.

- 5.6.14 The primary water quality impact is the controlled effluent discharge from the site operations to Swansea Bay, though it is expected that the volume of effluent discharge would decrease significantly when compared to the established baseline conditions once the Proposed Development is operational. Concentrations for most contaminants would decrease, although sediments and oil have the potential to increase as a reduction in dilution effect and the influence of historical site contamination. Furthermore, there would be a reduction in the requirement for process water abstraction – some existing abstraction points can therefore be relinquished and licenses surrendered. This represents a small improvement to the water quality from the current baseline.

Mitigation and residual effects

- 5.6.15 A range of mitigation measures have been embedded into the project design for both the construction and operational phases of the Proposed Development to minimise its impact on surface water and flood risk. These include an approved Construction Environmental Management Plan:
- The Construction Environmental Management Plan would be approved by Natural Resource Wales, and includes measures for silt and sediment control, pollution prevention, and drainage and water management to manage water resources during the construction phase;
 - A Sustainable Drainage Strategy (SuDS), to manage the risk of surface water flooding during operation, accounting for increased runoff rates resulting from general operations or storm events; and,
 - The Site's Environmental Permit from Natural Resource Wales would be updated to meet stricter requirements, ensuring effluent discharge is treated before discharge, and does not exceed allowable limits. A monitoring programme would be implemented, ensuring compliance and improvement.
- 5.6.16 The environmental effects of the Proposed Development with regards to surface water, flood risk and drainage are assessed to be not significant as a result of mitigation measures embedded in the Proposed Development. Once operational, there would be significant beneficial impacts on water quality. The reduced contaminant concentrations and discharge volumes will benefit the Swansea Bay waterbody, while the reduction of water abstraction volumes reduce the risk of pollution and sedimentation.

5.7 Land, soil and groundwater

Scope of assessment and methodology

- 5.7.1 This chapter assesses the potential impacts of the Proposed Development on the land, soil, and ground conditions of the Site and the wider vicinity. The assessment covers both the construction and operational phases of the development, and assesses risks related to contamination, geological stability, and groundwater management.
- 5.7.2 The study area considered within this chapter is the Site, plus an area of 1km outside of the application boundary.

Baseline

- 5.7.3 With regards to ground conditions, historical uses of the Site include coal mining in the western area (associated with the now closed Morfa Colliery). More recently it has been occupied by steelworks, which are still present. Both are activities which may have influenced the potential for contaminated land.
- 5.7.4 An active landfill site is located approximately 250m south of the Site, which may influence ground conditions in the Site's wider vicinity.
- 5.7.5 The bedrock geology underneath the Site is known as the South Wales Middle and Lower Coal Measures Formation, and is made up of coal-bearing mudstone, siltstone and sandstone. Ground investigation results also confirm the presence of peat deposits within the Site below ground level. These occasional pockets of peat are mapped to the east of the Site.
- 5.7.6 There are two main soil associations within the Site and one more within the wider vicinity. The Site is predominantly underlain by loamy and clayey soils with naturally high groundwater. A strip of land in the south-western area of the Site is described as sand dune soils. Land to the north and north-east of the Site is classified as freely draining slightly acidic loamy soils.
- 5.7.7 Groundwater is defined as water which is present within soil or geological units, beneath the ground surface. The groundwater beneath the Site is a secondary aquifer, which means that some water from below the ground could be used to provide water resources. However, there are no recorded abstraction points for drinking water within 1 km of the application boundary. Furthermore, the groundwater quality is expected to be of low quality due to the legacy of industrial activity on the Site.

Predicted impacts

- 5.7.8 The Proposed Development could result in direct and indirect impacts on land, soil and groundwater during both the construction and operational phases.

Construction phase

- 5.7.9 The majority of potential impacts emerge during the construction phase, where there is a risk of disturbing and mobilising existing contamination from legacy industrial activities such as coal mining and steelworks. Construction activities including excavation and piling may disturb and mobilise existing contamination. This may adversely impact ground conditions of the wider vicinity either by direct contamination or leeching from rainwater.
- 5.7.10 Piling could also create pathways for contamination to move vertically, which may result in the pollution of the deeper geology of the Site.
- 5.7.11 Although there is no peat at ground surface with an 'active' vegetation layer, the peat bodies present below ground remain of importance for their carbon storage. If piling and excavation activities during construction encounter peat bodies present in some parts of the Site, these activities would consequently release stored carbon into the atmosphere.

Operational phase

Without mitigation, activities planned at the Site have the potential to impact land, soil and groundwater. This is primarily via contamination release resulting from the improper



storage, handling and disposal of raw materials, products and waste products associated with the Proposed Development's operations.

Mitigation and residual effects

- 5.7.12 Several mitigation measures have been embedded into the construction phase of the Proposed Development. During the construction phase, ground contamination level would be assessed and provided with remediation where necessary. Remediation actions would also be expected to mitigate against potential construction phase effects resulting from mobilisation of near surface contamination.
- 5.7.13 A Peat Management Plan would likely be included within a planning condition. Excavated peat would be stored appropriately to minimise carbon release.
- 5.7.14 The Applicant is currently undertaking a programme of pre-construction intrusive site investigations in accordance with UK guidance. Following completion of these investigations, reporting will be produced, with the primary purpose of informing the detailed design, including a Remediation Strategy Report which will propose the remediation strategy to be undertaken. Assuming a worst case scenario, it is anticipated that the remediation strategy would address soil and groundwater contamination impacts sufficiently, therefore no significant adverse effects to soil and groundwater quality have been identified.
- 5.7.15 The implementation of a Construction Environmental Management Plan would reduce potential impact to superficial and geological units at the Site, covering measures like soil management, spill prevention and management, and the handling of potentially contaminated materials. A Material Management Plan would also allow all material types to be tracked and managed.
- 5.7.16 Once operational, the Site would be governed by an Environmental Permit, which would include regular monitoring requirements for soil and groundwater conditions.
- 5.7.17 With the implementation of mitigation measures, the assessment concludes that the residual impacts from the Proposed Development are expected to be minimal. Overall, there will be no significant adverse effects on land, soil or groundwater resulting from the Proposed Development.

5.8 Cultural heritage

Scope of assessment and methodology

- 5.8.1 The cultural heritage chapter of the Environmental Statement evaluates the potential effects of the construction and operation of the Proposed Development on designated and non-designated historic assets.
- 5.8.2 The study area for this assessment comprises of a 1km buffer surrounding the application boundary for non-designated assets (which typically include notable places, buildings, monuments, areas, sites, or landscapes), and a 5km buffer for designated assets (including scheduled monuments, listed buildings, registered parks and gardens and conservation areas).

5.8.3 The assessment focused on identifying historic assets (archaeological remains, historic buildings, and landscapes) as well as assessing their significance. The assessment methods included desk-based research, site visits and consultation.

Baseline

5.8.4 There are 130 designated assets located within the 5km study area, comprising of several scheduled monuments, Grades I, II and II* listed buildings, one conservation area and two registered parks and gardens.

There are no designated assets located within the actual application boundary, however there are three non-designated historic assets within the Site:

- Morfa Colliery – a now closed 19th century colliery in the north-western area of the Site;
- Morfa Colliery Gas Works – a now closed private gasworks used to light the colliery buildings; and
- Theodrics Grange – a ruined medieval building which formed part of a monastic grange, possibly of a domestic function.

5.8.5 There are a further 32 non-designated assets located within the 1km study area. These include remnants from the Roman, medieval, and post-medieval period settlements and landscapes, particularly those related to the industrial heritage of the region.

Predicted impacts

5.8.6 Both direct impacts such as physical damage during construction, and indirect impacts such as changes in the setting of assets were considered in the assessment for both the construction phase and the operational phase.

Construction phase

5.8.7 The existing non-designated assets within the Site (Morfa Colliery and gasworks, and Theodrics Grange) would be subject to physical disturbance, though this is considered a minor impact as many of their surviving elements are already significantly disturbed.

5.8.8 Impacts upon unknown historic assets, such as unknown buried archaeological remains cannot be meaningfully assessed. However, if any are present, they may be disturbed, damaged, or destroyed by construction groundworks and other activities.

Operational phase

5.8.9 Impacts during the operational phase have the potential to arise as a result of visual change within the Site, particularly due to the introduction of new industrial buildings and their associated infrastructure.

5.8.10 The visibility of new industrial buildings may alter the visual settings of on-site historic assets; however, these effects are considered to be minor, considering the Site and its vicinity already host significant industrial infrastructure.

Mitigation and residual effects

- 5.8.11 Several mitigation measures are proposed to minimise the potential impacts of the construction of the Proposed Development on historic assets. Mitigation against direct disturbance to historic assets is embedded into the design of the development, with efforts to position infrastructure away from onsite assets.
- 5.8.12 With regards to unknown archaeological remains that may be discovered, they will be preserved by record through documentation and reporting.
- 5.8.13 Whilst Morfa Colliery largely comprises below ground remains, there is an existing memorial located within the Site. This will be retained in the same location, and temporary fencing is proposed during construction to ensure no accidental damage occurs. Similar preservation measures will be applied to Theodric's Grange to prevent damage or encroachment.
- 5.8.14 After application of mitigation, the residual effects of the Proposed Development on historic assets is expected to be minimal. Direct physical impacts will be avoided or mitigated through infrastructure siting and preservation of key assets. The introduction of new industrial infrastructure will result in visual effects, though this is not considered to be significant given the existing industrial setting of the Site and its vicinity.

5.9 Transport and access

Scope of assessment and methodology

- 5.9.1 The traffic and access chapter of the Environmental Statement was prepared to address the likely significant effects of the Proposed Development on local traffic, transport infrastructure, and access routes during construction and operation.
- 5.9.2 The assessment considered current traffic volumes, future predicted traffic volumes and the impacts that may result from construction vehicles.
- 5.9.3 For the assessment, a study area was agreed with the local highway authority. The study area comprises of various junctions, roads, and access roads on-site and within the wider vicinity that may see a change in traffic movements as a result of the Proposed Development.

Baseline

- 5.9.4 Being situated within an industrial area, the baseline was characterised by having considerable traffic movements. High traffic movements associated with the steelworks resulted from scrap metal and coal deliveries, each accounting for over 25,000 two-way heavy good vehicles movements a year.
- 5.9.5 Future predicted traffic movements indicate that there will be a significant reduction in site-related traffic. This is due to the reduction in site activities associated with the closure of 'heavy end' infrastructure at the steelworks.

Predicted impacts

- 5.9.6 The assessment identified the potential for the Proposed Development to have impacts on the road network during the construction and operational phases.
- 5.9.7 The construction phase would result in traffic movements, primarily from construction vehicles. However, traffic movements from construction will be offset by the significant reduction in traffic following the shutdown of the steelworks' heavy-end machinery.
- 5.9.8 The operational phase would see a further reduction in traffic volumes. With the closure of the steelworks' blast furnaces and coke ovens, coal deliveries to the Site will halt. The majority of staff reductions have also taken place, resulting in further considerable reductions in traffic movements.
- 5.9.9 Although scrap metal would still be delivered to the Site post construction, it is intended that it would be delivered to and from the Site by rail. Delivery by road would no longer be viable and would not support plans to reduce the Site's carbon footprint.
- 5.9.10 On this basis it is confirmed that the construction and operational phase of the Proposed Development would result in a large reduction in traffic movements when compared to the established baseline position.

Mitigation and residual effects

- 5.9.11 A number of mitigation measures would be embedded into the Proposed Development during the construction phase:
- A Construction Traffic Management Plan and Routing Plan would ensure heavy good vehicles are routed to reduce congestion on local road network;
 - Signage would be introduced to direct construction workers and reduce congestion on local road network.
- 5.9.12 For the operational phase, a travel plan would be developed to promote the use of sustainable means of transport to staff on site.
- 5.9.13 The reduction in traffic resulting from the closure of heavy-end infrastructure and introduction of the Proposed Development would result in a non-significant beneficial effect on the local road network, during both the construction and operational phases. For this reason, no additional mitigation has been proposed.

5.10 Climate change

Scope of assessment and methodology

- 5.10.1 The climate change chapter of the Environmental Statement assesses the effect of the Proposed Development on climate change from the release of greenhouse gases. The assessment also considers the Proposed Development's resilience to climate change impacts.
- 5.10.2 The assessment uses greenhouse gas emission estimates during construction and operation and assesses them against current greenhouse gas emissions relative to the



steelworks. The Proposed Development's contribution to national and international climate targets is also assessed.

Baseline

- 5.10.3 Steel production at the Site has, to date, used blast furnaces, which emit significant amounts of greenhouse gases: when fully operational the Port Talbot steelworks was the largest direct greenhouse emitter in the UK, accounting for around a fifth of Welsh greenhouse gas emissions.
- 5.10.4 The baseline emissions were based on a five-year average between the years 2020 and 2024 and revealed that the Site averages approximately 6.25 million tonnes of CO₂e equivalent (CO₂e) emissions a year. The assessment predicted a significant emissions decrease from baseline levels in the interim period between closure of the operational steelworks and construction of the EAF.
- 5.10.5 The baseline climate data was based on Port Talbot averages between the years 1981 and 2010, revealing an average maximum temperature of 13.46°C and an average annual rainfall of 999mm a year. Future climate projections suggest that the area will experience wetter winters and drier summers.

Predicted impacts

Construction phase

- 5.10.6 Construction of the Proposed Development is expected to take place over a 3-year period, during which a total of 61,469 tonnes of CO₂e would be emitted. This is due to the manufacture of construction materials such as steel and concrete, and the movement of construction vehicles.
- 5.10.7 Given that this is a considerable reduction from established baseline levels, the impact is considered to be not significant.

Operational phase

- 5.10.8 Operational phase emissions from the EAF would be those associated with gas combustion and the EAF steelmaking process. Indirect emissions include those associated with electricity generation to operate the Site.
- 5.10.9 Once operational, the Proposed Development is expected to reduce greenhouse gas emissions. Subtracting the forecasted net operational greenhouse gas emissions from the established baseline greenhouse gas emissions, the savings are as follows:
- 6.2 million tonnes in 2027
 - 5.6 million tonnes in 2028
 - 5.4 million tonnes in 2029
 - 5.4 million tonnes in 2030 (the latest year for which a forecast operational EAF emissions has been made).
- 5.10.10 The receptor of the greenhouse gas assessment is the global climatic system, which has a high sensitivity. The magnitude of change is large in terms of the contribution of the Proposed Development to Wales and the UK Government's steel sector decarbonisation projections. The operational phase's level of impact is therefore considered to be major beneficial, which is significant.

Mitigation and residual effects

- 5.10.11 The shift to EAF technology in favour of blast furnaces would result in a significant reduction of greenhouse gas emissions. The Proposed Development also features several climate change mitigation measures embedded within its design to reduce greenhouse emissions further and increase resilience to climate change. These include:
- The EAF processes would be subject to a range of permits and management plans, for example a Construction Environmental Management Plan during the construction phase and environmental permits during operation. These would include recommendations and requirements to limit greenhouse gas emissions;
 - A drainage strategy has been embedded in the project's design to improve capacity to handle increased rainfall and potential flood events; and,
 - A travel plan would be developed to promote the use of sustainable means of transport to staff on site.
- 5.10.12 Relative to the current steelworks, the effects of the development on climate change are considered to be significantly beneficial, due to the reduction of greenhouse gas emissions. The Proposed Development would consequently contribute to the achievement of both national and international net zero targets and other legally binding carbon reduction commitments.
- 5.10.13 The assessment on climate resilience of the Proposed Development to future climate change effects associated with increased temperatures and changes in rainfall patterns, found that the Proposed Development is suitably resilient, and that there are no predicted significant effects.

5.11 Socio-economics and health

Scope of assessment and methodology

- 5.11.1 The socio-economics and health chapter assesses the potential effects of the Proposed Development on employment, public health, and the economy during the construction and operational phase.
- 5.11.2 The assessment involved examining economic activity, employment, income, and health, and how these may be impacted as a result of the Proposed Development. To inform the assessment, current and future baseline conditions at the Site and in Neath Port Talbot, the wider sub-region (Neath Port Talbot, plus the neighbouring local authorities of Swansea and Bridgend), Wales and the UK as a whole were analysed as appropriate in relation to the factors such as employment and economic activity; labour market and industry; wages and expenditure.

Baseline

- 5.11.3 The Site's established baseline supports a total of 9,790 full-time equivalent jobs across the UK, both directly and indirectly associated with the steelworks, and based on a local, sub-regional and country of Wales level. Many of these jobs held by local residents. The steelworks play a significant role in the economy and economic activity levels of the local area and Wales as a whole.

- 5.11.4 Within the wider Port Talbot area high levels of deprivation have reported across a range of indicators for health and wellbeing. The majority of areas in Neath Port Talbot are more deprived than the average for Wales, with health data suggesting that area is characterised by high levels of deprivation, and the population suffers from relatively higher levels of poor health.

Predicted impacts

- 5.11.5 The assessment concluded that the Proposed Development would have significant socio-economic and health impacts, primarily associated with employment.

Construction phase

Socio-economic assessment

- 5.11.6 Although the demolition and construction phase are anticipated to both directly and indirectly support an uplift in jobs, there is an anticipated significant net reduction of jobs in comparison with the established baseline. The assessment finds that a net reduction of 3,590 full time equivalent jobs will occur as a result of the Proposed Development during the construction phase.

- 5.11.7 Jobs and activity created within the construction sector are likely to improve the ability of workers to access related employment and training opportunities. However, whilst the creation of jobs would provide new opportunities for people seeking roles in construction – including people who had been previously unemployed and are re-entering the labour market, or those gaining skills and qualifications through apprenticeships and training – it is anticipated that the proportion of these roles created would represent a relatively low proportion of the total jobs created.

Health assessment

- 5.11.8 The assessment also identified the potential health impacts resulting from the reduction in employment may include increased stress due to job uncertainty.

Operational phase

Socio-economic assessment

- 5.11.9 Once operational, the Proposed Development is expected to support a total of 5,720 full time jobs across the UK, most of which will be within the wider area around the Site. Whilst this is an improvement from the construction phase, this represents a significant reduction of jobs as a result of the Proposed Development when compared with the established baseline.

- 5.11.10 A reduction in employee expenditure in the regional economy is also anticipated, which would have an adverse effect on businesses and associated labour force as a result of the change in employee expenditure during the operational phase.

Health assessment

- 5.11.11 The reduction in employment will have a negative impact on health outcomes, particularly in those deprived areas within Neath Port Talbot, associated with stress due to job

uncertainty. Given the scale of operational phase job losses, these detrimental effects on health outcomes could be long-term.

- 5.11.12 The closure of highly polluting blast furnaces is expected to have a positive long-term effect on health outcomes.

Mitigation and residual effects

- 5.11.13 Assessing the impacts of the Proposed Development on socio-economic conditions, the chapter concludes that the Proposed Development will predominantly generate significant adverse socio-economic effects.

- 5.11.14 However, it is important to note that the proposals form part of a £1.25 billion investment, which is the largest in South Wales industry for many decades. The proposal will secure steel making in Port Talbot for the foreseeable future. This is the only viable solution for the future of Port Talbot Steelworks. If the investment does not proceed and the development does not go ahead, steel making will eventually cease at the Site.

- 5.11.15 The future of the Port Talbot facility is entirely dependent on the planned investment in the EAF. Without an EAF, the inevitable closure of the facility would come at a significant economic, social and environmental cost to NPT, Wales and the UK. This essential context is a material consideration to which the authority should have regard in the determination of the planning application. Therefore, all identified effects of the proposal must be considered with this essential context in mind.

- 5.11.16 The mitigation measures that have been embedded within the project to address the Proposed Development's impacts on employment and health include redeployment of supplier activities to retain supply chain employment capacity, and voluntary redundancy packages that have been offered to affected employees.

- 5.11.17 There will be an additional package of support in the form of a £100 million Transition Fund, with the objective of creating up to 2,800 jobs across the South Wales region over a five-year period. The Applicant is making a £20 million contribution to this fund which would provide embedded mitigation for socio-economic and health effects. The four priority uses of the fund are:

- Skills and learning accreditation programmes have been developed, focused on the retraining of affected employees;
- Outplacement support will be offered to help employees transition to new employment;
- Mental health support including counselling and advice on a number of wider matters such as financial concerns; and
- A re-skilling and re-training scheme.

- 5.11.18 Therefore, in light of the scale of the Transition Fund being proposed, it is considered that the impact of the job losses on health outcomes would be reduced.

- 5.11.19 Notwithstanding this, the Proposed Development would see a net reduction in jobs and would have a significant long-term adverse effect on local employment and income levels. Indirect impacts on health are anticipated to surface as a result of these job losses. After considering the introduction of mitigation measures, the residual effects on health and



employment are still expected to be significant adverse both during the construction and operational phases.

- 5.11.20 Improved air quality for residents in Neath Port Talbot, and re-skilling initiative aim to contribute to non-significant, long term beneficial health effects.

5.12 Major accidents and disasters

Scope of assessment and methodology

The major accidents and disasters chapter of the Environmental Statement has assessed the potential risks and effects of major accidents and disasters associated with the Proposed Development. The key hazards identified include industrial accidents caused by process, equipment or electrical failure, resulting in fires, explosions or environmental contamination. Other hazards such as flooding, transport incidents malicious attacks and loss of critical infrastructure also have the potential to result in fires, explosions or environmental contamination.

Baseline

A review was undertaken of information provided by the Applicant, particularly the extant steelworks COMAH Safety Report and Environmental Permit. These documents detail specific potential major accidents and hazards related to the established operation of the steelworks and control measures implemented for mitigation. However, many of the established hazards associated with the operation of the steelworks will cease or reduce following closure of the 'heavy end'.

The established steelworks comprises a large and complex network of blast furnaces, coke ovens, conveyors, pipelines, and raw material handling, processing and storage facilities. The potential for major accidents or hazards to occur as a result of the established operations is managed primarily under the Site's COMAH status and associated actions required to minimise accident risk.

The guidance for emergency arrangements for environmental incidents or scenarios are outlined in an Environmental Contingency Plan. This documents steps to be taken in the event of an incident that has the potential to cause environmental harm. It also describes general guidelines for evaluation of significance and identifying the appropriate level of action and communications that should be adopted in the event of an incident. In addition to this, a Major Emergency Plan and Local Emergency Plans are in place as part of the emergency planning requirements. The existing steelworks is also covered by an Environmental Permit.

During the interim baseline, the potential for major accidents and disasters would see a considerable reduction from the established baseline once the 'heavy end' ceases operation. It is anticipated that the future baseline will be relatively similar to the interim baseline, given the absence of operational stockyards, sinter plants, coke ovens, blast furnaces and steel converters.

Sensitive receptors considered in the assessment have included people and human health, the water environment, soils and ground water, sensitive environmental designations, for example for ecology or heritage, the surrounding road network, and other infrastructure.

Predicted impacts

During construction, activities have the potential to cause contamination of water and/or land and soils due to runoff from diffuse or point source pollution events.

The potential hazards that could result in a major accident or disaster during the operation of the Proposed Development include incidents such as fire or explosions, uncontrolled release of hazardous substances due to loss of containment of fumes or dust during the steel melting process, contamination of sensitive receptors from hazardous substances during delivery, storage and handling of scrap metal, and other hazards, including flooding, severe weather incidents from the effects of climate change, transport accidents involving site workers or visitors, pandemic or animal diseases accidentally being introduced and spread, or the unlikely event of a malicious attack on the Proposed Development resulting in injury, death or destruction of infrastructure, environmental or historic receptors.

Mitigation and residual effects

The risk of events occurring during the construction phase would be controlled through the implementation of embedded mitigation, such as the Construction Environmental Management Plan and standard good practice measures, complete with pollution prevention and control measures to mitigate and manage major accidents and disasters.

The potential for major accidents and disasters relating to the operation of the Proposed Development will be actively managed through embedded mitigation measures, including compliance with a range of relevant statutory and non-statutory requirements.

The assessment concludes that, with the implementation of mitigation measures, the Proposed Development would not result in any significant effect for major accidents and disasters.

5.13 Cumulative effects

5.13.1 There are two aspects of cumulative effects that have been considered in this chapter.

- **Intra-project cumulative effects:** The interaction and combination of multiple significant effects from the Proposed Development on common receptors; and
- **Inter-project cumulative effects:** The combined effects of the Proposed Development together with other committed developments on commonly shared receptors.

Intra-project cumulative effects

5.13.2 The assessment concluded that no single common receptor would experience multiple significant effects from different environmental factors.

5.13.3 During the construction phase, there is potential for human receptors to experience adverse visual effects (e.g. users of Longland Lane) and adverse socio-economic effects (e.g. those in the local labour force) and adverse human health effects (e.g. those indirectly impacted by job reduction).

- 5.13.4 However, these effects are unlikely to combine or interact in any meaningful way. As such, no mitigation measures have been identified beyond those already identified in the Landscape and visual, and Socio-economics and health chapters.

Inter-project cumulative effects

- 5.13.5 With regards to the combined effects of the Proposed Development with other committed developments, no significant adverse effects are anticipated on common receptors. As such, no additional mitigation measures beyond those already proposed in the individual assessment chapters, are proposed.

5.14 Environmental management

- 5.14.1 The assessment of the Proposed Development has identified a number of impacts that are likely to arise as a result of the new EAF facility. Mitigation measures have accordingly been identified and developed to counter these adverse impacts and reduce the significance of residual effects on the receiving environment.
- 5.14.2 The environmental mitigation measures identified during the Environmental Impact Assessment process, including monitoring of potentially significant effects, are summarised in this report and detailed in the relevant chapters of the Environmental Statement. Subject to the granting of planning consent, these measures will form a mandatory schedule of commitments under the terms of any contract for the construction and future maintenance of the Proposed Development. This process would continue during the detailed design stage to ensure that any additional opportunities are identified, so as to avoid as far as possible any potential environmental impacts on key environmental features that are the result of the Proposed Development's design.
- 5.14.3 The Construction Environmental Management Plan is key to delivering embedded mitigation as this includes measures, commitments and recommendations relating to all environmental disciplines for the construction phase that have been set out in the Environmental Statement.

6 CONCLUSIONS AND FURTHER INFORMATION

- 6.1.1 This Non-Technical Summary provides an abridged version of the Environmental Statement (Volume 2) submitted with the planning application for a proposed Electric Arc Furnace in Port Talbot. It concludes that, with the mitigation that forms part of the design of the Proposed Development, together with the additional mitigation recommendations, there would be no long-term significant adverse impacts on the environment due to the Proposed Development for most of the environmental factors that have been considered.
- 6.1.2 The key exception to this is the socio-economics and health assessment. The primary concern of employment reduction following closure of the current steelworks has been addressed with redundancy packages and retraining programmes. The Applicant is also committed to skills and learning, outplacement support, mental health support and reskilling and retraining to help the creation of new jobs. This would be funded by a £100 million Transition Fund. Notwithstanding this, the assessment has concluded that there would still be residual significant adverse socio-economic and health effects.
- 6.1.3 The Proposed Development will result in beneficial impacts on multiple environmental factors. These are summarised as follows:
- **Air quality:** The transition to EAF technology reduces emissions, improving local air quality.
 - **Biodiversity:** Great emphasis has been placed on habitat generation and re-generation being embedded into project design.
 - **Surface water:** There would be a significant reduction in the contamination and discharge volumes being released into Swansea Bay.
 - **Traffic:** Traffic volumes would decrease due to fewer heavy good vehicles movements.
 - **Climate change:** A significant reduction in greenhouse gas emissions would contribute to decarbonization and climate change goals.

The full content of the Environmental Statement, and associated information relating to the proposed scheme and the planning application, is available via the Neath Port Talbot public website at: <https://beta.npt.gov.uk/planning-and-building-control/planning-applications/>