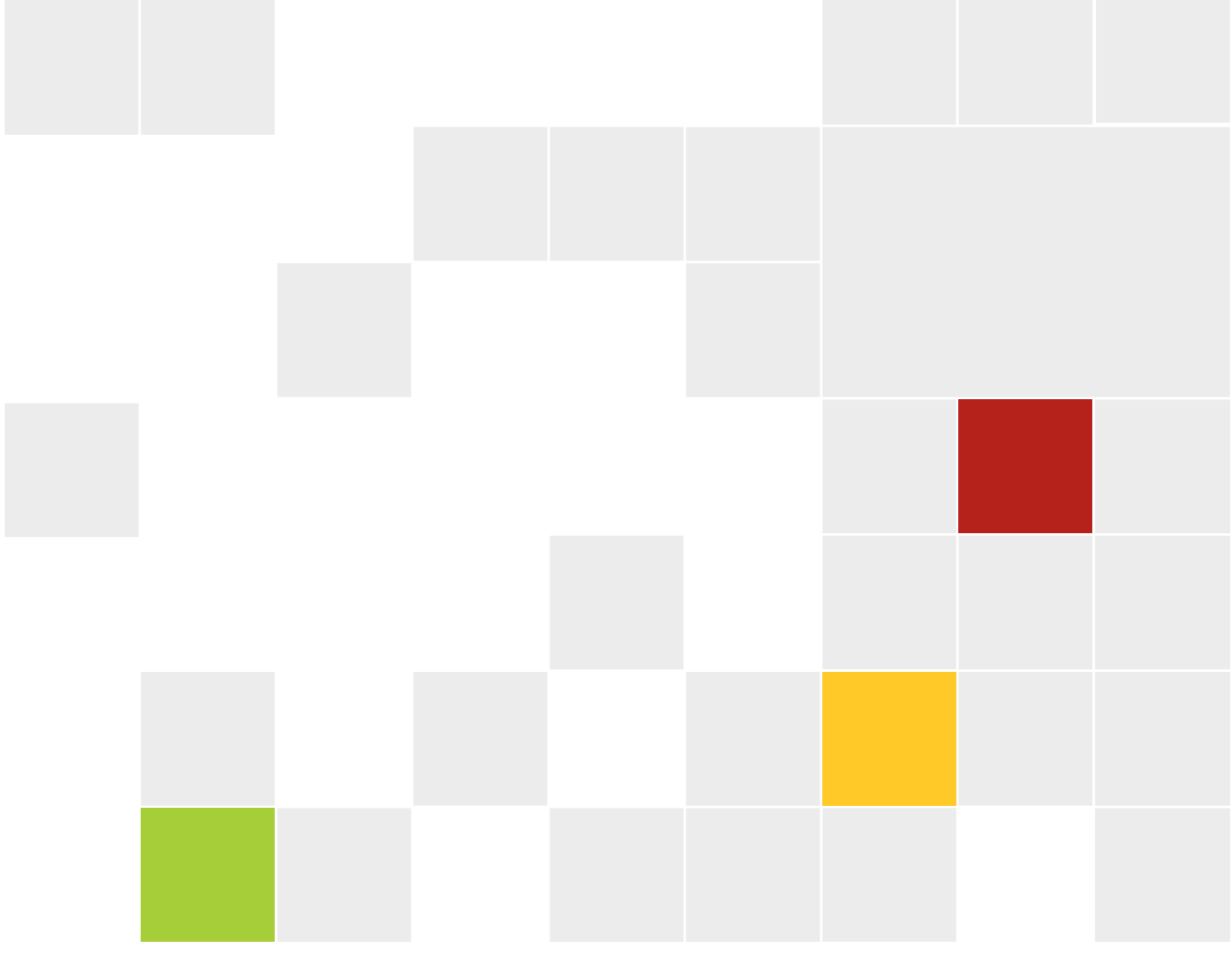
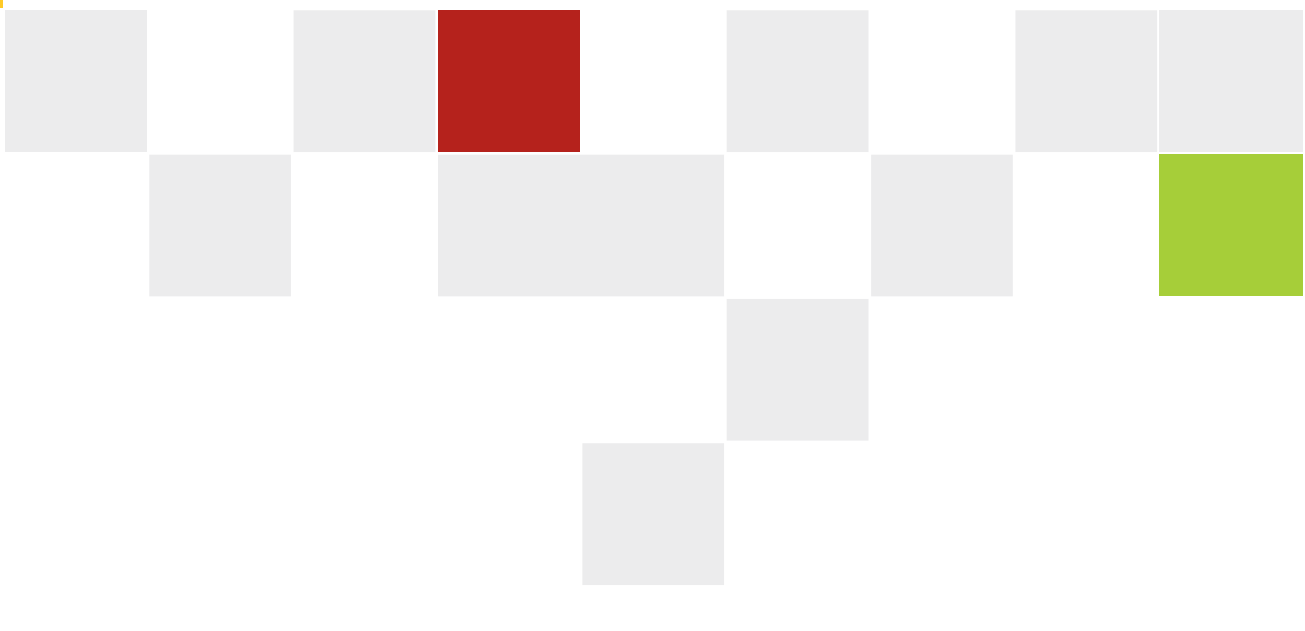




Land off Junction 38, M4, Margam

Environmental Statement

Volume 3: Non-Technical Summary



Boyer

Prepared on behalf of Sandvik Osprey Ltd | February 2022

Report Control

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Table 3.1 – Summary of Proposed Development

1. INTRODUCTION

1.1 This is the Non-Technical Summary (NTS) of the Environmental Statement (ES), which has been prepared to accompany a full planning application for the development of a metal processing facility comprising the development of a metal processing facility and associated buildings.

1.2 The description of development is as follows:

“Full planning application of the development of a metal processing facility totalling 28,500sq.m of floorspace comprising a powder processing plant (17,377sq.m), warehouse and store (5,428 sq.m) office building (1,442 sq.m), amenity building (776 sq.m), laboratory (200 sq.m), services building (470 sq.m), substation (107 sq.m), phase 2 (2,700 sq.m), CCTV and parking on-site at J38, M4, Margam, Port Talbot”.

1.3 The location of the application Site lies within the Neath Port Talbot Country Borough Council (NPTCBC) and is shown at **Appendix 1**. An Illustrative masterplan has been included at **Appendix 2**.

1.4 The Site comprises approximately 7ha of land at J38 (M4) Margam. The Site is allocated as a strategic site within Policy SP11 Employment Growth and EC1/2+ Employment Allocation of the Local Development Plan. The allocation is identified for employment uses across B1, B2 and B8 use classes.

1.5 An Environmental Impact Assessment (EIA) has been undertaken. The findings of this assessment are documented in the ES and summarised in this document.

The Environmental Statement

1.6 The ES provides the overall findings of the EIA for the Proposed Development in a non-technical fashion, using plain English wherever possible.

1.7 The ES comprises the following:

- Volume 1 – Main ES;
- Volume 2 – Technical Appendices;
- Volume 3 – Non-Technical Summary.

1.8 The ES was prepared and co-ordinated by Boyer. Specialist consultants were commissioned to undertake the technical assessments required for the EIA and to write the corresponding ES chapter.

1.9 The ES is available to view online at NPTCBC's website and direct from Boyer.

2. METHODOLOGY

What is an Environmental Impact Assessment?

- 2.1 An EIA is a means of drawing together, in a systematic way, an assessment of the likely significant environmental effects of a project. This helps to ensure that the importance of these effects, and the scope for reducing them, are properly understood by the public and the Local Planning Authority, before a decision is taken on a planning application.
- 2.2 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) sets out the procedure for identifying those projects which should be subject to an EIA. An EIA is only required where a project is likely to have a significant effect on the environment.

Screening

- 2.3 No formal Screening Opinion was requested, as it was accepted that the Proposed Development due to its scale constitutes EIA development, and rather the applicant proceeded to seeking an EIA Scoping Opinion as outlined below.

Scoping

- 2.4 On the basis that the Proposed Development is deemed to be EIA development requiring an application to be accompanied by an ES, a Scoping Request was submitted to NPTCBC in June 2021. The Scoping Request was based upon a Proposed Development of a metal processing facility comprising of 18,250 sq. m of operational buildings, an additional 1,848 sq. m of administration, HR and support buildings and up to ca. 300 parking spaces on-site was considered to represent a worst case scenario in terms of maximum quantum of development.
- 2.5 The Council's Scoping Response was received on 24th August 2021, confirming the suggested Technical Chapters to be included in the assessment
- 2.6 The EIA focusses on assessing the 'main' or 'significant' environmental effects of the Proposed Development. In this case, these assessments relate to the following effects:
 - Ecology;
 - Transport;
 - Waste;
 - Socio-Economic;
 - Hydrology, Flood Risk and Drainage; and
 - Air Quality;
 - Agricultural Land and Soils;
 - Archaeology and Cultural Heritage;
 - LVIA; and
 - Noise
 - In-combination and cumulative effects developments.

2.7 The Scoping Opinion also confirmed that the following topics are scoped out:

- Arboriculture

2.8 The justification for the above issues being Scoped Out was that the submitted Scoping Report states that there are no significant effects anticipated in respect of arboriculture. The planning application will be supported by an Arboricultural Assessment in accordance with BS 5837:2012, Trees in Relation to Design, Demolition and Construction. The reasoning to scope out arboriculture was agreed with NPT, however reference to trees will be made in the Ecology and Nature Conservation section within Chapter 10.

2.9 In respect of cumulative effects, the table below details those nearby developments which the NPTCBC agreed should be considered in its scoping response. These effects of these developments have been considered alongside the effects of the Proposed Development to establish whether there are any significant cumulative effects.

Table 1.1: Cumulative Sites Assessed

Site	Site (and planning application No. if available)	Site Status	Proposed Development Summary	Reason for selection
	Tyn Y Caeau Tyn Y Caeau P2020/0601	Appeal Lodged and in progress.	Change of use from dwelling house and annex building into a mixed used development consisting of guest house accommodation consisting of 16 guest rooms, with associated bar, cafe and spa facilities, and truck stop with 21 HGV parking spaces. The proposal includes the demolition of an existing single storey rear extension, and the erection of a single-storey rear extension, together with widened site access, additional internal access roads, parking areas and associated works. (Bat survey and mitigation submitted 18/09/2020)	

3. SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The Site

- 3.1 The Site is located on the southern end of NPTCBC, set off the western side of the A48 Margam Road, which runs between Junction 38 of the M4 motorway at Margam, and roundabout junction with the A4241 'Harbour Way' dual carriageway to Margam Steelworks. The site is within the administrative boundary of Neath Port Talbot Council. (Please refer to the site location plan enclosed at **Appendix 1**).
- 3.2 The Site comprises an irregular parcel of land measuring approximately 6ha. It is bound by native hedgerow that wraps around the eastern and southern boundaries that border the A48, Heolcae'r-Bont (Longlands Lane) and the Wales Coastal Path (WCP). To the north and west of the site lies the access road to the adjacent Western Wood Energy Plant and Margam Green Energy Plant that feeds into the A4241 and A48. Beyond this areas of wet woodland are located with the BOC Plant and the Port Talbot Steel Work located approximately 1.13km away. The currently vacant small holding of Tyn-y-Caeau is located to the immediate north-east and contains an established woodland within its' grounds along the eastern site boundary that is protected by a Tree Preservation Order (Ref. T364).
- 3.3 The Site currently comprises arable farmland. There are no Public Rights of Ways (PROWs) on or immediately abutting the Site, however the Wales Coastal Path wraps the eastern and southern boundaries that provides a recreational route footpath across the Margam Moors, crossing the main Swansea/Paddington railway and Kenfig River into the Kenfig National Nature Reserve.
- 3.4 The Site is predominantly located in Flood Zone A. Meanwhile parts of the highway and a small catchment to north of the site are identified within Zone B and Zone C2 with the attached Low Flood Risk from rivers, and surface water & small watercourses.
- 3.5 There are no listed buildings within the Site boundary.
- 3.6 The Site is located approximately 0.09km from the designated Special Landscape Area (SLA) and Landscape of Historic Interest that contains the Margam Park Historic Park and Garden and Conservation Area within which numerous Grade I and Grade II Listed Buildings and Scheduled Ancient Monuments lie. Moreover, to the south of the site a Site of Special Scientific Interest (SSSI) is located at the Eglwys Nunydd Reservoir.
- 3.7 The Site includes trees that do not benefit from Tree Preservation Orders, and these trees will be retained where possible as part of the Proposed Development. The application is supported by an Aboricultural Impact Assessment, which confirms that these trees will be protected.
- 3.8 The topography of the site is relatively level ranging from 460m above sea-level to the east and 557m above sea-level in the west.

Surrounding Location

- 3.9 The Site is located on the southern edge of Neath which is situated within the administrative boundary of Neath Port Talbot County Borough Council and, as such is surrounded by areas of both built up development to the north and east and countryside land to the south.
- 3.10 The Site is contained by clear boundaries. It is bound by native hedgerow that wraps around the eastern and southern boundaries that border the A48, Heolcae'r-Bont (Longlands Lane) and the Wales Coastal Path (WCP). To the north and west of the site lies the access road to the adjacent Western Wood Energy Plant and Margam Green Energy Plant that feeds into the A4241 and A48. Beyond this areas of wet woodland are located with the BOC Plant and the Port Talbot Steel Work located approximately 1.13km away. The currently vacant small holding of Tyn-y-Caeau is located to the immediate north-east and contains an established woodland within its' grounds along the eastern site boundary that is protected by a Tree Preservation Order (Ref. T364).
- 3.11 Although no Listed buildings are located within the Site boundary, the Grade II Listed Margam Crematorium and Longlands House are found to the south of the site.
- 3.12 The Site is located adjacent to the Tyn Y Caeau site, an application for the formation of a truck stop, change of use of existing dwelling to guest accommodation with café and spa facilities, together with HGV parking area and associated infrastructure, was refused in October 2020 and is currently pending decision at appeal.

NPTCBC Local Plan - Site Allocation EC1/2

- 3.13 The Site has been included as an allocation for employment use within the adopted Local Development Plan, identified as allocation EC1/2. The relevant policy states that the Site lies to the south of Harbour Way and adjacent to the A48 and M4 and thus benefits from excellent road transport links. Allocation EC1/2 is expected to meet the following criteria:
- Contain B1,B2 and B8 uses;
 - Ancillary facilities or services which support and complement the wider role and function of the primary employment use;
 - Commercial services unrelated to class B.
- 3.14 The Proposed Development has been directed by the policy requirements set out within this policy.

Nature of the Proposed Development

- 3.15 The Proposed Development subject of this ES is for:

“Full planning application of the development of a metal processing facility totalling 28,500sq.m of floorspace comprising a powder processing plant (17,377sq.m), warehouse and store (5,428 sq.m) office building (1,442 sq.m), amenity building (776 sq.m), laboratory (200 sq.m), services building (470 sq.m), substation (107 sq.m), phase 2 (2,700 sq.m), CCTV and parking on-site at J38, M4, Margam, Port Talbot”.

Proposed Development

- 3.16 A full description of the Proposed Development is provided in the Design and Access Statement (DAS) that accompanies the Planning Application.
- 3.17 A summary of the different land use elements of the Proposed Development is provided below:

Table 3.1: Summary of Land Use Components

Land Use	Use Class and Quantum
Office	B1 (a) – 1,442 sq.m
Powder Processing Plant / laboratory/ Phase 2	B2 – 20,277 sq.m
Warehouse and store / Services / Amenity / Substation	B8 – 6,781 sq.m
Total	28,500 sq.m

4. ALTERNATIVES AND DESIGN EVOLUTION

- 4.1 This section outlines the main alternatives considered and the main reasons for selecting a preferred option, taking into account the environmental effects of the Proposed Development, as required by the EIA Regulations.

1. Do Nothing

- 4.2 Whilst the site is allocated within the Local Development Plan EC1/2 for employment use (B1, B2 and B8) there are a number of challenges with Sandvik's existing site in terms of safety, productivity and limited space for expansion, electricity and inert gas capacity issues which restrict the ability for an expansion of the existing site.
- 4.3 Given the sites allocation, the site has been considered as an acceptable location for the proposed development as the intended use is in accordance with national and local policy. Notwithstanding, the proposed site provides a long-term solution for the safety and productivity issues currently experienced at the existing site.
- 4.4 The site would benefit from a dedicated biomass electricity supply and inert gas connection, which would enable Sandvik to extend their services and expand production. The location of the proposed site results in improved transport links, efficient building design and indoor logistics which significantly improves the environmental effects of the business. The proposed spacious site layout would also enhance the safety of the site via segregated operational and domestic traffic site access.
- 4.5 The Do-Nothing scenario would limit the economic performance of the company and restrict the opportunity for additional jobs and training opportunities within Neath Port Talbot. There are no other sites within Neath Port Talbot that can provide the dedicated biomass and inert gas connection required by Sandvik. A worst-case scenario could be the loss of Sandvik, a major employer within Neath Port Talbot, which in turn would result in a significant impact to the economic performance of the region.
- 4.6 In light of the above, a Do-Nothing scenario is not considered appropriate to sustain the long-term growth of the global engineering group Sandvik. Specifically, the Do-Nothing scenario would also restrict the long-term economic growth of Sandvik and economic performance of Neath Port Talbot.

2. Alternative Strategic Development Location

- 4.7 The Site has been included as a strategic allocation for an employment-led development in the adopted Local Development Plan.

- 4.8 This allocation has therefore been subject to a Sustainability Appraisal undertaken by NPTCBC in accordance with the Strategic Environmental Assessment (SEA) Regulations. The Sustainability Appraisals assessed the Site against alternative Site's to determine the most suitable and sustainable locations for development. The process to date has concluded that the Site is a suitable location for development of the scale proposed and, moreover, integral to the ability for the Local Plan to deliver the required amount of employment land to meet local need.
- 4.9 The Site was also assessed through NPTCBC's Economic Land Study (2012) which re-identified the site as a suitable site for employment land. As outlined earlier in the ES the Site is a historic allocation which was previously allocation for 27ha of employment land, however as a result of the 2012 Economic Land Study, it was found the quantum of land allocated was greater than the requirement. Subsequently, the Site was re-allocated within the adopted LDP to include a reduced area of 6ha.
- 4.10 As a result of this process, it is not considered necessary to repeat the assessment of alternative Site's through this ES.

3. Design Configurations for the Proposed Development within the Site

- 4.11 The Proposed Development has been informed through the policy requirements set out within the Policy confirming the allocation, as set out in the preceding Chapter, and the Site's design configuration process which has been developed through the Site's constraints and opportunities.
- 4.12 The Proposed Development has resulted from technical appraisals and understanding of Site constraints, together with extensive early engagement with officers and relevant stakeholders including the local community. This engagement has continued through the application preparation with meetings/discussions held with NPTCBC and statutory consultees, Parish Councils and Ward Members in the form of Pre-Application discussions and Pre-Application Consultation (PAC).
- 4.13 The engagement has included a detailed programme ensuring consistent engagement with the Council, stakeholders and statutory consultees throughout the evolution of the proposals and the application process.
- 4.14 Throughout the engagement and consultation process the design has evolved in response to Site characteristics, policy requirements of the Local Plan, and discussions with officers and stakeholders. This engagement has informed the preferred proposed layout, in consideration of reasonable alternatives.
- 4.15 A summary of the consultation undertaken is detailed in Chapter 1. The full detail of the consultation and engagement undertaken is also set out within the accompanying Planning Statement, PAC Report and Design and Access Statement.
- 4.16 The alternative options were not considered appropriate.

Summary

- 4.17 Overall design options have evolved in response to Site opportunities and constraints and consultation with key stakeholders and members of public. The Parameters now sought are considered to result in a lower magnitude of effect in Environmental terms when compared with the alternatives discussed, particularly in respect of landscape and heritage.
- 4.18 Further detail of design evolution and alternatives considered is provided within Design and Access Statement included in the Planning Application submission.
- 4.19 The alternatives have been assessed and the proposed development is considered to be the most reasonable form of development, in light of consultation, planning policy context and technical evidence available and is not considered to result in any significant environmental effects to reasonable alternatives, as the development has been designed to minimise and mitigate potential impacts.

5. CONSTRUCTION PROGRAMME AND METHODS

Introduction

- 5.1 This Chapter details the proposed Construction Programme and Methods of Construction. Consideration of the likely significant effects of the Construction Phase on the environment has been assessed within each of the respective Technical Chapters.

Indicative Construction Programme

- 5.2 The indicative construction programme, which has formed the assessment of the ES assumes that development would commence in August 2022, over a period of four years and completed in July 2026.
- 5.3 The construction programme assumes around 7,125m² floorspace is completed each year.
- 5.4 The Planning Application is supported by an indicative Phasing Plan , which proposes the phasing of the Site's delivery. This has been prepared in discussions with the technical consultants and is broken down into five key stages:

Phase	Timescale
Planning Consent	June 2022
Construction Phase	August 2022 – December 2023
Equipment Phase 1 Install	December 2023 – May 2024
Phase 2 Equipment transfer from Neath	June 2024 – May 2026
Decommission and Sale of Neath	July 2026

- 5.5 As detailed at the end of this Chapter, appropriate construction methods will be adopted to ensure that construction does not result in a significant effect on the environment.
- 5.6 A future full CEMP will also include appropriate construction hours (to be agreed with NPTCBC) and the implementation of Site hoarding, where necessary and justified, to mitigate noise and visual impacts from the construction

Construction Trip Generation

- 5.7 The number of construction workers entering the Site is unknown at this time because the planning application for the Proposed Development is in outline. An assumption has been made with regards to the construction phase traffic movements, and this has been assessed as part of the EIA. The detail of the traffic movements associated with the construction phase is included in the Traffic and Transport Chapter of this ES. This is also shown in the table below.

Sustainable Modes of Construction and Nature and Quantity of Materials

- 5.8 The Proposed Development will adopt usual sustainable methods of construction for industrial development.
- 5.9 The scheme will be built in accordance with the latest iteration of the Building Regulations. A range of sustainable design and construction measures will be used, including:
- Improved energy efficiency through siting, design and orientation;
 - A fabric first approach to carbon emission reduction;
 - Low water use sanitary features; and
 - Where appropriate, the use of recycled materials / or materials capable of being recycled.

Materials

- 5.10 The DAS provides information with respect to the indicative materials palette which include horizontally spanning cladding, micro ribbed horizontal insulated cladding, glazed powdered coated aluminium windows, glazed coated aluminium panels and polyester powdered coated aluminium double glazed commercial grade door.

Construction Environmental Management Plan (CEMP)

- 5.11 This application is accompanied by a draft CEMP (contained in Technical Appendix 5.1 of Volume 2 of the ES). The CEMP identifies a range of proposed mitigation measures for the predicted construction impacts of the development, and will include:
- Work activities will be restricted to the permitted site working hours. It is not anticipated there will be any activity on Sundays or Bank Holidays. Deliveries to and removal of plant, equipment, machinery and waste from site will take place within these permitted hours.
 - Machines and vehicles in intermittent use will be shut down or throttled down to a minimum during periods between work;
 - Start-up plant and vehicles sequentially rather than all together;
 - There will be a 15mph speed limit within site boundaries;
 - Careful selection of quiet plant and machinery to undertake the required work where available;

- All major compressors should be sound reduced models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use;
- Any ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers;
- Machines in intermittent use should be shut down in the intervening periods between work;
- Ancillary plant such as generators, compressors and pumps should be placed behind physical barriers and the direction of noise emissions from plant including exhausts or engineers should be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers or enclosures should be utilised around noisy plant and equipment;
- Handling of all materials should take place in a manner which minimises noise emissions;
- Audible warning systems should be switched to the minimum setting required by the Health & Safety Executive.

6. SUMMARY OF TECHNICAL CHAPTERS

- 6.1 The ES comprises a series of Chapters considering the positive and negative effects of the Proposed Development upon particular aspects of the environment including Ecology; Arboriculture; Transport; Waste; Utilities; Energy; Health; Socio-Economic; Hydrology, Flood Risk and Drainage; and Geotechnical. The Chapters report the results of the EIA, setting out the impacts and the significance of effect the Proposed Development would have on the environment.
- 6.2 The significance of these effects can be identified for all impacts as a result of the Proposed Development as being negligible, minor, moderate or major. Typically, a significance of effect of moderate or greater is considered 'significant' in EIA terms and will normally trigger the need for mitigation if that effect is adverse.
- 6.3 This section of the NTS sets out the main findings in respect of each topic area in terms of the predicted impacts and significance of effect as a result of the Proposed Development, mitigation measures proposed to avoid, reduce or remedy the significant negative environmental effects and any remaining residual effects.

Ecology

Baseline Conditions

- 6.4 The desk study consultation confirmed that the Application Site does not hold any designation for nature conservation. However, the Site is located within 500m of Eglwys Nunydd Reservoir Site of Special Scientific Interest (SSSI). The reservoir is designated for its reedbed and standing water habitats which are known to support a large number of wintering and migrant waterfowl. The site (Eglwys Nunydd) is also locally designated as a Site of Importance for Nature Conservation (SINC). The Site is also located within 100m of Junction 38 Wetland Complex SINC, which supports priority habitats such as wet woodland, fen and purple-moor grass and rush pasture habitats. The site has potential hydrological links to both Eglwys Nunydd Reservoir SSSI and Junction 38 Wetland Complexes SINC via a small number of ditches within the Proposed Development boundary and surrounding area.
- 6.5 The baseline conditions of the Site's ecological features are summarised below:
 - The improved grassland across the site was generally considered of Negligible importance.
 - The areas of semi-improved neutral grassland were considered to be of Local importance.
 - The poor semi-improved grassland habitat was considered of to be of importance within the immediate zone of influence.
 - Marshy grassland habitats are considered to be of Local importance.
 - All examples of woodland at the Application Site are considered to be of Local importance.

- The small extent of scrub habitat present, the dense continuous scrub were considered to be of importance within the immediate zone of influence.
- All hedgerows at the site were considered to be of Local importance.
- Invasive species would be considered of Negligible importance although do need to be considered in terms of control/eradication methods as part of the development.
- The presence of Great Crested Newts at the proposed site was considered unlikely, but the habitats at the site were still considered to be of importance within the immediate zone of influence for other common amphibian species.
- The occasional use of habitats on site by individual badgers cannot be precluded and the habitats at the site were considered to be of importance within the immediate zone of influence.
- The Application Site was considered to be of County importance for foraging and commuting bats based on the results of the automated surveys (peak count).
- The surveys confirmed the presence of a small/individual Pipistrelle Day roost, which would be considered of Low conservation importance (based on Bat Mitigation Guidelines, 2004) and was assessed to be of Local importance.
- Various bird species were found on site, however none of which are of conservation concern, and were assessed as being of importance within the immediate zone of influence.
- The presence of the Hazel Dormouse at the site was considered unlikely and the site was assessed to be of Negligible importance.
- The site was assessed to be of importance at a level within the immediate zone of influence only regarding common reptiles.
- The Brown-Banded Carder Bee was recorded on site. Given the presence of priority species, the site was assessed to be of Local importance with regards to terrestrial invertebrates.

Assessment of Effects

Construction Effects

Eglwys Nynydd Reservoir SSSI and SINC

- 6.6 The Application site contains a small ditch (located within the area of marshy grassland) which may share hydrological links with the wetland habitats at the SSSI and SINC, currently drains into the Margam Moors drainage system. Whilst a significant impact is unlikely, in the absence of mitigation measures, a minor adverse impact is probable.

Junction 38 Wetland Complex SINC

- 6.7 As above, the Application Site may share hydrological links to the wetland habitats located at the Junction 38 Wetland Complex SINC (located approx. 50m west of the site). Whilst no direct impacts to the features of the SINC are likely to occur, in the absence of mitigation measures with regards to water pollution/run-off, a minor adverse impact is probable during the construction phase.

Margam Country Park SINC

- 6.8 Based on the physical separation and barriers between the sites there are unlikely to be any significant impacts to the SINC features during the construction phase and a neutral impact is probable.

Poor semi-improved grassland

- 6.9 The layout plan indicates that the majority of species-poor semi-improved grassland, will be lost as part of the Proposed Development. As such a significant adverse impact on this habitat is certain during the construction phase (Moderate Impact certain).

Semi-improved neutral grassland

- 6.10 The area of grassland is located within an enclosed field parcel at the northern extent of the Proposed Development boundary and no adverse impacts are expected to occur to this habitat as a result of the development during the construction phase (Neutral impact probable).

Marshy grassland

- 6.11 A small area of marshy grassland in the north-west will be lost (approx. 390m²) during the construction phase of the Proposed Development to accommodate the proposed Office Building, car parking spaces and access road. The other area of marshy grassland identified within the northern field parcel, considered to be of greater ecological importance, will be retained (approx. 1200m² retained). A significant impact is unlikely given that the larger area will be retained in the north and the loss in the north-west considered to be a minor adverse impact locally.

Broad-leaved semi-natural woodland

- 6.12 The layout plan indicates the Proposed Development will result in the direct loss of a number of trees within the small woodland parcel/copse at the centre of the site to accommodate an access road. The direct loss of trees, in the absence of mitigation, is unlikely to result in a significant adverse impact (i.e. 8% loss) although will result in a minor adverse short-term impact at the local scale. Other potential impacts include the spread of invasive species (i.e., Japanese Knotweed) in the absence of appropriate control measures/mitigation.

Dense/continuous scrub

- 6.13 The construction phase of the Proposed Development is likely to result in the direct loss of most of the scrub habitat and a significant adverse impact is certain, which in the absence of mitigation, will result in a Moderate adverse impact locally.

Defunct species-rich hedgerow

- 6.14 A defunct species-rich hedgerow separates the northern and southern field parcels at the site. The construction phase of the Proposed Development will require the removal (direct loss) of a short section of this hedgerow at separate points at the eastern and western extents to accommodate the site access roads (approx. 30 linear metres). The retention of the majority of the hedgerow in a continuous length (existing length approx. 120m so loss of approximately 25%) is such that a significant impact is unlikely although, in the absence of mitigation, a minor adverse impact is likely at the local scale.

Species-rich hedgerow with trees

- 6.15 Access to the Proposed Development will utilise pre-existing gaps within the species-rich hedgerow with trees along the southern boundary. It is unlikely that there will be any direct loss of these hedgerow habitats both here and along the eastern boundary. On this basis, a significant impact is unlikely with a Neutral impact probable resulting from the construction phase.

Amphibians

- 6.16 Potential impacts to amphibians during the construction phase of the Proposed Development include an increased risk of injury or mortality from construction activity and the direct loss of foraging habitats and resting places. The majority of the grazed grassland at the site was considered generally unsuitable for amphibians and consequently, a significant adverse impact is unlikely. However, in the absence of mitigation, a short-term minor adverse impact at the local level is certain.

Badger

- 6.17 Potential impacts to badgers during the construction phase include an increased risk of injury or mortality from construction activity and the direct loss of foraging habitats (i.e., grassland and woodland). Given that no evidence of use by Badgers was noted during the surveys and use is likely to be occasional/irregular, a significant adverse impact is unlikely. However, loss of foraging areas and risk of injury/mortality is such that short-term minor adverse impact at the local level is probable.

Bats – foraging/commuting

- 6.18 The majority of foraging habitats and linear features at the site will be retained, however, the construction phase of the Proposed Development will result in the direct loss of trees located within the woodland copse and along the boundary to the grounds at Tyn Y Caeau. Potential impacts to foraging/commuting bats during the construction stage will include the direct loss of habitats and fragmentation of habitats. Retention of the majority of commuting/foraging areas is such that a significant adverse impact is unlikely although in the absence of mitigation, a short-term adverse impact at the local scale is certain based on an overall loss of resources and potential fragmentation of habitats for species such as Myotis and Lesser Horseshoe.

Bats – roosting

- 6.19 The survey work identified the presence of a small/individual Pipistrelle day roost within one of the trees, which is to be retained as part of the Proposed Development. However, tree T409 (assessed to have moderate potential to support roosting bats) will be removed. Potential impacts will include a risk of injury or mortality to roosting bats, disturbance to roosting bats. On the basis that tree roosts will be retained a significant impact is unlikely although a short-term minor adverse impact is still considered probable in the absence of mitigation.

Birds

- 6.20 Potential impacts to birds during the construction phase of the Proposed Development include an increased risk of injury or mortality from construction activity and direct loss of habitats. As described for bats, the retention of the majority of existing hedgerow and woodland habitats is such that a significant adverse impact on the bird assemblage is unlikely. In the absence of mitigation, a short-term minor adverse impact is certain at the local level based on an overall loss of resource.

Reptiles

- 6.21 Potential impacts to reptiles during the construction phase of the Proposed Development include an increased risk of injury or mortality from construction activity and the direct loss of foraging habitats. The majority of the grazed grassland at the site was considered generally unsuitable for reptiles and consequently, a significant adverse impact is unlikely. However, in the absence of mitigation, a short-term adverse minor impact at the local level is certain.

Terrestrial invertebrates

- 6.22 Retention of the majority of hedgerow, northern grassland and copse is such that a significant adverse impact on the invertebrate assemblage is unlikely although a minor adverse impact locally is certain due to an overall loss of resource.

Operational Effects*Eglwys Nynydd Reservoir SSSI and SINC*

- 6.23 During the operational phase no further impacts to the Eglwys Nynydd Reservoir SSSI and SINC are expected. The surface water drainage design will aim to control the quality of run-off from the site via infiltration and attenuation measures. As such, a neutral impact in the long-term is probable.

Junction 38 Wetland Complex SINC

- 6.24 Similarly to above, based on the drainage design for the Proposed Development no further impacts to the Junction 38 Wetland Complex SINC are expected to occur during the operational phase. A neutral impact in the long-term is probable.

Margam Country Park SINC

- 6.25 Based on the physical separation and barriers between the Application Site and Margam Country Park SINC no adverse impacts on the features of the SINC are considered likely during the operational phase. A neutral impact in the long-term is probable.

Semi-improved neutral grassland

- 6.26 No direct habitat loss is likely during the operational phase of the Proposed Development. However, potential indirect impacts to this habitat could occur via disturbance from increased levels of traffic and people (e.g., dust, litter, trampling), and via a lack of appropriate management. In the absence of appropriate management or mitigation measures, a significant adverse impact is unlikely although a long-term minor adverse impact locally is probable.

Marshy grassland

- 6.27 No further habitat loss is expected during the operational phase of the Proposed Development and there would be no change to hydrology/drainage in the northern part of the site. As above indirect impacts/disturbance to these habitats could occur as a result of increased levels of traffic and people and via a lack of appropriate management. In the absence of appropriate management or mitigation measures, a significant impact is unlikely although long-term minor adverse impact locally is probable.

Broad-leaved semi-natural woodland

- 6.28 No further habitat loss is likely during the operational phase of the Proposed Development and a significant impact is unlikely. Potential indirect impacts to broad-leaved woodland habitats at the Application Site during the operational phase include disturbance associated with increased levels of use by traffic and people as well as increased levels of artificial light levels and indirect impacts as detailed above. A short-term minor adverse impact is likely at the local level. Once new tree and woodland planting (632m² new woodland mix and 265no. new tree planting), as per the development proposals, becomes established in the medium to long-term this is likely to offset short-term loss of trees and provide a minor/moderate beneficial impact.

Dense/continuous scrub

- 6.29 No further loss of scrub habitats are expected during the operational phase of the Proposed Development. Once new tree and woodland planting becomes established in the medium to long-term, this is likely to offset any short-term loss of habitats during the initial construction phase resulting in a minor to moderate beneficial impact.

Defunct species-rich hedgerow & Species-rich hedgerow with trees

- 6.30 No further loss of hedgerows habitats are expected during the operational phase with most impacts from resulting from short-term loss during construction. Any short-term loss of hedgerow habitats is likely to be off-set by new hedgerow (approx. 1,256m²/305 linear metres) and supplementary planting (approx. 80 linear metres) included in the landscape proposals. As new planting becomes established in the long-term a minor to moderate beneficial impact is probable at the local scale.

Amphibians

- 6.31 In the short-term there will be a direct loss of foraging habitats for amphibians onsite. In the medium to long-term this loss will be offset by new woodland and tree planting and the provision of attenuation features, which when established could provide temporary or seasonal habitats for amphibians. However, in the absence of detailed design and planting mixes, a Neutral impact on amphibians is likely.

Badger

- 6.32 Impacts to badgers during the operational phase of the Proposed Development include an increased risk of injury and mortality associated with traffic levels at the site. However, no setts or evidence to suggest the current use of The Site by badger was found during the survey so this risk is generally considered to be a low. As such although a long-term minor adverse impact is likely, this is not considered to be significant.

Bats – foraging/commuting

- 6.33 Impacts to foraging and commuting bats associated with the operational phase include the long-term loss of foraging and linear habitats at the site and habitat fragmentation resulting from an increase in artificial light levels. Any inappropriate site lighting of the currently unlit hedgerows and woodland is likely to have a significant adverse long-term impact on the use of the site by these species. Whilst the direct short-term loss of foraging and commuting habitats are likely to be offset by new tree and shrub planting in the long-term, in the absence of mitigation measures (in particular site lighting) a long-term significant adverse impact is likely at the local scale.

Bats – roosting

- 6.34 Potential impacts to roosting bats at the site include disturbance to roosting bats from increased levels of people and traffic at the site (e.g., artificial light, noise etc.). In the absence of mitigation, a significant adverse impact is unlikely although a long-term minor adverse impact is probable based on an overall loss of resources.

Birds

- 6.35 No further habitat loss for nesting and foraging birds is likely during the operational phase of the development and in the long-term replacement landscape planting will provide a net-gain in resources for the assemblage of scrub and woodland nesting birds identified at the site. A significant adverse impact is unlikely although impacts during the operational phase include an increased risk of injury and mortality associated with increased levels of traffic at the site. Overall, a short-term minor adverse impact is probable until new planting matures, reducing towards minor beneficial in the long-term.

Reptiles

- 6.36 In the short-term there will be a direct loss of foraging habitats for reptiles onsite. In the medium to long-term this loss will be offset by new woodland and tree planting and the provision of attenuation features, which when established could provide new foraging habitats for reptiles within the local vicinity. However, in the absence of detailed design and planting mixes, a Neutral impact on reptiles is likely.

Terrestrial invertebrates

- 6.37 No further habitats loss for terrestrial invertebrates is likely and in the long-term replacement landscape planting and attenuation features will provide resources for the assemblage of invertebrates identified at the site. A significant adverse impact is unlikely although impacts during the operational phase include disturbance to habitats from increased levels of use by people and traffic. Overall, a short-term minor adverse impact is probable until new planting matures, reducing towards a minor beneficial impact in the long-term.

Mitigation

- 6.38 Mitigation measures for the Proposed Development incorporate the following key features:

Construction Phase

- Vegetation clearance within the site boundary to be undertaken outside of the bird nesting season (i.e., clearance possible between September – February);
- Habitats of suitability for common reptiles and amphibians to be cleared via a phased directional process. Works to be undertaken during the active reptile season (between April – September);
- Any large excavations will be covered overnight or a means of escape provided to minimise the risk that Badger or any other small mammals that may become trapped;
- Retention of known bat roost and provision of replacement roosting opportunities onto retained trees;
- Soft felling approach to removal of trees with Moderate and Low potential to support roosting bats;
- Provision of bird boxes onto retained trees to provide replacement for loss of nesting resource at the site;

- Clear demarcation and/or treatment/removal of invasive species;
- Protective measures to safeguard retained habitats and trees to be detailed within a Construction Environmental Impact Plan (CEMP);
- The design of site lighting to minimise artificial light spill onto retained hedgerows and other linear habitat features at the site. These features are to be maintained as 'dark corridors' for bats and other nocturnal wildlife; and
- Drainage strategy (Pollution prevention strategy) to minimise potential run-off from the site to prevent adverse impacts to designated sites with hydrological connections (i.e., Egwlys Nynydd Reservoir SSSI & SINC). To ensure the delivery of appropriate mitigation measures during the construction phase a CEMP will be prepared by the appointed contractor. The CEMP would be agreed with the Local Planning Authority prior to the commencement of construction works.

Operational Phase

- New hedgerow, tree and woodland planting across the site, to include native species or those with a known biodiversity benefit (approx. 632m² of new woodland, 265no. new tree planting and 1,256m²/305 linear metres new hedgerow planting);
- Native wetland planting within attenuation features (approx. 1,228m² wet grassland mix);
- Landscape plan to include approx. 1,003m² meadow grass mix;
- Management of retained and created woodland as appropriate through selective thinning, coppicing and supplementary planting as well as restricted access via dedicated footpaths, signs and fencing;
- Bird boxes for species such as House Sparrow and Swallow positioned on new office building;
- Management of retained and created hedgerows as appropriate through trimming, hedge laying, coppicing and supplementary planting (approx. 80 linear metres) to improve structural integrity and species diversity;
- Management of retained and created grassland (marshy and neutral grassland and meadow grass mix) as appropriate to maintain structural integrity and species diversity;
- Sensitive timings of site lighting during operational phase to minimise artificial light spill onto retained habitats e.g., timing restrictions during summer months when bats are active.
- Surface water quality for site runoff will be managed via infiltration and

Residual Effects

6.39 The following section assesses the residual impacts of the Proposed Development on ecological features with mitigation & enhancement measures now taken into account. The residual effects are summarised below:

- A significant impact to the SSSI and SINC is considered unlikely with a neutral impact probable during both the construction and operational phase.

- No significant impact is considered likely at the adjacent Junction 38 Wetland Complex SINC with a neutral impact probable in both the short and long-term.
- No significant direct or indirect impacts are considered likely to occur to the Margam Country Park SINC and no mitigation measures have been included within the EIA. A neutral impact is probable in the long-term.
- Regarding the semi-improved neutral grassland, a significant (positive) impact is unlikely although in the medium to long-term a localised minor beneficial impact is probable.
- The larger parcel of existing marshy grassland in the north of the site will be retained and managed to ensure its long-term biodiversity function. Whilst the direct loss of habitats during the construction phase will result in short-term minor adverse impact, following the implementation of mitigation measures (i.e., management of retained and created marshy grassland habitats) this impact will change to a localised minor beneficial impact in the medium to long-term.
- In the short-term, the direct loss of semi-natural broad-leaved woodland and trees during the construction phase of the Proposed Development will result in a minor adverse impact locally on woodland habitats at the site. In the medium to long-term, mitigation measures and new woodland and tree planting as part of the landscape proposals, is likely to reduce this from an adverse impact to a minor to moderate beneficial impact in the long-term as new planting matures.
- A short-term significant moderate adverse impact is likely to arise from the localised loss of small areas of dense scrub. New tree and shrub planting as part of the landscape proposals will provide a net-gain in scrub resources and change this to a localised minor to moderate beneficial in the medium to long-term as new planting becomes established.
- With regard to hedgerows, overall a minor to moderate beneficial impact in the long-term is probable as new hedgerow planting becomes established.
- The landscape proposals in addition to the design of attenuation features for biodiversity benefits will off-set any short-term habitat losses for amphibians, providing a net-gain in viable habitat resources in the long-term resulting in a minor beneficial impact at the local scale.
- When considering residual effects on badgers, a minor adverse impact is considered probable in the short-term, this is likely to change to a Neutral impact in the long-term as new planting becomes established.
- Following the proposed mitigation for foraging and commuting bats, a minor adverse impact in the short-term is likely. However, a significant impact is not considered likely, reducing to a neutral or minor beneficial impact in the long-term.
- In terms of roosting bats, a short-term minor adverse impact is likely, not considered to be significant. In the medium to long-term the loss of trees are not considered to have a significant impact on the availability of roosting locations for local bats. Additionally, replacement bat boxes will be installed on retained trees as part of the mitigation proposals. As such a neutral long-term impact is likely.
- Following the proposed mitigation measures for birds, a minor adverse impact is likely, not considered to be significant. The provision of replacement nesting resources will offset this loss in the medium to long-term reducing this impact to minor beneficial.

- The landscape proposals in addition to the attenuation features design will offset any short-term habitat losses, providing a net-gain in viable habitat resources for reptiles in the long-term resulting in a minor beneficial impact at the local scale.
- Lastly, with regard to terrestrial invertebrates, a localised minor beneficial impact is likely in the medium to long-term.

Summary

- 6.40 The likely significant effects of the construction and operation of the proposed development with regards to ecological features are considered to be predominantly Negligible or Minor as a result of a comprehensive plan of mitigation measures. The detailed assessment in Chapter 10 has established one major adverse effect regarding the poor semi-improved grassland and a moderate adverse effect for the dense/continuous scrub for the construction phase.
- 6.41 Following the implementation of mitigation measures, no likely significant effects have been identified as a result of cumulative impacts.

Transport

Baseline Conditions

- 6.42 The site is situated to the northwest of Junction 38 of the M4 and is access from an unadopted road which links to the A48/A4241 roundabout at its northern end. This unadopted access road serves the Margam Green Energy Plant and Western Woof Energy Plant. The site's current use is for agricultural purposes and has gated access from its southern side onto Heol Cae'r Bont as well as from the north via the unadopted road.
- 6.43 The site is allocated for employment use in the NPTCBC LDP under Policy EC1/2. This specifically references the site's strategic employment allocation benefiting from '*excellent road transport links*' that will minimise the level of operational traffic through residential or sensitive areas. Therefore movements associated with an employment use have been accepted by NPTCBC.
- 6.44 The surrounding highway network currently accommodates a significant level of traffic, including a high level of industrial traffic and HGVs. The access road linking the site provides a single carriageway with footpaths, measuring 11m wide and is designed to accommodate HGV traffic. The A4241 and A48 are both dual carriageway roads with the A48 providing a direct route to the M4 J38 and a barrier separated footway/cycleway to the west of the carriageway. The A4241 provides a key link which routes to the south of Margam and Port Talbot connecting industrial areas and Baglan. The A4241 also connects to Junction 41 of the M4.

- 6.45 No Personal Injury Accidents (PIA) occurred adjacent to the site boundary or along the site access road linking to the A48 roundabout. Analysis of the PIA data suggests that there is no specific safety issue for HGV routing within the site. Additionally, no evidence suggests there is a safety issue relating to vulnerable road users (pedestrian or cyclists), at pedestrian crossings or in relation to HGVs, nor evidence to suggest a re-occurring road safety issue. The relatively low number of collisions across the five-year period, combined with a low severity rating overall, indicates that this large area of Margam and associated junctions and links do not have an inherent road safety issue.
- 6.46 Two junctions covering 9 highway links were assessed for traffic flows to establish a baseline traffic position. The site access road has an extremely low baseline flow but has been designed to accommodate significantly higher levels of traffic.
- 6.47 In terms of sustainable connectivity, the site is connected by footways that link to a shared footway/cycleway (National Cycle Network Route 4). The route benefits from dropped kerbs with central refuges and tactile paving at each crossing and is considered suitable and safe to accommodate all movements. Cycle Route 4 connects with other routes to the north and south of the site on the A48, including connecting to Port Talbot Parkway Rail Station.
- 6.48 NPTCBC active travel maps indicate the site as having continuous active travel routes connecting to the key local residential areas. Travelling to the site by walking and cycling are both considered a feasible and realistic options for employees (and visitors) of the site.
- 6.49 Various bus services link the site to Port Talbot centre and Port Talbot Parkway Rail Station, both of which interchange opportunities to a significant number of other services to wider destinations. As such, travelling by rail and cycle (or bus) to the site provides a reasonable alternative for some employees, particularly those travelling longer journeys to the site

Assessment of Effects

Construction Effects

- 6.50 The number of daily vehicles associated with the construction will be lower than the number of operational vehicles and it is therefore considered that the below assessment of operational vehicles represents an overestimate of the likely effect of construction vehicles. The construction traffic would be temporary in nature, therefore the operational traffic flows are considered to provide a robust worst case of the significance of the transport effects.
- 6.51 A Construction Traffic management Plan will be entered with NPTCBC prior to commencement, and include working times vehicle routing and site management of vehicles and workers. There are appropriate routes for accommodating construction vehicles which are already in use by HGVs and have spare capacity. No significant environmental effects are predicted, as such the effects of generated traffic during the construction phase would be negligible and not significant.

Operational Effects

- 6.52 Excluding the site access road, the only highway links to experience increases in flows in excess of 10% are the southbound off-slip and the northbound on-slip onto the M4 (i.e. flows to and from the northwest). These links are of negligible sensitivity and as such, this level of increase is considered of negligible magnitude and no further detailed assessments of any of these links are required.
- 6.53 The effects on all other highway links would be of negligible significance and are considered to be Not Significant.
- 6.54 The site access road increases are a direct result of the extremely low baseline flows. The Proposed Development traffic would be significantly below the capacity for a link road such as this, indicating there would be no material change in queuing or delay on this arm at the A48/A4241 roundabout. There would be no significant change to the composition of traffic as there are forecast to be minimal level of HGVs.
- 6.55 As such, although there is a large percentage increase, this would have a minor effect in significance in accordance with Table 5. With regard to the EIA Regulations, the effects are considered to be Not Significant.
- 6.56 Traffic flow assessments indicated there is spare capacity at the key junctions and the Proposed Development would not have a material impact on capacity. Therefore, there is not significant effect on driver delay as a result of the Proposed Development.

Mitigation

- 6.57 A Travel Plan has been produced and submitted with the application. This encouraged sustainable modes of travel and provides measures to reduce vehicle generation on the transport network and further minimise the impact of the Proposed Development on the network.

Residual Effects

- 6.58 No transport or highway mitigation is required to accommodate the Proposed Development as it would not have a significant environmental effect or a material impact on the operation of the highway.
- 6.59 The assessments made demonstrate that the Proposed Development would have negligible and not significant environmental effects in relation to transport. As such, the residual effects would remain unchanged from those set out above.

Summary

- 6.60 Assessments have been undertaken of the effect of traffic associated with the Proposed Development on the transport network considering environmental criteria as set out within the IEMA Guidelines.

- 6.61 The Proposed Development was shown to increase traffic flows by less than the significance thresholds on all links within the study area. The site access road flows would remain well within the capacity of the road, as base flows are extremely low, and would not have a significant effect in environmental terms.
- 6.62 Based on the IEMA guidance, the Proposed Development would have a negligible and not significant environmental effect in relation to transport.

Waste

Baseline Conditions

- 6.63 The proposed development site currently comprises agricultural land to the south of Margam. The site contains a number of fields, hedgerows and trees.
- 6.64 The site is currently grazed by cattle and therefore currently produces minimal amounts of waste.
- 6.65 Manufacturing specialist waste management company Forward Waste are currently contracted for the existing Neath site and would be instructed at the proposed development. Forward Waste's East Moors site in Cardiff has a remaining capacity of approximately 3,500 tonnes per annum (tpa). However, it is reiterated that as this proposal is for a replacement metal processing facility this waste is therefore already being generated and accepted at the site. The only change in the proposals in respect of waste management would actually reduce the capacity impact on the East Moors facility.

Assessment of Effects

Construction Effects

- 6.66 For the construction phase there are no demolition works required. Therefore the site preparation will comprise the excavation of soils and the majority of which could be reused on site.
- 6.67 80% of the total quantity of construction waste would be recycled, this would equate to around 766tpa of construction waste. The assessment determined that sufficient local capacity is found within the area to manage the predicted quantities of construction waste. The magnitude of impact on waste recycling infrastructure (of low sensitivity) arising from the construction waste is slight negative which results in an effect of negligible significance. This is not a significant effect. The nature of this effect is a direct and would be a temporary impact on recycling infrastructure capacity.

- 6.68 The residual amount of up to 20% of the construction waste would require further management and equate to approximately 191tpa over a four-year construction period. The magnitude of impact of construction waste disposal from the site on available landfill capacity (of high sensitivity) is considered to be negligible negative. This is regarded as having a negligible significance. This is not a significant effect. The disposal of waste to a landfill site is a direct and permanent effect on landfill capacity
- 6.69 The potential effects on human receptors from the construction phase includes site workers in the handling of waste. Site workers are assumed to operate in accordance with environmental and health and safety legislation with relevant training and Personal Protective Equipment (PPE) provided to staff. The magnitude of the impact from wastes on construction workers (of very high sensitivity) is therefore assessed as being negligible negative. The significance of this impact on site workers (of very high sensitivity) is assessed as being negligible significance. This is not regarded as a significant impact. The nature of potential impacts on human receptors is direct (from physical contact with waste), temporary and reversible.
- 6.70 Residents living in close proximity to the site would not be exposed to construction waste nor affected by its generation, storage or handling.

Operational Effects

- 6.71 The assessment for the operational effects identified the appointing of a specialist manufacturing waste management contractor suggests that an above average recycling rate is achieved. Where these waste streams are already being produced at the current facility in Neath, the magnitude of impact on recycling waste infrastructure (of low sensitivity) arising from commercial waste arisings is considered to be negligible positive. This is due to wood waste would now be managed through other means at the adjacent Western Wood Energy Biomass Plant. This is regarded as having negligible significance. This is not a significant effect. The nature of this effect is a direct and temporary impact on recycling infrastructure capacity.
- 6.72 Aside from wood, there would be no change to the management of waste types at the current and new facilities. Therefore there would be no impact on waste disposal infrastructure capacity.
- 6.73 Potential landfill sites have also been identified, although it is considered that no waste generated in the site's operation, or at worst nominal quantities, would need to go to landfill. In terms of non-hazardous commercial waste, the magnitude of impact of waste disposal from the site on available landfill capacity (of high sensitivity) is considered to be negligible negative. This is regarded as having a negligible significance. This does not represent a significant effect. The disposal of waste to a landfill site is a direct and permanent effect on landfill capacity.

6.74 The potential operation effects on site works have been assessed and providing relevant training and PPE is delivered to staff the following conclusions can be drawn. The magnitude of the impact from wastes on site-based workers (of very high sensitivity) is therefore assessed as being negligible negative. The significance of this impact on site workers (of very high sensitivity) is assessed as being negligible significance. This is not regarded as a significant impact. The nature of potential impacts on human receptors is direct (from physical contact with waste), temporary and reversible.

6.75 Residents living near the site would not be exposed to operational (commercial and industrial) waste and would not be affected by the generation, storage or handling of these wastes.

Mitigation

6.76 A number of mitigation measures are included within the development's design and in terms of waste management. These include the following:

- All buildings to be constructed to BREEAM excellent standard;
- Meet the five basic 'designing out waste' principles developed by the Waste & Resources Action Programme where possible;
- Developer's commitment to meeting the pre-determined resource efficiency and landfill diversion targets;
- Implementing a Site Waste Management Plan;
- Construction waste to be prevented at source as far as possible, for example pre-fabricated structures off site, structural repetition, and sustainable procurement of building materials etc. ;
- Reuse and recovery of waste on-site;
- Construction development phases for effective segregation and secure storage of waste;

6.77 For the operational phase, mitigation is proposed through the use of a specialist waste management contractor Forward Waste. The proposed development would provide appropriate and safe access for refuse collection.

6.78 In considering the potential environmental effects arising from waste generated at the site during both the construction and post-construction (operational) phases of development, no potentially significant effects have been identified.

6.79 Inherent mitigation measures would adequately control any potential impacts arising from the development. No additional mitigation measures are therefore considered necessary

Residual Effects

6.80 No potential significant effects have been identified arising from the predicted waste generated during either the site preparation and construction phase or the operational phase.

Summary

- 6.81 The proposed development would generate a range of wastes from all phases of the scheme, including site clearance and preparation, construction works as well as the operation of the plant and associated activities.
- 6.82 A number of mitigation measures have been included within the scheme design in order to minimise the amount of waste produced. Throughout the construction phase, consideration would be given to the scope for reusing or recycling wastes in preference to sending it for energy recovery or disposal. There are a number of local waste management facilities which would enable waste to be managed sustainably and in accordance with the Waste Hierarchy. It is considered that significant effects on sensitive receptors, such as waste management capacity or construction workers, would not arise as a result of construction waste production.
- 6.83 The operational phase of the site would produce a range of wastes, a small proportion of which would be classified as hazardous waste. Forward Waste manage these waste streams currently at the existing site in Neath and no additional waste would be generated by this development. Forward Waste manage waste in accordance with the Waste Hierarchy. No significant effects are predicted on waste management capacity or on human receptors, such as site staff and visitors

Socio-Economic

Baseline Conditions

- 6.84 Neath and Port Talbot is made up of both rural open valleys and more built up centres along the costal corridor, within which Margam falls just outside of the town of Port Talbot. The baseline conditions detailed above already account for the employment of the existing facility located Milland Road, Neath. The population of Neath Port Talbot has experienced a minor increase in recent years of approximately +1,000 since 2018 and has a projected increase of 5.28% by 2040, which is significantly higher than the projection for Mid and South West Wales.
- 6.85 Unemployment and economic activity are identified issues within the area, as well as levels of multiple deprivation in particular overall, employment and education determinants.
- 6.86 Of the 0-10% most deprived LSOAs in Wales for the overall deprivation, 14 are within the NPT local authority. Employment and education deprivation score the highest for number of LSOAs within the 0-10% most deprived with health and income following shortly behind.
- 6.87 Although the trend for NPT indicates only 8.8% of the LSOAs are within the 0-10% most deprived for the physical environment, this more than trebles to over a quarter (26.4%) of the LSOAs in NPT that fall within the top 20% most deprived. Notably, the Margam 2 ward places within the 10-20% most deprived in terms of physical environment. Margam's access to services also places the ward among the 20-30% most deprived.

- 6.88 Compared with Wales as a whole, on average Neath Port Talbot has a weaker economy in terms of jobs density, with a greater proportion of the working population employed in occupation groups 4-9. Most notably, NPT has a significantly smaller proportion of the working population employed within professional occupations, indicating a smaller professional and corporate workforce.

Assessment of Effects

Construction Effects

- 6.89 The duration of the construction period is considered to be short term given the relatively short construction period proposed from Summer 2022 to Summer 2026. The economic impact arising from construction activities will be positive, temporary (during construction phase only) and relatively local in scale but with a positive widespread multiplier effect and of slight magnitude resulting in Minor Beneficial effects on the economy at a County level in terms of the construction employment, GVA added and opportunities for training and apprenticeships.

Operational Effects

- 6.90 The operational impact of the Proposed Development in relation to the economy is considered to be positive, permanent, and local in scale and of slight magnitude resulting in a Minor Beneficial effect on the economy of the area.

Mitigation

- 6.91 No significant adverse effects have been identified that would require mitigation for either the construction or operational phase of the proposed development. Any requirement for mitigation will be discussed with the relevant authorities and addressed through the appropriate tests planning obligations under S106 of the Act.

Residual Effects

- 6.92 There are no significant adverse effects identified which require further mitigation, beyond that already included within the design of the Proposed Development. As such, the residual socio-economic effects are the same as the significance of effects.

Summary

- 6.93 The construction phase will provide minor beneficial employment effects for the proposed development. The operational phase will also provide minor beneficial employment effects. As above, the majority of the residual effects identified from the Proposed Development are either negligible or beneficial, which means that the change will either be too small to be noticed or will be a positive.

Hydrology, Flood Risk and Drainage

Baseline Conditions

Topography and Land Use

- 6.94 The development site forms a plot of Greenfield land mostly comprised of grassland, scrub and woodland. The site topography slopes downwards from the east towards the western boundary, decreasing from 10.27-15.25 mAOD to 8.25-9.8 mAOD respectively.

Soils and Geology

- 6.95 The areas geology consists of a bedrock of South Wales Middle Coal Measures Formation, which is comprised of mudstone, siltstone and sandstone. The bedrock is overlain by superficial Glaciofluvial deposits of sand and gravel.
- 6.96 The soil is described as freely draining slightly acid loamy soils. Initial studies and subsequent trial pitting indicated the ground profile as follows:
- Topsoil (0.3-0.5m)
 - Firm to stiff clay (1.0-2.0m)
 - Sands and Gravels to depth
 - Middle Coal Measures
- 6.97 Infiltration tests indicate the site appears to have very good soakaway potential.

Hydrology and Surface Drainage

- 6.98 There are no designated watercourses or water bodies within the boundary of the site. The Eglwys Nunydd Reservoir is located approximately 0.45km to the south of the site.
- 6.99 Two culverts are found to the north of the site. An existing drainage ditch crosses the site running east-to-west and drains to a culvert located on the western boundary (Culvert A). This feeds into part of the Junction 38 Wetland Complex SINC which forms part of Margam Moors and eventually is discharged into the sea at Margam Sands.
- 6.100 A second culvert (Culvert B) is located at the north-west corner and serves the highway drainage of Harbour Way and northern access road. Similarly, this is considered to discharge to the SINC and Margam Moors via a balancing pond located outside of the north-west corner of the site.

Foul Drainage

- 6.101 The site is not currently served by dedicated foul sewage system, however a 450 mm diameter combined adopted sewer, currently crosses the site running parallel to and within the eastern boundary. This sewer runs northwards and drains into a pipe located within the roundabout on the A48 and Harbour Way.

Flood Risk

6.102 The submitted Flood Consequence Assessment utilises the Flood Map for Planning and indicates that the majority of the site is within Flood Zone 1 and therefore at very low risk of flooding from tidal and fluvial sources. A small portion of the site on the northern perimeter is located in Flood Zone 2 and 3 for fluvial, tidal and surface water flooding sources.

6.103 The Flood Risk Assessment Wales (FRAW) Map indicates very low risk for the majority of the site except the same areas identified in Flood Zone 2 and 3 for fluvial and surface flood risk as above. However, the FRAW mapping indicates very low risk for the entire site from tidal sources. Flood risk from reservoirs and sewers is also classified as very low.

Water Quality and WFD

6.104 The water quality of the unnamed ditch on-site is likely to be influenced by the surface water entering the watercourse upstream of and inside the site itself. This may include input from highways drainage in the north-west corner. Where the site ditch drains into the Margam Moors designated SINC, the complexities of the hydrology requirements of this habitat indicate the baseline water quality and hydro-morphology status to be high.

6.105 The Water Framework Directive (WFD) identified Cycle 2 waterbody status of the rivers within the vicinity of the site. The Nant Cwm Philip has the overall status of 'Poor' with an objective of 'Good' by 2021. The Ffrwd Wylt River has an overall status of 'Moderate' with an objective of 'Good' by 2027.

6.106 The site and surrounding area is located on a highly vulnerable secondary aquifer that is designated as the WFD Groundwater Body Swansea Carboniferous Coal Measures with a Groundwater Chemical and overall status of 'poor'.

Assessment of Effects

Construction Effects

6.107 Potential impacts on the water environment during construction are expected to be temporary and would relate to:

- Increased overland flow entering watercourses;
- Impediments to flow pathways on site causing changes to drainage conditions;
- Reduction in water quality due to pollution from onsite activities;
- Sedimentation through silt mobilisation entering on-site and off-site watercourses.

6.108 The likely significant effects on the water environment receptors during the construction phase are as follows. The sensitivity of flood risk is considered Medium with a Negligible impact magnitude and therefore has a Negligible impact. The sensitivity of the surface water contained by the unnamed ditch on site is low with the potential impact of increased flow having a Low Adverse impact magnitude and therefore Negligible impact. The potential impacts of both sedimentation and pollution on the ditch is considered to have a Medium Adverse impact magnitude creating overall Minor impacts.

6.109 The likely significant effects on the water quality and morphology of the surface water bodies that form the wetland ditch system of the adjacent SINC are considered to be significant (Moderate) without mitigation in place. The likely significant effect on the groundwater WFD waterbody from pollution events without mitigation measures are also considered significant (Moderate).

Operational Effects

6.110 Potential operational impacts on the water environment are expected to be permeant and would relate to:

- Sedimentation and pollution;
- Flood risk and increased flow;
- Foul drainage.

6.111 The sensitivity of the surface water of the unnamed ditch is considered low with the potential impact of increased flow being low adverse, providing a negligible likely significant effect. The potential impact of sedimentation and pollution both have medium adverse impact magnitude and therefore minor likely significant effects.

6.112 Surface water flood risk to the receptors on site is deemed to result in a likely significant effect (Moderate) if no mitigation measures are in place. A likely significant effect (Major) is also concluded for the impact on the water quality and morphology of the surface water bodies without mitigation in place. A likely significant effect on the groundwater WFD waterbody from pollution events is also concluded (Moderate).

Mitigation

Construction Phase

6.113 A Construction Environment Management Plan (CEMP) will be developed and agreed with relevant stakeholders to ensure the impacts of sedimentation and pollutants will be implemented by adherence to strict protocols. The CEMP will be regarded as tertiary mitigation and developed in accordance with best practice, incorporating on-going monitoring by environmental clerks of construction works.

6.114 Measures and procedures implemented in the CEMP should reduce the potential effect of water quality. This measures include:

- Minimising sediment load in runoff by covering/sealing exposed surfaces. Early re-seeding of cleared land where practicable to minimise exposed land and the entrainment of sediment by overland flow. Construction plant / materials will be stored on hardstanding surfaces where possible; if not, the contractor will ensure any compacted topsoil is loosened as soon as possible following completion of the works.
- Protection measures will control potentially contaminated construction runoff. No runoff from working areas will be discharged into controlled waters unless specific approval has been obtained in advance from NRW.
- Restrictions on use of unnecessary machinery near to adjacent water. Exclusion zones around particularly sensitive areas may be implemented. Any works within these areas undertaken with the necessary regulatory consent.
- Prevention of runoff from unaffected areas mixing with construction runoff.
- Controls on the use of potential pollutants such as cementitious materials.
- Correct storage, handling and use of hazardous substances (liquid and solid). Adequately bunded and secure areas with impervious walls and floor will be provided for the temporary storage of fuel, oil and chemicals on site during construction. Drip trays will be in place to collect leaks from diesel pumps / standing plant. Oil interceptor(s) will be fitted to all temporary discharge points and for discharge from any temporary oil storage / refuelling areas. Suitable spill kits will be available on site.
- Where possible, the attenuation pond/infiltration basin within each identified drainage catchment will be constructed first and used to attenuate and store run-off from the site during construction to prevent possible contamination of the surface and groundwaters. If this is not possible, use of temporary settlement and detention basins will mitigate the risk of increased flows and sediment loads from construction activities.
- The relevant sections of BS6031:2009 Code of Practice for Earthworks will be followed and reference should be made to SuDS best practice during construction.

Operational Phase

6.115 The proposed development would be accompanied by a drainage strategy to manage surface water runoff from the site and associated risks to water quantity and quality. The Preliminary Drainage Strategy can be regarded as tertiary mitigation when approved by the relevant authorising organisation (SAB). The relevant measures are as follows and ensure the mitigation for likely significant effects:

- Drainage Strategy to implement Sustainable Drainage Systems (SuDS) in accordance with Welsh Government's SuDS Statutory Standards and obtain SAB approval from NPTCBC.
- Attenuate surface water runoff and volume from impermeable developed areas up to 1 in 100 year rainfall event plus a 40% allowance for climate change.
- Flow discharge rate off-site will be maintained at or below the present Greenfield runoff rate for the 1 in 100 year plus climate change rainfall event.
- Exceedance flow pathways for higher magnitude events will manage the risk to on site receptors

6.116 The Drainage Strategy will also control low flow discharges from the site for the morphological protection of the receiving surface watercourses. This mitigation measure will reduce the risk of likely significant effects from surface water runoff to the downstream receiving watercourse and SINC drainage ditches.

6.117 The Drainage Strategy divides the site into five sub-catchments with various discharge arrangements such as: discharging into the existing highway drainage system via Culvert B that enters an existing highway drainage balancing pond; discharge into the ground via cellular soakaway; discharge into the ground via infiltration basin; and into the existing site drainage ditch that feeds into the SINC watercourse via Culvert A.

6.118 The proposed attenuation would take the form of attenuation ponds, infiltration basins, cellular soakaways and attenuation tanks. Source control measures have also been implemented in the proposed Preliminary Drainage Strategy.

6.119 A management train will be applied for surface water treatment from the proposed development site in line with industry best practice and mitigate pollution from surface water such that the development will not result in likely significant effects to water quality receptors.

Residual Effects

6.120 The construction phase impacts are not considered to cause likely significant effects on the water environment receptors; all effects are classified as Negligible or Minor. The mitigation measures listed are considered to be standard measures to reduce the effects and no actionable measures to remedy effects are necessary.

6.121 The impacts during the operational phase are not considered to cause likely significant effects on the water environment receptors; all effects are classified as Negligible or Minor. The mitigation measures listed are considered to be standard measures to reduce the effects and no actionable measures to remedy effects are necessary.

Summary

6.122 The likely significant effects of the proposed development with regards to flood risk, hydrology and drainage are considered to be Negligible or Minor as a result of planned tertiary mitigation measures. In particular, this includes implementation of:

- A robust and monitored CEMP to mitigate potential impacts during construction;
- A site drainage strategy approved by the SAB in accordance with the industry best practice outlined in CIRIA C753 SuDS Manual for management of runoff volumes, rate and water quality.

6.123 No likely significant effects have been identified as a result of cumulative impacts.

Air Quality

Baseline Conditions

- 6.124 The UK Pollutant Release and Transfer Register has identified significant industrial emission sources that have been operational for a number of years and contributing to the local air quality. These existing pollution sources are likely accounted for in ambient monitored data and background concentrations.
- 6.125 Local nitrogen dioxide monitoring sites operated by The Council indicate the measured annual mean of NO₂ concentration to have remained well below the objective at all nearby monitoring stations. Using Defra roadside concentration data, compliance along the M4 is expected by 2024; thus, no exceedances are expected in the study area.
- 6.126 Background concentrations of various heavy metals have been recorded at the Port Talbot Margam site located approximately 3km north-west of the development site. These concentrations comprise of chromium (0.005), nickel (0.001), copper (0.018) and lead (0.008). All of which falls below the EAL ($\mu\text{g}/\text{m}^3$).

Assessment of Effects

Construction Effects

- 6.127 Construction effects such as on-site exhaust emissions have been considered and are to be controlled as per the CEMP. It is judged that there is no risk of significant effects at existing receptors as a result of on-site machinery emissions.
- 6.128 Potential construction dust from earthworks and construction have been considered and indicate the dust emission classes for earthworks and construction to be large and track out. Dust emission class is considered medium. The potential area surrounding on-site work is of medium sensitivity to dust soiling and not sensitive to dust soiling due to track out. On site, works are of low sensitivity to human health effects, while the area surrounding roads along which material may be tracked from the site is not sensitive to human health effects.
- 6.129 The resulting risk categories for the proposed construction activities, without mitigation are considered medium for dust soiling and low for human health.

Operational Effects

- 6.130 The road traffic impacts have been assessed for their impacts on human health. The assessed receptors indicate the annual mean nitrogen dioxide concentrations are well below the objective at all receptors and all impacts to be negligible from the operation of the proposed development.
- 6.131 The annual mean PM₁₀ and PM_{2.5} concentrations are well below the relevant criteria at all receptors, with or without the proposed development. Furthermore, as the annual mean PM₁₀ concentrations are below $32 \mu\text{g}/\text{m}^3$, it is unlikely that the 24-hour mean PM₁₀ objective will be exceeded at any of the receptors. The impacts at all receptors are negligible.

- 6.132 The impacts from the proposed powder processing plant have been assessed and the maximum changes in annual mean concentrations are below the EAL screening criteria for most modelled pollutants at the worst-case sensitive receptor locations. For these pollutants, the potential for significant impacts at existing receptors as a result of emissions from the Powder Processing Plant can thus be discounted as insignificant.
- 6.133 With regard to the contribution to annual mean nickel and lead concentration, and the annual mean chromium, nickel, copper and lead deposition rates, all are below 70% of the relevant EALs and MDRs. Thus, indicating that no significant effects will occur.
- 6.134 The emissions of PM10 and PM2.5 associated with additional road traffic from the Proposed Development will have a negligible impact on concentrations at existing receptors. Once combined with the Powder Processing Plant contributions the impacts remain negligible. No other pollutants are emitted by both road traffic and the Powder Processing Plant; thus, the combined impacts of the Proposed Development emissions on air quality at existing receptors are considered to be 'not significant' and no further assessment is required.

Mitigation

- 6.135 The construction works have the potential to create dust. During construction, it will therefore be necessary to apply a package of mitigation measures to minimise dust emissions. Best-practice measures from the IAQM guidance shall be incorporated into the specification for the works throughout the necessary phases of work. These measures include a Dust Management Plan, site management, monitoring, preparing and maintaining the site, operating vehicle/machinery and sustainable travel, operations, waste management, earthwork measures, and construction measures. Greater detail on mitigation is provided in Table A6.1 'Best-practice Mitigation Measures Recommended for the Works' included within the air quality appendix A6 Construction Mitigation.

Residual Effects

- 6.136 In terms of potential dust creation from construction, appropriate measures have been recommended and, with these measures in place, it is expected that any residual effects will be 'not significant'.

Summary

- 6.137 The assessment has considered the impacts of the Proposed Development on local air quality in terms of dust and particulate matter during construction, emissions from road traffic generated by the completed and occupied development, and emissions from the Powder Processing Plant. It has also identified the air quality conditions that would likely prevail in the future. Appropriate mitigation measures have been provided to ensure any residual effect from construction will be not significant. The operational development is not predicted to result in any significant effects on the existing receptors considered within this assessment in relation to air quality.

Health

Baseline Conditions

- 6.138 The public health profile for the surrounding area shows that life expectancy is lower than the Wales average around the site. 73.3% of the population of NPT are reported as having 'Good' general health. In terms of lifestyles and physical activity, approximately 66.6% of the borough adults were classified as overweight or obese – above the national value of 60%. The social and community influences on health revealed NPT to be made up of predominantly 'white' population (95.4%) with English or Welsh as the predominant language of 99.0% of households.
- 6.139 In terms of living and environmental conditions affecting health, the submitted Transport Assessment provides an analysis of personal injury accidents data records, identifying no significant issues associated with the local highway network that are detrimental to road safety levels. A full Air Quality Assessment has been undertaken and shows the proposed development is not situated within an Air Quality Management Area.
- 6.140 Additionally, economic conditions affecting health identified that the dominating industry within NPT is manufacturing where the average weekly pay is greater than the average for Wales but less than the UK average. In 2020 figures show that the Local Authority area is less economically active than the Region, and less economically active than the UK Average. ONS data shows NPT residents have obtained a lower level of education and qualifications than the Regional and UK Averages up to NVQ4 (inclusive), the equivalent of a Higher Education Certificate/BTEC.
- 6.141 The Office for Nations Statistics' data for the Annual Population Survey measurements of wellbeing, identify Neath Port Talbot with the highest population percentage in 'Very Good' or 'Good' and the lowest in 'Poor' or 'Fair' when compared against the Regional and UK averages. It can be concluded that the wellbeing in the Local Authority Area is above the Regional Average and in places, above the UK Averages.
- 6.142 The proposed development is located in close proximity to walking and cycling routes, such as the long-distance recreational route of the Wales Coastal Path which extends around the southern and eastern edge of the proposed development site.
- 6.143 The Proposed Development is located on arable land, of which the existing land use does not contain any active Public Rights of Way and it should be noted that this land use is unlikely to have any health or wellbeing benefit to any local populous.

Assessment of Effects

Construction Effects

- 6.144 A Rapid Health Impact Assessment identified the impact of pollution from construction on health in terms of air quality and noise. However, assuming good practice dust control measures are implemented, the residual significance of potential air quality impacts are predicted to be negligible. The prepared Noise Impact Assessment confirms the noise levels at existing noise sensitive properties from the factory and HGVs will meet criteria, however car park noise may likely exceed the proposed noise criteria.
- 6.145 Construction work to the road network may affect community safety and traffic management, resulting in congestion or diversion for both motorise and non-motorised users.

Operational Effects

- 6.146 Once completed the development proposal would have no significant adverse effect across all health determinants, however a series of benefits will be provided from the development. In terms of physical activity, it will benefit from the additional cycle infrastructure as a result of the modal shift towards sustainable transport measures as a result reduction in vehicles movements to and from the site. That in turn will also benefit the traffic NO2 emissions alongside traffic and metal processing plant facility particulate matter. Economic activity is predicted to benefit from the ongoing employment and economic growth from the development proposal.

Mitigation

- 6.147 In terms of construction mitigation, the Air Quality Assessment recommends that principles of standard construction mitigation measures are implemented on site to reduce the impact of construction activities. Following the implementation of mitigation outlined within the CEMP, the impact of construction activities is predicted to be 'negligible'. Moreover, options of screening to mitigate against car park noise should be investigated.

Residual Effects

- 6.148 Overall, there will be no significant adverse effects to health as a result of the scheme.

Summary

- 6.149 The completed Health Impact Assessment concluded that the proposed development is not predicted to give rise to any significant adverse health-related impacts, and that there will be some benefits. A review of the potential effects for both future users of the site and surrounding occupants has concluded that there are no significant adverse effects to health as a result of the scheme.

Land and Soil Resources

Baseline Conditions

- 6.150 The site extends to approximately 6.1ha of agricultural grassland used for grazing cattle. The climate is warm and very wet.
- 6.151 The site geology comprises coal-bearing mudstones and siltstones with sedimentary rock beneath a coal seam and minor sandstones. Superficial deposits of Glaciofluvial sand and gravel overlie the bedrock across most of the site. In the north-west, tidal flat deposits are mapped, containing unconsolidated mud and sand.
- 6.152 The mapped soil information show the site to have soils comprising of stoneless, silty and/or clayey soils with soil profiles that are usually seasonally waterlogged. One main soil type was identified with a topsoil and upper subsoil that is slightly stony, sandy clay loam. The subsoil becomes stonier and coarser texture with depth. The profiles are of Wetness Class I or occasionally WCII and are limited by wetness and workability to Subgrade 3a.
- 6.153 Vegetation observed in the north-western field is characterised by coarse reeds and rushes which thrive in wetter conditions. This land is likely to be wetter than the majority of the Site and is assessed as Subgrade 3b.

Assessment of Effects

Construction Effects

- 6.154 The anticipated effects comprise the loss of agricultural land and potential damage to and loss of the soil resource, both during the construction phase.
- 6.155 The magnitude of change for the agricultural land during construction is negligible, such that the Proposed Development will have a direct permanent negligible adverse effect on agricultural land, which is not significant.

Operational Effects

- 6.156 The principal direct effect of the Proposed Development on the soil resources will be loss of the ecosystem functions if it were handled or stored inappropriately. The topsoil and upper subsoil comprise sandy clay loam which is of medium sensitivity and could be susceptible to damage when being handled and stored.
- 6.157 Prior to mitigation, the magnitude of impact on the soil resources is assessed as medium. The Proposed Development will have direct, long-term moderate adverse effect on soil resources, which is significant.

Mitigation

- 6.158 Mitigation measures seek to minimise the potentially significant adverse effects on the soil resources via a Soil Resources Plan. This will record the existing soil resources of the site, ensuring that they are handled, stored and re-used according to good practice. Soils will be re-used on site for their most suitable purposes and continue to fulfil their various ecosystems functions.

Residual Effects

- 6.159 The residual effect on the agricultural land continues to be negligible.
- 6.160 Following mitigation, the magnitude of change on soil resources is low. This results in a direct, long-term minor effect, which is not significant.

Summary

- 6.161 There are no significant effects on agricultural land anticipated to arise as a result of the Proposed Development.
- 6.162 Prior to mitigation measures, the Proposed Development would have a moderate adverse effect on soil resources. The residual effect following mitigation would be minor and not significant.

Archaeology and Cultural Heritage

Baseline Conditions

- 6.163 No designated historic assets are located within the Site. Although, a number of designated assets are located within the study area, the development is identified as having no effect on any of these designated assets and therefore not considered further.
- 6.164 Remains of a post-medieval structure have been identified within the woodland to the south of Tyn y Caeau Farmhouse. These remains have some limited evidential and historical value and comprise a 'non-designated historic asset' of low importance.
- 6.165 Hedgerows that run along the northern and southern borders that have been identified as 'important' under the Hedgerows Regulations 1997, however comprise 'non-designated historic assets' of low importance. The proposed development will retain these hedgerows and therefore no affect will arise.
- 6.166 Faint linear features in a north/south orientation have been identified in the west of the site, and may indicate post-medieval remains. However, any below-ground remnants would be of insufficient value and therefore not considered further.

6.167 The non-designated Tyn y Caeau Farmhouse is located to the immediate north-east of the Site and comprises a historic asset of low importance. The development holds the potential to adversely affect this historic asset through change to its setting and therefore was subject to further assessment.

6.168 There is some limited general potential for unrecorded historic assets. However, at present the importance of potential assets cannot be ascertained and mitigation is proposed to identify any values and thus their importance. It is considered likely that any such assets would be of no more than low importance.

Assessment of Effects

Construction Effects

6.169 The assessment of construction effects has considered the importance of any currently unrecorded archaeological remains. The impacts on these potential remains would be adverse, direct, permanent and irreversible in nature, and likely result in the complete loss of any archaeological deposits. This equates to a high adverse magnitude of impact, however as archaeological remains of low importance are anticipated this would result in no more than a minor adverse effect – which is not significant.

6.170 The construction work has the potential to affect the ‘setting’ of the non-designated historic asset of Tyn y Caeau. However, the construction work will be temporary and would not result in any appreciable harm to the building’s value.

Operational Effects

6.171 Operational effects have been assessed against the Tyn y Caeau Farmhouse. A low adverse impact to the setting would result from the proposed development which equates to a low adverse effect. This effect will last the duration of the development’s operational cycle and therefore considered a long-term effect and irreversible in nature. The development therefore will produce a low adverse impact to a historic asset of low importance which equates to an overall minor effect – which is no significant.

Mitigation

6.172 A trial trench evaluation is proposed at pre-commencement stage to gather information on the below-ground archaeological resource of the site. A Written scheme of Investigation will set out the agreed scope and methodology to be approved GGAT.

6.173 Construction stage mitigation measures will be informed by the trial trenching undertaken. The scope and methodology of which will be agreed with GGAT.

Residual Effects

6.174 Following implementation of the mitigation measures no significant effects upon any potential archaeological remains are anticipated.

Summary

6.175 In accordance with the Scoping Report, a Historic Environment Desk Based Assessment (HEDBA) has been undertaken in addition to consultation with statutory heritage consultees GGAT and CADW.

6.176 No significant adverse effects upon historic assets are anticipated to result from the proposal.

6.177 A programme of archaeological survey and mitigation will be agreed with GGAT and implemented prior to the commencement of works. This will inform the implementation of any additional mitigation techniques at construction stage.

Landscape and Visual Impact Assessment

Baseline Conditions

6.178 The proposed development site is located on pastoral agricultural land, situated between the M4 motorway and heavy industry, including the Western Wood Energy and Margam Green Energy and BOC Gas and Gear facilities and Margam Steelworks beyond. The coastal plain extending west of the M4 corridor is flat and much dissected by railway lines and pylons, with some irregular fields lined with drainage ditches and scrub. To the south of the site, recreational sports pitches, the Crematorium and the Eglwys Nunydd Reservoir beyond further dilute the coherence of this landscape.

6.179 Beyond the M4 motorway to the east, the landform rises to highpoints at Mynydd Brombil and Mynydd Margam. Below these upland areas Margam Country Park, is an area of designed parkland, mosaic grazed land and mixed woodland. The country park is a significant tourist attraction offering a range of recreational and cultural activities. Beyond Margam Country Park, rolling mixed farmland with small-scale development and recreational uses extends to the south-east. This landscape contains mature hedges and small blocks of woodland and copses that combine with the rolling landform to restrict views, adding to a feeling of intimacy.

Landscape Designations

6.180 Landscape designations provide an indication regarding the value that national and local government, plus other agencies, attach to particular landscapes.

6.181 Designations of relevance within the study area are outlined below:

- Mynydd Margam Special Landscape Area (SLA).
- Mynydd Margam Landscape of Special Historic Interest.
- Registered Parks and Gardens of Special Historic Interest.
- Margam Country Park.
- Margam Park Conservation Areas.

Assessment of Effects

Construction Effects

6.182 The potential effects likely to occur during the construction phases will generally be of lower magnitude overall than those of the operational phase, predominantly due to the temporary nature of the construction phases. However, taller elements such as cranes or piling rigs may be more visually prominent than the operational Proposed Development, but will be likely to occur over a very limited duration. In all cases construction effects will be considered to be adverse in nature.

Landscape Effects

6.183 In terms of landscape effects the existing pasture grassland and topsoil will be removed and the construction area defined with temporary fencing. Existing trees and hedges to be retained will be enclosed by temporary protective fencing during these operations and will be largely unaffected. Topsoil and pasture will be stripped and stored in temporary mounds for reuse within the site where possible.

6.184 The value and susceptibility attributed to the site-based pasture areas will be low. The sensitivity of this receptor will be very low.

6.185 The direct impact of the construction phase of the development will be the temporary imposition of a construction site and operations within the Proposed Development site. The value and susceptibility attributed to the site-based pasture areas will be low. The sensitivity of this receptor will be very low.

6.186 The magnitude of impact will relate to the loss of pasture grassland and is evaluated as low and the significance will be negligible

6.187 Detailed consideration of effects on the LCA's identifies that there will be no significant construction effects.

Visual Effects

6.188 The visual envelope indicates that the extent of the visibility is contained by:

- Elevated topography and steep scarp slopes of the upland areas, particularly Mynydd Bromptil and Mynydd Margam to the east and north-east.
- Housing forming the southern tip of Margam to the north.
- Large-scale buildings of Margam Steelworks to the west.

6.189 The LVIA identifies that significant construction visual effects will be experienced by the following receptor groups:

- Residents of dwellings adjacent to the southern boundary on Heolcaer Bont. These will receive short range views into the Proposed Development site. Within these the temporary fencing and all operations likely to be seen above this will be visible. The

magnitude for these particular receptors will be very high. Combined with the sensitivity, effects will be major adverse and significant.

- Users of the Wales Coast Path. Short range views into the site will be available from this path as it extends around the eastern and southern boundary of the Proposed Development site. Site hoarding/fencing and some construction operations likely to be visible above the fence will be seen at close range. The magnitude of this impact will be very high. The significance of effects, when combined with the high sensitivity, will be major and significant.
- Recreational users of National Cycle Network 04, extending along the A48m to the north of the Proposed Development site. These will receive short range views into the site. Site hoarding/fencing and some construction operations likely to be visible above the fence will be seen at close range. The magnitude of this impact will be high. The significance of effects will be major adverse.

Operational Effects

6.190 The potential effects likely to occur during the operation of the proposed development will generally be of greater magnitude overall than those of the construction phase, due to the permanent nature of the development.

Landscape Effects

- 6.191 The direct impact of the operational stage will be permanent and the sensitivity of areas of the site subject to change, comprising areas of pasture grassland, will be very low.
- 6.192 The magnitude of impact will relate to the replacement of the grassland with the Proposed Development. The magnitude of this direct, site-based impact will be high. The significance will be moderate and not significant
- 6.193 Detailed consideration of effects on the LCA's identifies that there will be no significant operational stage landscape effects.

Visual Effects

6.194 The LVIA identifies that significant operational visual effects will be experienced by the following receptor groups:

- Residents of dwellings to the southern boundary on Heolcaer Bont. These will receive short range views into the Proposed Development site. Within these the façade of the production unit will be immediately apparent as a very-large scale feature that will occupy a wide proportion of the view. Although some filtering and screening of the lower levels of the Proposed Development will be achieved by the existing retained hedgerow and trees within and around the site, the magnitude for these particular receptors will be very high. Combined with the sensitivity, effects will major adverse and significant.
- Users of the Wales Coast Path. Short range views into the site will be available from this path as it extends around the eastern and southern boundary of the Proposed Development site. The production building and car park areas will be seen from short

range and will be dominant in available views. The magnitude of this impact will be very high. The significance of effects, when combined with the high sensitivity, will be major adverse and significant.

- Recreational users of National Cycle Network 04, extending along the A48m to the north of the Proposed Development site. These will receive short range views into the site. The production building and car park areas will be seen in short range views west from the cycle way and will be dominant in available filtered short range views. The magnitude of this impact will be high. The significance of effects will be major adverse and significant.

Mitigation

6.195 Standard construction mitigation measures are included within the CEMP. This will include Tree and Hedgerow Protection measures as identified within the Arboricultural Impact Assessment and Management plan. Therefore, no further construction mitigation measures are considered necessary or proposed.

6.196 Inherent design mitigation has been employed from the initial design stages regarding the layout, scale, massing and other aspects reflect decisions made to avoid or minimise adverse environmental effects, including landscape and visual. These inherent mitigation measures are illustrated on the Masterplan.

6.197 The following green infrastructure soft landscape measures will be embedded as integral in the Proposed Development to reduce adverse effects identified through this assessment.

- Proposed native woodland planting to the eastern edge of the site.
- Structural tree planting in groups within soft landscape areas.
- Hedgerow reinforcement and gapping up with native tree and hedgerow shrub planting.

Residual Effects

6.198 With the implementation of the Outline CEMP, the residual effects during construction on landscape and visual receptors remain as reported.

6.199 There are no mitigation measures considered necessary or included. The operational residual effects remain as reported.

Summary

6.200 Effects assessed as having a level of moderate or greater are considered to be significant. There will be no significant construction stage or operational stage landscape effects. However, significant construction stage visual effects and significant operational stage visual effects will occur.

Noise

Baseline Conditions

6.201 The noise context of the site is established by the adjacent land uses to the west that include well-established and more recent industrial operations: BOC Gas & Gear Margam, Western Bio Energy Power Station, Margam Green Energy Power Station, and the Tata Steel Works. Week-long continuous background sound monitoring has been undertaken at the nearest residential receivers. This soundscape analysis identified that both ambient and background sound levels are generally consistent during the day and night.

Assessment of Effects

Construction Effects

6.202 The project noise criteria has provided a construction noise criterion for which BS5228-1 Thresholds have been identified and are provided below:

Period	BS5228-1 Threshold, dB L_{Aeq}
Daytime (0700-1900hrs) Saturday (0700-1300hrs)	65
Evenings (1900-2300hrs Weekdays) Weekends (1300-2300hrs Saturdays, 0700-2300hrs Sundays)	55
Night-time (2300-0700hrs)	50

6.203 As full details of the construction phase are not currently available, only the legislative background for construction noise and vibration, as well as proposed criteria are included in this report.

6.204 It is anticipated that the construction phase noise and vibration impacts are to be fully evaluated when construction details are finalised and will be subject to the legislative framework, particularly "The Control of Pollution Act (CoPA)", as described in Section 12.2. Details of construction are to be submitted to the Local Authority prior to the development commencing.

Operational Effects

- 6.205 Operational noise has been assessed and includes the Main Production Building (atomising and sizing), External Plan (ventilation and dust extract plant), and HGV movements (access from the north-western entrance). Predicted operational noise indicates the proposed Main Building and Fixed plant noise sources are to be well below the proposed criteria with a margin. Allowing for a minimum penalty for HGV sound source, where the daytime limit is met, based on a worst case 2 HGVs an hour.
- 6.206 The night-time criteria is indicated to be exceeded with the proposed HGV movements. However, it is argued that these are limited to only two night-time HGV visits per week and absolute noise levels are well below the prevailing ambient noise climate at night, the occasional HGV movement should easily be accommodated within the existing soundscape.
- 6.207 Noise levels from the atomising operations within the main building are indicated to have a low noise impact.
- 6.208 Car park noise levels are predicted to be 10dB below the existing prevailing ambient noise level and therefore indicate 0dB change. The noise impact of car parks is assessed as insignificant based on existing ambient noise levels.

Mitigation

- 6.209 As full details of the construction phase are not currently available, a detailed construction noise and vibration impact assessment has not been carried out.
- 6.210 Mitigation if required for the construction phases to be agreed in conjunction with Neath Port Talbot CBC before the development commences when detailed construction plans are available. Construction Noise and Vibration should follow best practical means control measures as outlined in BS5228:2009 parts 1 & 2.

Residual Effects

- 6.211 The noise impact criteria of the proposed development have been established so that the operational noise impact is unlikely to have an adverse impact, and that absolute noise levels from existing surrounding sources are not increased.

Summary

- 6.212 A noise impact assessment has been undertaken of the Proposed Development. The assessment methodology and results are detailed in full in Hunter Acoustics Noise Impact Assessment report 6160/NIA1. This is included in Appendix 12.1 – Noise Impact Assessment Report.
- 6.213 Criteria at the nearest Sound Sensitive Receptors (SSRs) have been established based on results of long-term environmental noise monitoring, and in accordance with current guidance.

6.214 Noise Map modelling of the proposed development has been carried out predict operational noise levels at the nearest SSRs. Overall, a low noise impact is indicated.

6.215 Construction noise and vibration will be controlled by prior agreement with Neath Port Talbot CBC before the development commences.

Cumulative Effects Assessment

6.216 The ES has assessed the potential in-combination (combined) and cumulative of effects as a result of the Proposed Development and other projects taking place within the local area, in particular in relation to:

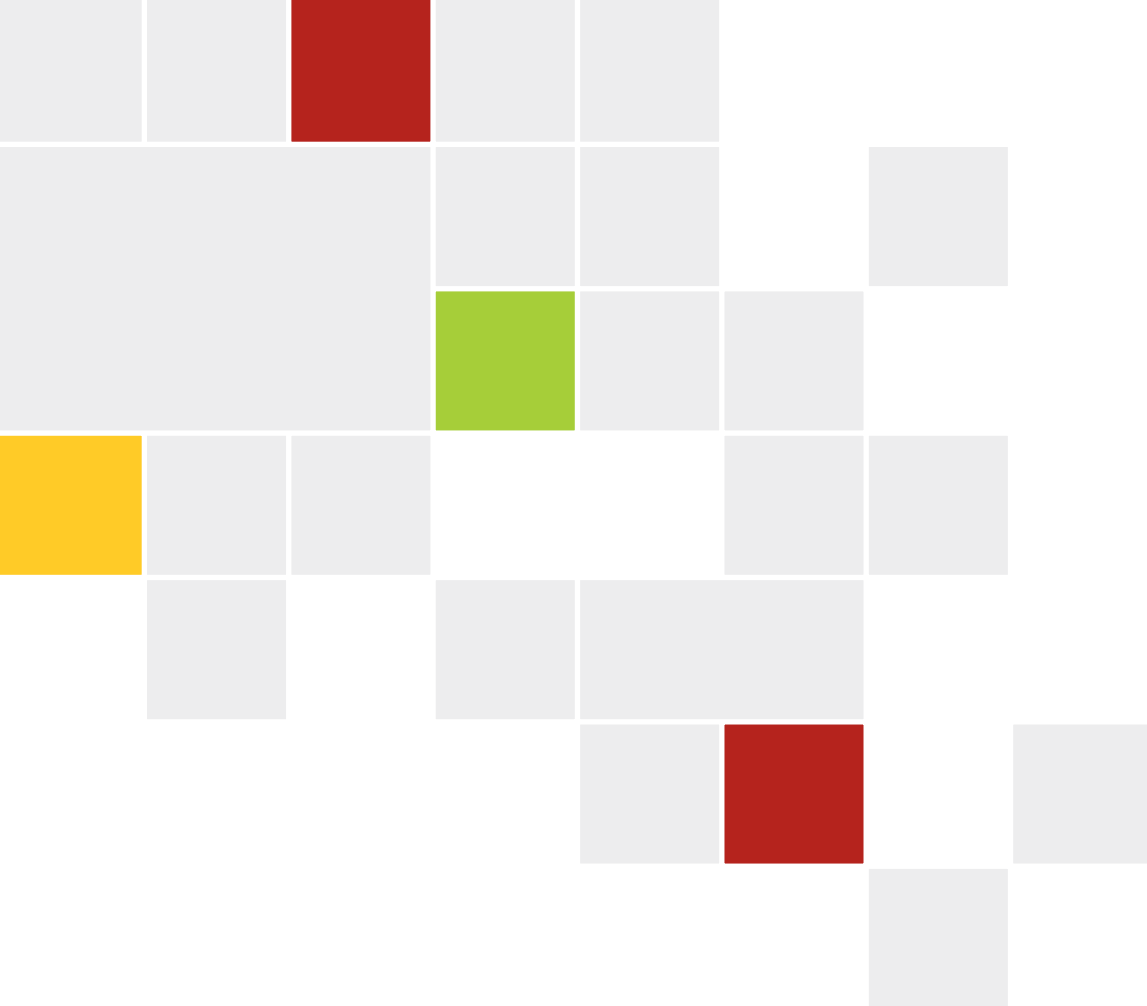
- Socio-Economic;
- Land and Soil Resources;
- Archaeology and Cultural Heritage;
- Landscape and Visual Impact;
- Ecology and Nature Conservation;
- Transport;
- Noise and Vibration;
- Air Quality; and
- Hydrology, Hydrogeology and Geology.

6.217 Importantly, NPTCBC have considered cumulative impacts of the Site in relation to other strategic allocations during the preparation of the Local Plan that allocates the Site. Nonetheless, it has been demonstrated that appropriate mitigation measures can be put in place to ensure that the cumulative effects of the Proposed Development and other schemes result in no **significant effects**. These mitigation measures can be secured through the planning application process through the use of planning conditions and planning obligations where relevant.

6.218 Overall, it is evident from this assessment that the Proposed Development can proceed on its own and in conjunction with other development proposals without any unacceptable in-combination cumulative effects on the local or wider environment.

7. SUMMARY

- 7.1 The assessment of the potential environmental impacts of the Proposed Development at Land off J38 Margam, has concluded that the proposed development it can proceed without causing unacceptable significant effects on either local or wider environments.
- 7.2 The application site is not considered to be sensitive in respect of any environmental receptors, with it not being located within a Landscape Character Area, as such the ES has found that likely impacts of the development proposals are not considered significant.
- 7.3 Through appropriate mitigation measures identified in the ES the effects of the Proposed Development will be minimised.
- 7.4 In conclusion, it is considered that the proposed development is unlikely to result in significant, adverse impacts on the environment and is therefore, acceptable within the context of the EIA Regulations.



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