



Habitat Management Plan

Margam Burrows, National Grid Electricity Transmission

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- Appendix C GCN Survey Reports (RSK Biocensus, 2024; RSK Biocensus 2025)
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1 Introduction

1.1 Overview

- 1.1.1 Stantec was commissioned by National Grid Electricity Transmission (NGET) to produce a Habitat Management Plan (HMP) for an area of land known as Margam Burrows (hereafter referred to as the 'Site'), located at Margam, Port Talbot. Habitat creation and management is to be delivered at the Site to provide compensation for, and contribute to a Net Benefit for Biodiversity (NBB), in relation to the proposed substation extension (hereafter referred to as the 'Proposed Development') at Margam, Port Talbot.
- 1.1.2 The 'Proposed Development' for the substation extension at Margam, Port Talbot is to be subject to a full planning application. The Ecological Impact Assessment submitted with the planning application for the Proposed Development (Stantec, 2025a) describes the mitigation, compensation and enhancement that will be delivered in order to meet legislative and policy requirements. This HMP details how habitats within the Site will be created and enhanced, the subsequently managed and monitored for the purpose of contributing towards a Net Benefit for Biodiversity. The habitat creation and enhancement works within the Margam Burrows Site, along with proposed habitat creation and enhancement works within the Proposed Development site, as described in detail in the Landscape and Habitat Management Plan for the Proposed Development site (Stantec, 2025b) will together deliver a Net Benefit for Biodiversity (NBB) through the Proposed Development.
- 1.1.3 Further details on the Proposed Development to which this HMP is connected are provided within the Ecological Impact Assessment for the Proposed Development (Stantec 2025a). Further information regarding the approach to the Proposed Development in accordance with Planning Policy Wales' requirements, and with regards to the Stepwise Approach, is provided in the Green Infrastructure Statement for the Proposed Development (Stantec, 2025c).

1.2 Site Location

- 1.2.1 The Margam Burrows Site is located at approximate central grid reference SS 77616 84571, 2 km southwest of the Proposed Development. The location of the Margam Burrows Site in relation to the proposed substation extension site at Margam and the extent of the respective Site boundaries is shown on **Figure 1**.
- 1.2.2 The Margam Burrows Site encompasses part of the Margam Moors Site of Special Scientific Interest (SSSI) and currently comprises an area of dominated by coastal grassland on sand dunes. Directly west is a small industrial unit, comprising buildings and access roads, beyond which is the sea. North of the Site are industrial areas associated with the Port Talbot Tata Steel works, south are further areas of sand dune and east is the remaining part of Margam Moors SSSI, beyond which lies coastal grazing marsh fields.

1.3 Report Objectives

- 1.3.1 The Ecological Impact Assessment for the Proposed Development (Stantec, 2025a) describes the requirement, in line with Planning Policy Wales (Edition 12) and the Section 6 duty of the Environment (Wales) Act 2016, for the Proposed Development to deliver a Net Benefit for Biodiversity (NBB). Furthermore, NGET are mindful of their own reporting requirements to Ofgem to deliver Biodiversity Net Gain through development.
- 1.3.2 As described in the Ecological Impact Assessment for the Proposed Development, the measures described in this Habitat Management Plan contribute to compensating for the permanent loss of part of the J38 Wetland Complex SIN; they also contribute to mitigating and compensating for the temporary impacts on habitats within the SIN associated with Permitted Development works, and to positive measures for protected and notable species within the Site. This Habitat Management Plan should be considered in combination with the proposals for habitat creation and management within the National Grid land at Margam



Habitat Management Plan

Substation, as described in the Landscape and Habitat Management Plan for Margam Burrows (Stantec, 2025b).

- 1.3.3 This Habitat Management Plan describes the proposed habitat creation and enhancement measures, as well as the proposed habitat management and monitoring within the Site, which are to be implemented to enable the Proposed Development to deliver NBB.
- 1.3.4 To that end, the HMP sets out the following:
- An overview of the ecological baseline of the Site.
 - The objectives of the HMP.
 - The Site establishment works, in terms of habitat creation or initial habitat management delivery.
 - The ongoing management tasks over the management period, taking into account habitat delivery to enable NBB.
 - The monitoring requirements to enable measurement of success, or to determine appropriate adaptation approaches to the habitat/features under management.
- 1.3.5 This HMP should be reviewed and updated, if necessary, every 6 years (aligned with review of management and monitoring outcomes).
- 1.3.6 As described in the Ecological Impact Assessment for the Proposed Development (Stantec, 2025a), the measures described in this HMP contribute to compensating for the permanent loss of part of the J38 Wetland Complex SINC and temporary impacts on habitats within the SINC, and to positive measures for protected and notable species within the Site. Taken together, the Landscape and Habitat Management Plan for the Margam substation site (Stantec, 2025b) and this Habitat Management Plan for Margam Burrows, demonstrate overall achievement of Net Benefit for Biodiversity, in accordance with Planning Policy Wales (Edition 12) (PPW) for the Proposed Development of the Margam Substation extension described in the Ecological Impact Assessment for that scheme (Stantec, 2025a) and the Green Infrastructure Statement (Stantec, 2025c). Implementation of this Habitat Management Plan for Margam Burrows and the Landscape and Habitat Management Plan for the Margam substation site is therefore required to achieve policy compliance relating to Net Biodiversity Benefit for the Proposed Development and both should therefore be secured by Condition and/or Section 106, or other appropriate planning mechanism or legal agreement, to be agreed with Neath Port Talbot Council (NPTC).



2 Site Description and Current Site Conditions

2.1 Margam Moors SSSI

- 2.1.1 The eastern half of the Site lies within the Margam Moors SSSI boundary. The citation for the SSSI states the following:

*[The SSSI is] the last remaining example of the once extensive coastal levels in West Glamorgan. Bounded to the seaward by dunes and to landward by high ground, the meadows provide an agriculturally-managed freshwater habitat which hosts many species of plant on the edge of their geographical range, and nationally important invertebrates. Mesotrophic marsh, fen meadow and ditch communities support flowering-rush *Butomus umbellatus*, frogbit *Hydrocharis morsus-ranae*, arrowhead *Sagittaria sagittifolia*, cyperus sedge *Carex pseudocyperus* and brown sedge *C. disticha* on the edge of their range, with others such as lesser water-plantain *Baldellia ranunculoides*, tubular water-dropwort *Oenanthe fistulosa* and marsh helleborine *Epipactis palustris* of local interest. The nationally rare beetle *Haliplus mucronatus*, the dragonfly *Sympetrum sanguineum* the regionally rare beetle *Anacaena bipustulata*, and the water-bug *Corixa panzeri* have all been found in the ditches.*

- 2.1.2 It should be noted that the Site is located on the western edge of the SSSI designated area, and the freshwater habitats and fen meadow specific habitat types for which the SSSI is designated (as per the SSSI description above) are not present within the proposed Margam Burrows Site. Further details of the habitats present within the Site are provided in **Section 2.2** below.
- 2.1.3 Owing to the topography of the SSSI area which falls within the Margam Burrows Site, it is difficult to graze or otherwise manage the habitats of the SSSI that fall within the Site (NRW, *pers comm*, 2025). This has resulted in scrub encroachment into the section of the SSSI within the Site boundary considered within this report.

2.2 Habitats

- 2.2.1 Botanical (National Vegetation Classification (NVC)) surveys of the Site and areas to the south of the Site (including sampling locations inside and outside of the SSSI boundary) were undertaken in summer 2022 (RSK Biocensus, 2022). The 2022 NVC surveys identified that the Site comprises an area of fixed dunes of which some is planted with trees, the rest comprising a variety of sand dune (grassland) communities characterized by dry, neutral, sandy soils of low fertility.
- 2.2.2 The NVC survey recorded that the grassland communities across the area were species-rich, with a total of 67 plants recorded in all survey quadrats and an average of 22.4 species in individual survey quadrats. Some of the westernmost survey quadrats had a more obvious maritime influence, with species such as sea spurge *Euphorbia paralias* and sand cat's-tail *Phleum arenarium*, while others to the east had characteristic species of dune slacks such as creeping willow *Salix repens* and dewberry *Rubus caesius*. Extracts from the Tata Steel site NVC survey (RSK Biocensus, 2022) relevant to the Margam Burrows Site are provided at **Appendix A**.
- 2.2.3 A walkover survey was also undertaken in February 2025 by Stantec (Helen Evriviades MCIEEM) with Tata Steel representatives, National Grid representative, NRW representative and local ecology specialist Barry Stewart (Celtic Wildflowers) who is familiar with the Site through prior survey and general familiarity with the land owned by Tata Steel and its ecological interests. Whilst overall the Margam Burrows Site supports a diverse species array, as described in the RSK Biocensus (2022) report, the specific locations of the Site proposed for habitat creation (specifically the dune slack habitat creation and the opening up of sand dune habitat) are associated with areas of much lower diversity, dominated by red fescue and invading burnet rose, within the area proposed for the Dune slack creation, and areas of closed-sward fixed dune grassland. This was determined by on-site observation during the



February 2025 walkover survey and prior knowledge of the Site in recent growing seasons provided by Barry Stewart and Tata Steel representatives. It was also observed during the February 2025 walkover that the existing dune slack pond was becoming heavily encroached by creeping willow and other scrub.

- 2.2.4** The Margam Burrows Site, including the section which falls within the Margam Moors SSSI boundary was observed during the 2025 walkover to be mostly at a higher elevation than the majority of the remainder of the Margam Moors SSSI, to the east of the Margam Burrows Site. The Margam Burrows Site was observed to have a varying microtopography associated with sand dunes. Pockets of reed-dominated habitat were observed within the SSSI area which falls within proposed Margam Burrow Site boundary, associated with the lower elevation areas between the sand dune “peaks”. However, the section of the SSSI which falls within the Margam Burrows Site boundary was observed to have more affinity to the fixed dunes described in the RSK survey (RSK Biocensus, 2022) than the wetland habitats for which the SSSI is designated.
- 2.2.5** The current management regime of the proposed Margam Burrows Site (including the area of the SSSI which falls within the Site boundary) was confirmed during the February 2025 walkover survey by Tata Steel representatives and NRW representatives. It was confirmed that there was no current management of habitats within the proposed Margam Burrows site, including the section of the SSSI that falls within the Margam Moors SSSI. It was confirmed that the grazing management undertaken within the remainder of the Margam Moors SSSI is not possible within the Margam Burrows Site because of the varied topography associated with the sand dunes. Photographs from the walkover survey undertaken in February 2025 to illustrate the habitats within the proposed Margam Burrows Site are provided at **Appendix B**.

2.3 Protected or Notable Species

- 2.3.1** With the exception of great crested newts (GCN) *Triturus cristatus* surveys (undertaken by Tata Steel) there have been no species-specific surveys undertaken to inform baseline condition. However, information from Tata Steel, local knowledge provided by Barry Stewart (Celtic Wildflowers), and the Natural Resources Wales SSSI Officer as well as the SSSI citation information has identified the following species to be present or likely present.

Birds

- 2.3.2** Kestrel *Falco tinnunculus* and stonechat *Saxicola rubicola* were noted on Site during a walkover survey completed in February 2025. The Site is also likely to support a range of breeding birds species associated with coastal habitats.

Great crested newt

- 2.3.3** Surveys of an existing dune slack pond within the Site, completed in 2022 and updated in June 2025 have recorded a medium population of great crested newts (GCN) *Triturus cristatus*, with a peak count of 14 GCN recorded in 2022 and 18 in 2025. No other ponds within 250 m of this pond have been found to support GCN. Further details on the survey methodology and results of the 2022 and 2025 survey are provided at **Appendix C**, as provided by Tata Steel.
- 2.3.4** As well as the existing dune slack pond providing suitable breeding habitat for GCN, the surrounding habitats within the Site also provide suitable terrestrial habitat for foraging and hibernating for this species.

Reptiles

- 2.3.5** The Site provides a variety of grassland sward heights and features suitable for hibernation such that the Site is likely to support common reptile species associated with the local area.



Invertebrates

- 2.3.6 Shrill carder bee *Bombus sylvarum* and small blue butterfly *Cupido minimus* are known from the local area and have the potential to occur within the Site. The areas of dune grassland are also likely to support a range of invertebrate species associated with these habitat types.

2.4 Landscape Character

- 2.4.1 Margam Burrows is characterised by a patchy, open dunes and wetland mosaic. Most of the Site lies within Local Character Area (LCA) 2: Margam Burrows and adjacent to Local Character Area (LCA) 1: Margam Marsh (to the east).
- 2.4.2 The Site closely aligns with the description as a coastal dune landscape with some intrusion from the nearby industrial complexes that affect its character, specifically *“this exposed coastal landscape comprises of sand dunes varying from approximately 5 m to 10 m in height. They are clothed in mainly Marram grass although erosion occurs in some areas. Scrub is invading in parts. There are no dwellings or other infrastructure and only minimal public right of way.”* Note that there are no public rights of access into or through the Margam Burrows Site.
- 2.4.3 The east of the Site grades into the habitats associated with Margam Moors SSSI, the majority of which aligns with the LCA 1 description of *“flat, marshy wetland pasture, veined with drainage ditches and significant wetland vegetation”* and *“significant areas of marsh, eutrophic water and wetland habitats,”* alongside a *“strong visual influence of the surrounding heavy industry.”* As noted above, part of the Site is adjacent and partially within the Margam Moors SSSI, the latter designated for its important wetland habitats. However, the habitats within the area of the SSSI that lie within the Margam Burrows Site are more aligned with the LCA 2 habitats description, as described in **Section 2.2** above.
- 2.4.4 The immediate landscape is heavily influenced by industrial land uses, with the Tata Steel Plant and local industrial uses having a dominant visual presence, particularly in views from the east across the Bristol Channel.

At a broader scale, the landscape reflects the characteristics of National Character Area (NCA) 38: Swansea Bay. This region is part of a narrow coastal plain — a low-lying corridor situated between upland areas to the northeast and the sea to the southwest — marked by a strong presence of heavy industry and its function as a major transport corridor.

3 Management Plan Objectives

3.1 Net Biodiversity Benefit Overview

- 3.1.1 The Ecological Impact Assessment for the Proposed Development (Stantec, 2025a) describes the requirement, in line with Planning Policy Wales (Edition 12) and the Section 6 duty of the Environment (Wales) Act 2016, for the Proposed Development to deliver a Net Benefit for Biodiversity (NBB). Furthermore, NGET are mindful of their own reporting requirements to Ofgem to deliver Biodiversity Net Gain through development.

3.2 Management Plan Objectives

- 3.2.1 Taking into account the current Site conditions and requirements to deliver NBB in relation to the Proposed Development, the key objectives of this HMP are:

Objective 1: To establish the long-term management of the Site and deliver a NBB.

Objective 2: To manage the dynamic balance between open dunes, grassland and scrub, ensuring the maintenance of habitat diversity and preventing the dominance of any one habitat type to the detriment of others.

Objective 3: To maintain and enhance habitat features that support protected and notable species recorded within the Site, or which have the potential to be present or to colonise the Site, including but not limited to: breeding birds, great crested newt, reptiles, and invertebrates, through targeted habitat management and species-specific interventions.

Objective 4: To implement a programme of ecological monitoring to assess the effectiveness of habitat and species measures, and inform ongoing adaptive management decisions, Monitoring results will be used to identify emerging issues, track progress against defined success criteria, and guide responsive interventions where necessary.

- 3.2.2 These objectives provide the overall guiding principles for the management and monitoring prescriptions described in **Appendix D**.

3.3 Key Ecological Deliverables

- 3.3.1 In the context of the management plan objectives described above, the key ecological deliverables for this Site are summarised below with further details regarding establishment and management/monitoring provided in **Sections 5** and **6** respectively.

Habitat Creation Measures

- 3.3.2 The following habitat creation measures are to be delivered within the area of the Site which lies outside of the SSSI boundary:

- A new dune slack in areas currently dominated by red fescue *Festuca rubra* and burnet rose *Rosa spinosissima*;
- New open dune habitat by reusing sand from dune slack creation to create open dune habitat on existing closed-sward south-facing dunes; and,
- Multi-functional refugia through re-use of appropriately screened slag from Tata Steel in gabion baskets.



Habitat Enhancement Proposals

3.3.3 Habitat enhancement measures are to be delivered across the Site, including the areas both inside and outside of the SSSI area that falls within the Site. Habitat enhancement measures will include the following:

- Removing scrub from around the dune slack pond perimeter;
- Opening up south-facing dunes;
- Implementing management of the sand dune grassland habitat; and,
- Removing overly dominant grey willow *Salix cinerea*, sea buckthorn *Hippophae rhamnoides*, and creeping willow and burnet rose – ensuring a balance with open areas/early successional and sand dune grassland.

Species Measures

3.3.4 Species-specific measures will include the:

- Provision of gabion baskets for great crested newt, reptiles and invertebrates outside of the SSSI Boundary;
- Retention of defined areas of scrub habitat for nesting birds across the Site (both inside and outside of the SSSI);
- Encouragement (potentially through sowing of seed) of kidney vetch *Anthyllis vulneraria* colonisation for shrill carder bee and small blue butterfly within areas outside of the SSSI boundary; and,
- Monitoring and control of invasive non-native species across the Site, if required.

4 Biodiversity Management Plan Responsibilities

4.1 Ownership and Management Responsibilities

- 4.1.1 This HMP relates to the Site at Margam Burrows which is wholly owned by Tata Steel UK Ltd, as shown in **Figure 1**.
- 4.1.2 The responsibility for the funding and delivery of this HMP lies with NGET. It is anticipated the HMP will be secured by Planning Condition and/ or S106 relating to the Proposed Development of the sub-station extension at Margam, or other appropriate legal agreement, to be agreed with NPTC.
- 4.1.3 Whilst NGET will be responsible for delivery of this HMP, Contractors may be appointed by NGET to deliver some, or all of, the elements described in this HMP. All ecological monitoring for habitats and species will be carried out by suitably qualified ecologists under instruction from NGET, in accordance with the HMP.

4.2 Habitat Management Plan Period and Review Schedule

- 4.2.1 This HMP refers to the establishment of habitat creation and enhancement works and the creation of features for species, followed by the management and monitoring of the Site over a 30-year period. The site Establishment Works will take place commencing from the first appropriate seasonal window for the Establishment Works after the Proposed Development for the Margam Substation secures planning consent and the appropriate legal agreements for the Site and the HMP are secured. The Establishment Works will be considered year "0", with the subsequent management and monitoring commencing in the following calendar year (i.e. Year 1 of HMP).
- 4.2.2 Periodic reviews of this HMP, enabling an adaptive response to monitoring outcomes, will be undertaken. Such reviews will take place, as a minimum, every 6 years, with monitoring outcomes and any resultant proposed changes to management and monitoring prescriptions described in Management Plan updates, to be agreed with Neath Port Talbot Council (NPTC).

5 Establishment Works

- 5.1.1 Prior to undertaking any habitat creation and enhancement works detailed below, the appropriate consents in relation to working in and within proximity to a SSSI will be applied for and granted by Natural Resources Wales (NRW), where required. This HMP also takes into account any species-specific licensing requirements, dependent on issues such as timing of works, use of machinery and herbicides. For example, it is anticipated that works on the dune slack may be able to progress under a Precautionary Method of Work with respect to great crested newts, if the works are planned and timed appropriately. In addition, where appropriate works will be overseen by an appropriately experienced/ licenced ecological clerk of works. All contractors undertaking works will adhere to best practice methodologies to avoid damage to retained habitat features and prevent pollution/ contamination of the Site and adjacent SSSI. This approach is subject to agreement with NRW and NPTC and the HMP will be updated accordingly.
- 5.1.2 Subject to the implementation of the above and specific measures discussed below it is not anticipated that the proposals will have a significant adverse impact on protected species, with the proposals in the long-term resulting in a significant positive benefit to populations of protected species and the favourable conservation status of GCN at the local level.

5.2 Habitat Creation Measures

- 5.2.1 The habitat creation measures proposed for the Site as described below are shown in the Proposed Habitat Creation and Management Measures – Overview (**Figure 2**) and Proposed Habitat Creation – Illustrative Design Details (**Figure 3**). A photograph of another recently created dune slack is also provided in **Appendix E**.
- 5.2.2 An annualised monthly schedule for the timing of the proposed habitat creation measures is provided at **Appendix F**.
- 5.2.3 For clarity, the habitat creation measures described below are considered to be completed in Year 0 of the management plan, with Year 1 of the management and monitoring activities considered to be the next calendar year/season following completion of these initial habitat creation measures.

Dune Slack

- 5.2.4 It is proposed that a new dune slack is created in lower value areas currently dominated by red fescue and burnet rose. Topographical survey of existing (recently created dune slack to the south of Margam Burrows Site) and proposed dune slack areas will be undertaken to determine the levels required for creation and to determine the suitable depth for the new dune slack creation. The existing levels of the recently created dune slack just to the south of the Margam Burrows site (shown in **Appendix E**) have created a shallow dune slack pond due to the underlying groundwater levels. Based on the observations made of the recently created dune slack pond, it is anticipated that the proposed dune slack will be less than 500 mm deep at its deepest point, tapering to existing ground levels. Works to create the Dune Slack are proposed to be undertaken in the summer months to coincide with when the newt population is focussed on the existing dune slack pond and when reptiles are active, to avoid killing or injury to these animals (and contravention of the legislation which protects them). It is anticipated, based on the short, closed-sward nature of the vegetation within the proposed dune slack footprint (see **Appendix B**) that it will be possible to hand-search the works area to confirm newt and reptile absence prior to commencement of the dune slack creation.

South-Facing Dunes

- 5.2.5 South-facing dunes will be opened-up to create open dune habitat. Open dune creation will be undertaken as per the guidelines within the Sand Dune Managers Handbook (Denning, L., 2024) noting that large-scale “notches” within the dunes are not envisaged here and instead



materials from the dune slack creation (see above), will be placed on the front of the closed dunes, to create an open sand habitat during the summer months. The vegetation of the south-facing dune will be hand-searched prior to works to confirm absence of features suitable for reptiles or amphibians where the sand is to be placed. In the unlikely event that animals are found, these will be encouraged into adjacent habitat, or an alternative placement of the sand arisings will be sought.

Gabion Baskets

- 5.2.6 A total of seven gabion baskets, 1 m³ filled with appropriately screened slag (the slag to be provided by Tata Steel to National Grid) are to be installed with the Site. Their approximate location with the Site and an illustrative example of a design for such a feature is provided in **Figure 2** and **Figure 3**. These will also be installed at the same time as the works to create the dune slack (summer months), such that these features are then available to reptiles and amphibians the following autumn/winter.

5.3 Habitat Enhancement Measures

Existing Dune Slack Pond

- 5.3.1 The existing dune slack pond is to be enhanced through the removal of scrub within 2 m of the perimeter of the ponds and to remove any scrub overhanging the southern or eastern side of the dune slack pond. Works are to be undertaken at the end of autumn/winter (November to January) when reptiles and great crested newt are likely to still be hibernating (noting that coastal populations of great crested newt in southern Britain have the potential to emerge from hibernation in February). This period also avoids the breeding bird season. Scrub is to be cut to a height of 150 mm and cut material is to be placed in piles, up to 1 m high around the pond perimeter to provide hibernation/ refuges for great crested newt as well as reptiles. Stumps are to be spot-treated with a herbicide (subject to approval from NRW) to prevent regrowth.

Scrub Removal

- 5.3.2 Grey willow, sea buckthorn, creeping willow and burnet rose will be reduced in extent such that the cover of scrub does not exceed 25% of the Site area. Scrub is to be cut to a height of 150 mm undertaken at the end of autumn/winter (November to January), when GCN and reptiles are likely hibernating and to avoid the nesting bird period. Cut material is to be re-used as habitat piles (e.g. against the northern-face of the gabion baskets or in other suitable locations agreed with a suitably qualified ecologist on site). Any materials not re-used in this way will be ideally chipped on Site, or removed and disposed of appropriately. Stumps are to be spot-treated with a herbicide (subject to approval from NRW) to prevent regrowth.
- 5.3.3 Owing to the topography of the Site, the use of Roboflails¹ to remove scrub may be a safer and more practical means of removing younger scrub or low-growth/regenerating scrub. Hand-tools will be required for more established scrub management/control.

Grassland Management

- 5.3.4 Approximately 30% of the sand dune grassland which occurs across the majority of the Site is to be cut to c.150 mm above ground level, using a Roboflail or similar (given the uneven topography of the Site). Following this initial cut the remaining grassland is to be cut on a rotational basis every three years, with no more than 30% of the grassland cut within a given management period. Cutting of the grassland is to be completed during August to September to ensure species such as reptiles can move out of the way of the management activities.

¹ <https://www.groundserv.co.uk/product/robocut-remote-control-flail-mower-hire/>



5.4 Species Measures

5.4.1 The habitat measures described above will support enhancement and diversification of habitats within the Site, in turn this will also provide enhanced diversity and quality of habitats for a range of species. Further specific measures to be created within the Site to provide enhancements for protected or otherwise notable species include the following:

- Retention of scrub habitat for nesting birds, 25% of the scrub will be retained to provided nesting habitat for birds.
- Encourage kidney vetch colonisation, including sowing of seed of local provenance (where available) in the bare areas of sand created by the habitat creation and management works in the area of Margam Burrows outside of the SSSI. Sowing should be completed in the autumn (September) after the habitat creation works.
- With respect to invasive and non-native species, whilst invasive non-native species, such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera* are absent from the Site, the continued absence of these species and any other invasive non-native plant species will be a positive indicator sought during monitoring, with appropriate management put in place should they be identified.



6 Management and Monitoring

- 6.1.1 Management and monitoring prescriptions by habitat type are provided in **Appendix D**. A schedule of activities by management year is provided in **Appendix G**. Note that all management activity frequencies, extents and approaches are subject to adjustment, depending on the outcomes of monitoring.

6.2 Assessment Methodology

- 6.2.1 Key attributes for which the success of the HMP is to be measured against have been established for key ecological features within the Site, as summarised in **Table 6.1**.
- 6.2.2 The attributes that have been identified will be used to measure the effectiveness of the management prescriptions for habitats, populations of birds, great crested newt, reptiles and invertebrates, initially over years 1-6 of the HMP.

Table 6.1 Assessment Attributes

Ecological Feature	Attributes
Dune slack pond	Pond contains 50% open water and perimeter shading is <50%
	Less than 1 % of the vegetation cover is made up of non-native species
South-facing dunes	Bare ground or sand present but no more than 10% of total area with remaining area comprising grassland
	Kidney vetch, if present, occurs as 'occasional' overall within the grassland sward, as recorded on a DAFOR scale.
	Less than 1% of the vegetation cover is made up of non-native species. This includes sea buckthorn
Scrub and trees	Less than 25% of the vegetation cover across the Site is made up of scrub and scattered trees
Breeding birds	Site provides a complex of habitats for foraging and nesting birds
Great crested newt	Peak count of at least 10-20 great crested newts recorded during population monitoring surveys
Reptiles	Presence of suitable open patches and variation in vegetation structures and topography close to ground levels (qualitative assessment based on professional judgement and in agreement with NPTC).
	Hibernacula/ Gabion features remain intact and suitable for use by reptiles
Invertebrates	Invertebrate species assemblage to include notable species, ideally including shrill carder bee.

6.3 Vegetation Management and Monitoring

Habitat surveys

Monitoring of the established and retained habitats will be undertaken from year 3, and every 3 years thereafter (subject to the results of the monitoring surveys), during which the structure and extent of the habitats present will be reviewed. An assessment of the dune slack pond will also be undertaken.

Monitoring will comprise a botanical survey undertaken in June of each monitoring year following Phase 1 Habitat Survey methodology (JNCC, 2010) to map broad habitat types and extents. NVC survey methodology will be used for the parcels of habitats which were the focus of the NVC surveys undertaken in 2022 and may be extended to same other areas within the Site, if considered appropriate by the surveyor. Fixed-point photography will also be used. Combined, these survey approaches will provide an assessment of overall habitat extents and diversity, compared to the baseline position. Key targets sought in these surveys will include identification of increased plant diversity, with the absence of undesirable or invasive species, and confirmation that scrub cover does not exceed 25% of the Site area.

The sand dune grassland is to be managed through a cut to c. 100-150mm m using a roboflail or similar to support grassland diversity and discourage scrub establishment. One third of grassland is to be cut within any given management period, with management undertaken every 3 years.

Scrub and Trees

- 6.3.1 Monitoring of the extent of scrub/young tree encroachment through fixed-point photography and/or GPS will be undertaken in the summer every 3 years. This will determine whether the scrub and young tree extent has increased, informing if above-ground removal (and stump treatment if required) should be undertaken in the following November-February inclusive (avoiding active great crested newt, reptile and breeding bird season).
- 6.3.2 Areas of scrub will be managed every five years to retain the scrub extent at 25% of baseline position. However, it is important to note that the retention of some scrub and trees is required to provide sheltered habitat across the Site and to contribute to the overall diversity of habitats within the Site. For example, the maintenance of a mosaic of scattered scrub and dune habitats is ideal to support notable species known to be associated with the Site, such as, breeding birds and a diversity of invertebrate species. The decision regarding the extent of scrub clearance should therefore consider the extent of scrub and the results of species monitoring together (see **Section 6.4** below).

6.4 Species Management and Monitoring.

- 6.4.1 The monitoring outlined in this section will help assess the success of the habitat creation and enhancement measures provided for species within the Site and identify any need for adaptive management to support these species.

Great Crested Newt

- 6.4.2 Population surveys, comprising six visits completed during March to June, with at least three of the surveys completed before mid-May, using a combination of bottle trapping and torch surveys (as per Langton *et al.* 2001) are to be completed every 3 years.

Reptiles

- 6.4.3 The monitoring proposed is a simple check of the gabion baskets constructed for reptiles to make sure that these features remain suitable for use by reptiles during the Management Plan period.



Invertebrates

- 6.4.4 Invertebrate surveys will be conducted every 6 years through the Management Plan period, including a survey visit in the spring, summer and autumn periods. The survey will follow good practice guidance and will seek to determine the species present and their conservation value.

Invasive Non-Native Species Monitoring

- 6.4.5 Monitoring of Japanese knotweed and Himalayan balsam (and any other invasive non-native species) will occur alongside surveys during the habitat assessment. If these species are recorded during the monitoring sessions, then appropriate control measures will be implemented to control and prevent further spread of these species. This monitoring will take place in year 3 and every 3 years thereafter.

6.5 Remedial Measures

Remedial measures will be necessary where monitoring identifies that the objectives of the HMP are not being achieved. Changes to management or other measures will be initially identified by NGET and their appointed ecologist and the HMP will be amended and submitted to the NPTC for approval prior to the implementation of any revised management prescriptions.

- 6.5.1 Any loss, damage, vandalism or other deleterious impact to habitats will require immediate intervention. Any appropriate measures shall be implemented within the appropriate timeframe and as advised by the NGET appointed ecologist, arboriculturist or other relevant professional carrying out the monitoring.
- 6.5.2 After the Initial 6-year period (years 1- 6 of this HMP) the success of the management prescriptions will be reviewed. Any changes or additions to the approach to management or monitoring will need to be agreed by NPTC through an update to this HMP. Where monitoring is suggesting that the attributes set out in **Table 6.1** of the HMP are not being met, suggestions for remedial measures are to be submitted to NPTC for approval.

7 Conclusion

- 7.1.1 This Habitat Management Plan sets out a comprehensive framework for the proposed habitat creation, enhancement, and long-term management and monitoring of the Margam Burrows Site. Developed in alignment with Planning Policy Wales and the Environment (Wales) Act 2016, the plan supports NGET's commitment to delivering a measurable Net Benefit for Biodiversity for the proposed Margam Substation project through the described interventions and commitments to ongoing management and monitoring at the Margam Burrows Site.
- 7.1.2 The objectives outlined in this HMP address the core ecological challenges identified, including the opportunity to create and enhance dune slack habitat and the need for control of scrub encroachment, and the enhancement of habitat features for protected and notable species. A robust programme of monitoring and adaptive management underpins these objectives, ensuring that ecological outcomes can be tracked, evaluated, and refined over time.
- 7.1.3 Implementation of this plan, alongside ecological mitigation and compensation proposed for the Proposed Development Site at the Margam Substation, will contribute to the resilience of local ecosystems, support biodiversity targets, and demonstrate best practice in integrating ecological stewardship with essential infrastructure development. The HMP will be reviewed on a six-year cycle, or sooner if required, to ensure it remains responsive to Site conditions, monitoring results, and evolving operational requirements.

8 References

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JNCC (2010). Handbook for Phase 1 habitat survey. A technique for environmental audit. Joint Nature Conservancy Council. Peterborough.

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.

Stantec (2025a) Ecological Impact Assessment Report. Margam Substation. Report for National Grid Electricity Transmission.

Stantec (2025b) Landscape and Habitat Management Plan. Margam Substation. Report for National Grid Electricity Transmission.

Stantec (2025c) Green Infrastructure Statement. Margam Substation Extension. Report for National Grid Electricity Transmission.



9 Figures

Figure 1: Site Location Plan

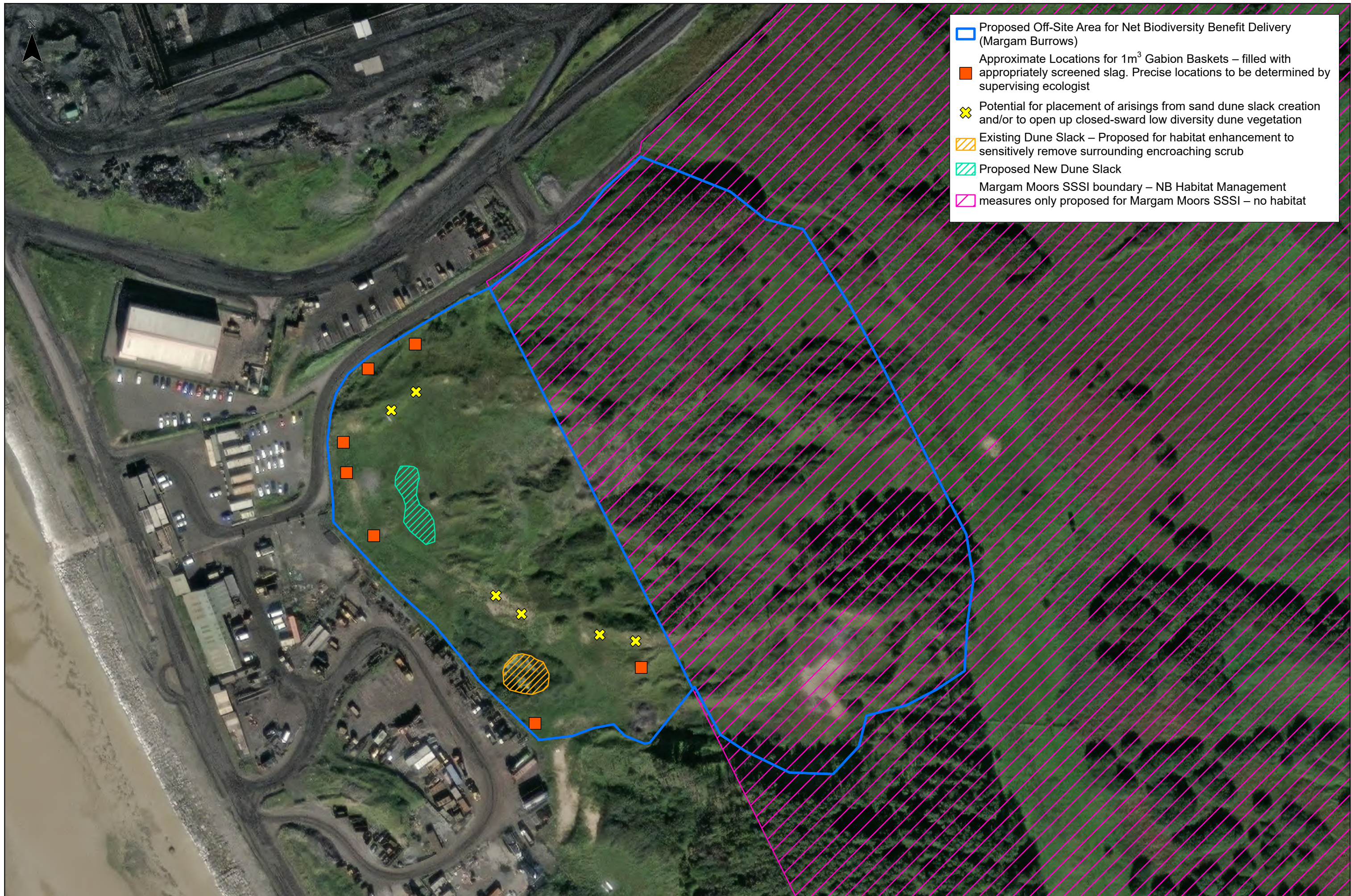
Figure 2: Overview of Habitat Creation and Management Areas

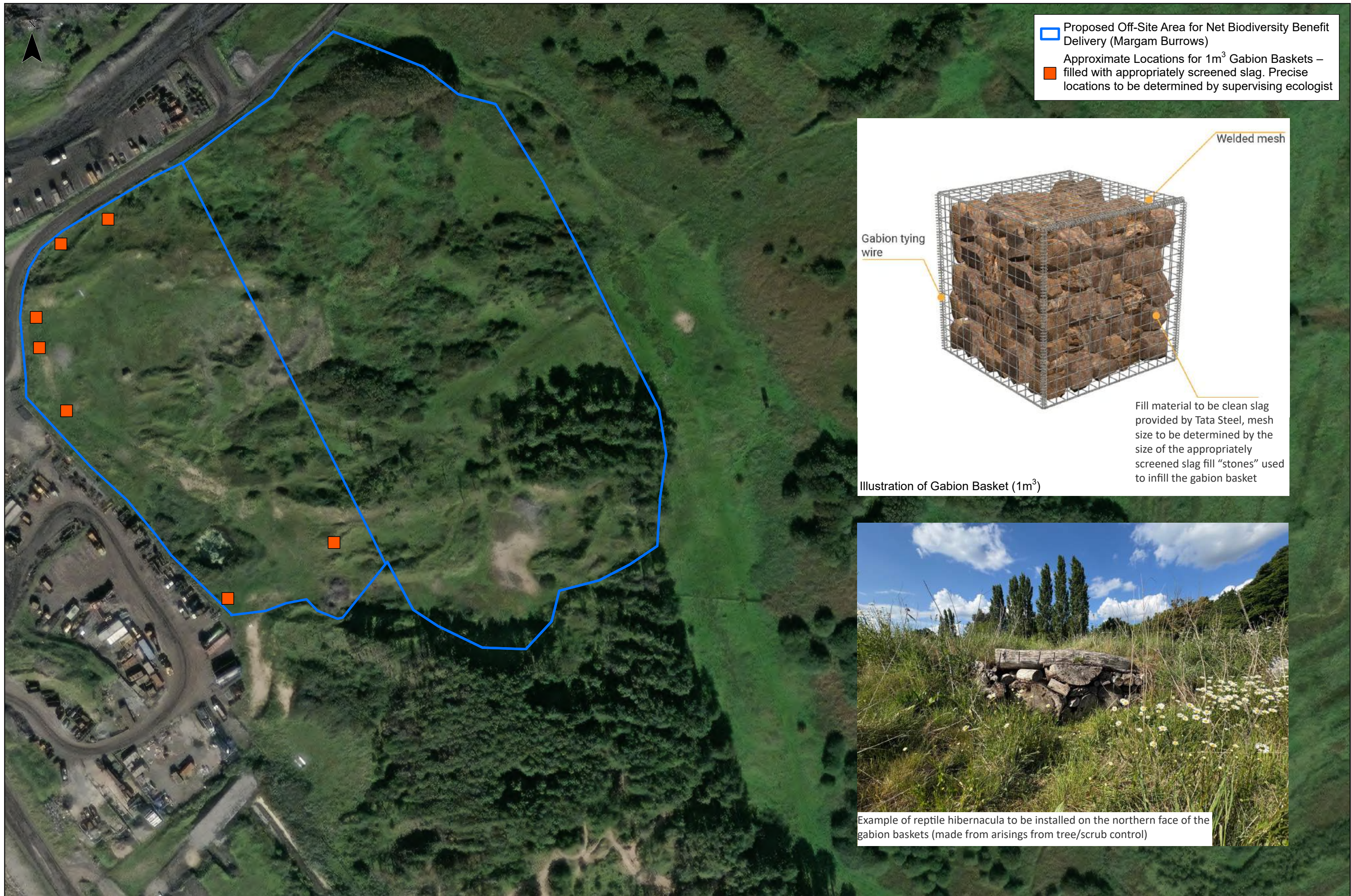
Figure 3: Illustrative Design Details





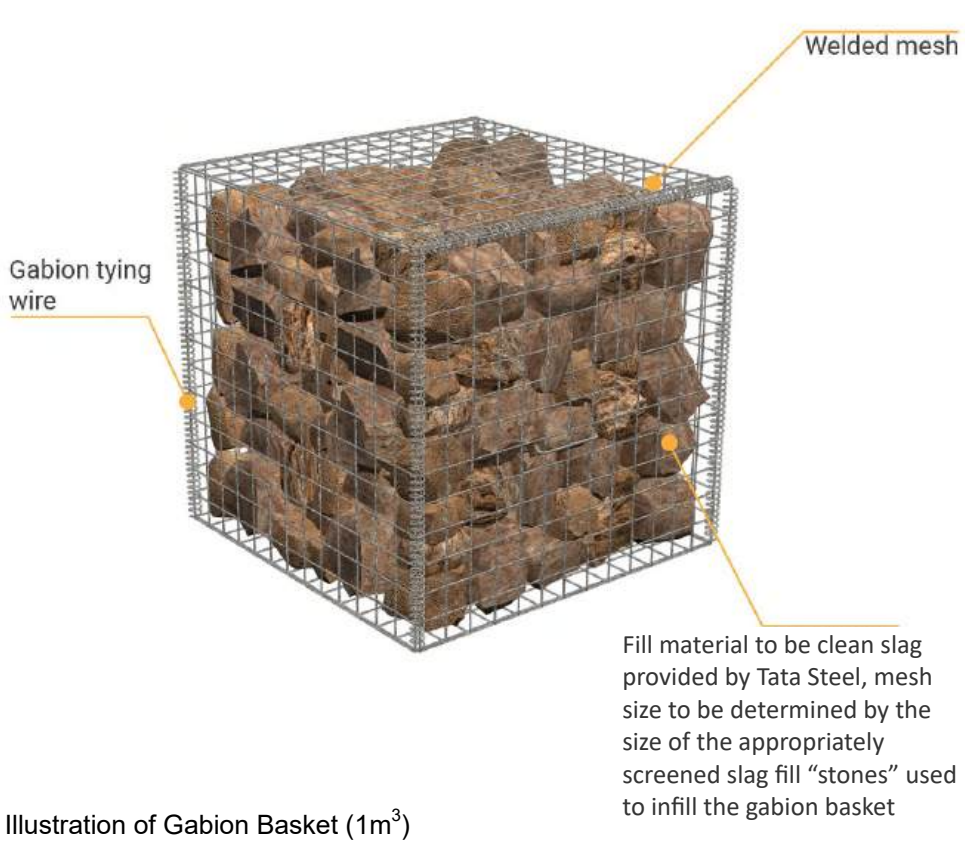
	Client	MARGAM PORT TALBOT Site Location Plan	00.51 km Microsoft, Vantor, Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number AC0000849444. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number AC0000849444. Crown Copyright and Database Right. Contains public sector information licensed under the Open Government Licence v3.0.	1:12,500 @ A3	Date: 11/3/2025
				Drawn: TL	Checked: HE
	Figure: 01			Rev: B	





Proposed Off-Site Area for Net Biodiversity Benefit Delivery (Margam Burrows)

Approximate Locations for 1m³ Gabion Baskets – filled with appropriately screened slag. Precise locations to be determined by supervising ecologist



Appendix A Extracts from RSK Biocensus (2022) Tata Steel UK Ltd. Electric Arc Furnace. National Vegetation Classification (NVC) Survey.



3.5 Sand dunes

Series 9

- 3.5.1 A 7.5 ha area of fixed dunes to the south of the site is approximately 50% forested, the rest being comprised of a variety of sand dune communities. Five 2x2 m quadrats were taken here but contiguous stands of vegetation were hard to find and the series as a whole lacks homogeneity.
- 3.5.2 The area is species-rich, with a total of 67 taxa recorded in all quadrats and an average of 22.4 in individual quadrats. It is characterized by dry, neutral, sandy soils of low fertility.
- 3.5.3 Only Sand Sedge was present in all quadrats, and only Biting Stonecrop and Buck's-horn Plantain were present in 4 of the 5 quadrats, demonstrating the disparate nature of these samples. Some of the westernmost quadrats had a more obvious maritime influence, with species such as Sea Spurge (*Euphorbia paralias*) and Sand Cat's-tail (*Phleum arenarium*), while others to the east had characteristic species of dune slacks such as Creeping Willow (*Salix repens*) and Dewberry (*Rubus caesius*).

Table 9: five 2x2 m quadrats of vegetation in dune grassland west of Margam Moors

Name	1	2	3	4	5	Freq.	Range
<i>Carex arenaria</i> (Sand Sedge)	3	1	3	2	5	V	0-5
<i>Sedum acre</i> (Biting Stonecrop)	3	5	-	1	2	IV	0-5
<i>Plantago coronopus</i> (Buck's-horn Plantain)	2	4	-	2	3	IV	0-4
<i>Hypnum lacunosum</i> (Great Plait-moss)	6	6	-	-	7	III	0-7
<i>Rubus caesius</i> (Dewberry)	5	-	7	2	-	III	0-7
<i>Lotus corniculatus</i> (Common Bird's-foot-trefoil)	4	5	4	-	-	III	0-5
<i>Centaurea erythraea</i> (Common Centaury)	2	5	-	1	-	III	0-5
<i>Ononis repens</i> (Common Restharrow)	3	1	-	5	-	III	0-5
<i>Arenaria serpyllifolia</i> (Thyme-leaved Sandwort)	2	3	-	-	3	III	0-3
<i>Erodium cicutarium</i> (Common Stork's-bill)	1	3	-	-	2	III	0-3
<i>Jacobaea vulgaris</i> (Common Ragwort)	1	3	-	2	-	III	0-3
<i>Luzula campestris</i> (Field Wood-rush)	1	-	-	2	1	III	0-2
<i>Pilosella officinarum</i> (Mouse-ear-hawkweed)	2	-	-	1	1	III	0-2
<i>Festuca rubra</i> (Red Fescue)	-	-	-	8	5	II	0-8
<i>Rosa spinosissima</i> (Burnet Rose)	-	-	-	8	3	II	0-8
<i>Cladonia rangiferina</i> (a 'Reindeer-moss' lichen)	-	7	-	-	6	II	0-7
<i>Homalothecium lutescens</i> (Golden Feather-moss)	-	-	-	4	5	II	0-5
<i>Agrostis stolonifera</i> (Creeping Bent)	-	2	4	-	-	II	0-4



Name	1	2	3	4	5	Freq.	Range
<i>Fragaria vesca</i> (Wild Strawberry)	4	-	1	-	-	II	0-4
<i>Erigeron</i> sp. (a Fleabane)	1	3	-	-	-	II	0-3
<i>Euphorbia paralias</i> (Sea Spurge)	3	2	-	-	-	II	0-3
<i>Geranium molle</i> (Dove's-foot Crane's-bill)	2	-	-	-	1	II	0-2
<i>Holcus lanatus</i> (Yorkshire-fog)	-	2	-	2	-	II	0-2
<i>Lysimachia arvensis</i> (Scarlet Pimpernel)	-	2	-	-	1	II	0-2
<i>Oenothera ×fallax</i> (Intermediate Evening-primrose)	2	-	-	-	2	II	0-2
<i>Peltigera</i> c.f. <i>membranacea</i> (a Dog-lichen)	-	2	-	-	2	II	0-2
<i>Vicia sativa</i> (Common Vetch)	-	-	2	2	-	II	0-2
<i>Cirsium arvense</i> (Creeping Thistle)	1	-	-	1	-	II	0-1
<i>Taraxacum</i> sect. <i>Taraxacum</i> (Common Dandelion)	1	-	-	-	-	I	0-1
<i>Euphrasia nemorosa</i> (Common Eyebright)	-	-	5	-	-	I	0-5
<i>Potentilla reptans</i> (Creeping Cinquefoil)	-	-	5	-	-	I	0-5
<i>Salix repens</i> (Creeping Willow)	-	-	5	-	-	I	0-5
<i>Echium vulgare</i> (Viper's-bugloss)	-	4	-	-	-	I	0-4
<i>Lathyrus pratensis</i> (Meadow Vetchling)	-	-	4	-	-	I	0-4
<i>Plantago lanceolata</i> (Ribwort Plantain)	-	-	-	4	-	I	0-4
<i>Aira praecox</i> (Early Hair-grass)	-	-	-	-	3	I	0-3
<i>Anacamptis pyramidalis</i> (Pyramidal Orchid)	-	-	-	3	-	I	0-3
<i>Carduus tenuiflorus</i> (Slender Thistle)	-	-	-	-	3	I	0-3
<i>Crepis capillaris</i> (Smooth Hawk's-beard)	-	-	-	-	3	I	0-3
<i>Poa compressa</i> (Flattened Meadow-grass)	-	-	-	3	-	I	0-3
<i>Sonchus arvensis</i> (Perennial Sow-thistle)	-	-	3	-	-	I	0-3
<i>Trifolium arvense</i> (Hare's-foot Clover)	-	-	-	-	3	I	0-3
<i>Vulpia bromoides</i> (Squirreltail Fescue)	-	3	-	-	-	I	0-3
<i>Carex hirta</i> (Hairy Sedge)	-	-	2	-	-	I	0-2
<i>Carex leporina</i> (Oval Sedge)	-	-	2	-	-	I	0-2
<i>Carex flacca</i> (Glaucous Sedge)	-	-	2	-	-	I	0-2
<i>Coincya monensis</i> ssp. <i>cheiranthos</i> (Wallflower Cabbage)	2	-	-	-	-	I	0-2
<i>Dactylis glomerata</i> (Cock's-foot)	-	-	-	-	2	I	0-2



Name	1	2	3	4	5	Freq.	Range
<i>Equisetum arvense</i> (Field Horsetail)	-	-	2	-	-	I	0-2
<i>Ervilia hirsuta</i> (Hairy Tare)	-	-	2	-	-	I	0-2
<i>Helminthotheca echioides</i> (Bristly Oxtongue)	-	2	-	-	-	I	0-2
<i>Linum catharticum</i> (Fairy Flax)	-	-	2	-	-	I	0-2
<i>Ophrys apifera</i> (Bee Orchid)	-	-	-	2	-	I	0-2
<i>Phleum arenarium</i> (Sand Cat's-tail)	2	-	-	-	-	I	0-2
<i>Poa pratensis</i> (Smooth Meadow-grass)	-	2	-	-	-	I	0-2
<i>Salix cinerea</i> ssp. <i>oleifera</i> (Rusty Willow)	-	-	2	-	-	I	0-2
<i>Trifolium pratense</i> (Red Clover)	-	-	2	-	-	I	0-2
<i>Verbascum thapsus</i> (Great Mullein)	-	2	-	-	-	I	0-2
<i>Veronica arvensis</i> (Wall Speedwell)	-	-	-	-	2	I	0-2
<i>Anthyllis vulneraria</i> (Kidney Vetch)	-	-	-	1	-	I	0-1
<i>Blackstonia perfoliata</i> (Yellow-wort)	-	-	1	-	-	I	0-1
<i>Crepis vesicaria</i> (Beaked Hawk's-beard)	-	-	-	1	-	I	0-1
<i>Medicago lupulina</i> (Black Medick)	-	-	-	1	-	I	0-1
<i>Poa annua</i> (Annual Meadow-grass)	-	-	-	-	1	I	0-1
<i>Ranunculus repens</i> (Creeping Buttercup)	-	-	1	-	-	I	0-1
<i>Rumex crispus</i> (Curled Dock)	-	-	1	-	-	I	0-1
<i>Sinapis arvensis</i> (Charlock)	-	1	-	-	-	I	0-1
Matching co-efficients: SD7 43.23; SD7c 40.51; SD8 38.59; SD7a 38.38; SD7d 38.01; SD16 37.04; SD7e 36.85; SD8a 35.73; SD16a 34.70; SD16b 33.01							

- 3.5.4 Surprisingly this series showed a fairly strong affinity with the SD7 *Ammophila arenaria* - *Festuca rubra* semi-fixed dune community (undifferentiated)(43.23%), SD7c - the same community in its *Ononis repens* community (40.51%) and the SD8 *Festuca rubra* - *Galium verum* fixed dune grassland community (38.59%).



Habitat Management Plan

would help to prevent buildup in the filter layer and keep air resistance low.

Dune grassland

- 4.1.8 The southern area of dune grassland and coniferous woodland is in some ways analogous to nearby areas of open mosaic habitat, being rich in annuals and ephemerals by virtue of low nitrogen availability and low soil moisture. The area is fairly species-rich, with 72 taxa recorded. Dune grassland is afforded priority habitat status and listed under Section 7 of the Environment (Wales) Act 2016. In addition, it forms a valuable buffer to areas of high ecological value to the east and south.
- 4.1.9 As with open mosaic habitat, this habitat can be lost to scrub and woodland encroachment. It is also vulnerable to disturbance from vehicles. Conservation efforts should focus on limiting vehicle traffic and preventing scrub encroachment. As a highly limited resource, this is not usually a habitat that can be replaced by biodiversity offsetting, limiting the potential of this area for future development.



Project Number: 331201497

[https://stantec.sharepoint.com/teams/MargamPortTalbot-2/Shared Documents/Comment Received from NG&Legal-23_07_25/Ecology/Habitat Management Plan \(Margam Burrows\)/331201497_Habitat Mgmt. Plan_Margam Burrows.docx](https://stantec.sharepoint.com/teams/MargamPortTalbot-2/Shared Documents/Comment Received from NG&Legal-23_07_25/Ecology/Habitat Management Plan (Margam Burrows)/331201497_Habitat Mgmt. Plan_Margam Burrows.docx)

Appendix B Photographs from walkover survey undertaken in February 2025

View of creeping willow and willow scrub encroachment around existing dune slack pond and closed sward of adjacent dunes.



Overview of creeping willow and other scrub encroachment into dune grassland. Tata Steel and industrial area to the north and west beyond the Margam Burrows site.



Habitat Management Plan

Tree and scrub encroachment into sand dune habitat within Margam Burrows (this showing the section of Margam Burrows within the Margam Moors SSSI boundary)



Showing closed-sward of south-facing dune



Showing closed-sward fescue-dominated area (with plentiful young growth of burnet rose) proposed for



Project Number: 331201497

Habitat Management Plan

creation of new dune slack



Areas of sward diversity where sand-dominated area gives way to underlying area of slag deposit. These areas to be maintained as part of diversity of Margam Burrows Site.



Project Number: 331201497

Appendix C GCN Survey Reports (RSK Biocensus, 2024; RSK Biocensus 2025)



Tata Steel UK Limited

Electric Arc Furnace

Great Crested Newt Survey Report

2487033 P&C EAF (Rev00)

MAY 2024

RSK GENERAL NOTES

Project No.: 2487033

Title: Electric Arc Furnace – Great Crested Newt Survey Report

Client: Tata Steel UK Limited

Date: May 2024

Office: Cardiff

Status: Rev 00

		Technical and Quality reviewer	
Author	Kailey O'Brien		Mark Lang Technical Director FCIEEM, CEcol, CEnv
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Date:	20/05/2024	Date:	29/05/2024
Project manager	Alexandra Ellis Principal Ecologist MCIEEM		
Signature			
Date:	31/05/2024		

RSK Biocensus (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

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EXECUTIVE SUMMARY

The report presents the findings of great crested newt surveys carried out on land at Tata Steelworks in Port Talbot, South Wales. A Habitat Suitability Index assessment survey was carried out on 17th March 2022 with environmental DNA surveys undertaken on 27th and 28th April 2022, respectively. Presence/ absence surveys and subsequent population surveys were carried out between mid-April and mid-June 2022. This report has been produced to support the Electric Arc Furnace project. The surveys were based on the 2021/2022 survey area (the boundary of the previous iteration of the project), no additional surveys were undertaken with the update to the red line boundary as there were no additional waterbodies impacted.

The purpose of this survey was to establish the presence or absence of great crested newt in connection with the proposed development. The desk study returned records of great crested newt within 2 km of the site, the nearest record approximately 2 km south of the site.

A medium population of great crested newt were identified within one waterbody (waterbody 2) over 250 m from the proposed development. GCN were not identified within any aquatic habitat within the proposed development site.

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1.0 INTRODUCTION

1.1 Purpose of This Report

- 1.1.1 The report presents the findings of great crested newt (GCN; *Triturus cristatus*) surveys carried out on land at Tata Steelworks in Port Talbot, South Wales (central Grid Ref SS 77524 86021). The area termed 'the site' throughout this report is delineated on Figure 1 by the red-line boundary.
- 1.1.2 Surveys were commissioned to inform the planning process and Environmental Statement ecology chapter in respect to GCN using the site. The surveys were undertaken to determine the presence of GCN at the site, identify if GCN could be affected by the proposals and, if necessary, inform a mitigation strategy to reduce impacts to non-significant levels.

1.2 Background

- 1.2.1 The GCN surveys were carried out between March and June 2022 within the 2021/2022 survey area (shown in purple in Figure 1). Subsequently, adjustments were made to the proposed development, however, no additional suitable aquatic or terrestrial habitat with connectivity to the wider landscape was identified for further survey (shown in red in Figure 1).

1.3 Ecological Context

- 1.3.1 A preliminary ecological appraisal (PEA), including a background data search (BDS) was completed by RSK (RSK, October 2021). Records of GCN were identified during the BDS, within 2 km of the red line boundary. Habitat within the red line boundary was identified as suitable for GCN and common species of amphibian during the PEA.
- 1.3.2 The 162.7 ha site is located to the south-east of the town of Port Talbot. The site is industrial and dominated by buildings and bare ground/ developed land. Open mosaic habitat is the most dominant habitat type comprising a mixture of scrub, grassland and ephemeral vegetation. There are a number of channels throughout the site and one large lake associated with the steelworks, located at the northern extent of the site.
- 1.3.3 The site is immediately bordered to the north, east and west by Tata Steelworks with coastal floodplain grassland, reedbed, an access road and Margam Moors Site of Special Scientific Interest (SSSI) adjacent to the south of the site. The surrounding landscape is a mixture of woodland, hedgerows, waterbodies (reservoir), coastal floodplain grassland and residential properties within Margam. Swansea Bay (Bristol Channel) is located approximately 880 m west of the site.

1.4 Development Proposals

- 1.4.1 The Proposed Development will require the demolition of existing buildings and structures, and the construction of a new EAF steel production facility. The Proposed

Development also includes a scrap metal handling facility and associated scrap yards, slag processing facility, chemical and material storage structures, buildings, handling systems, electrical control rooms and power infrastructure, laboratories, offices and ancillary facilities, together with new and amended transport infrastructure, landscaping and associated development.

2.0 METHODOLOGY

- 2.1.1 Thirteen waterbodies were identified through the PEA and aerial imagery for further GCN surveys. Twelve of them were within the 2021/2022 survey area, of these seven are within the updated red-line boundary (see Figure 1). One waterbody (waterbody 2) is over 250 m from the red line boundary. Waterbody 2 was originally over 500 m from the 2021/2022 survey area and was included in the assessments as a potential translocation waterbody, if a population of GCN was identified within the site.

2.2 Habitat suitability index

- 2.2.1 Habitat Suitability Index assessments (HSI) were completed on 17 March 2022 to assess each waterbody for their suitability to support GCN.
- 2.2.2 The HSI uses ten factors (suitability indices (SI) 1 to 10), which are thought to affect GCN, as follows:
- geographic location (SI 1);
 - surface area (SI 2);
 - hydrology (drying) (SI 3);
 - water quality (SI 4);
 - shade (SI 5);
 - presence of water fowl (SI 6);
 - presence of fish (SI 7);
 - number of adjacent water features (SI 8);
 - terrestrial habitat (SI 9); and
 - macrophyte cover (SI 10).
- 2.2.3 Each factor is scored and the scores are converted to SI scores on a scale from 0.01 to 1 from graphs given in Oldham *et al.* (2000).
- 2.2.4 Further research by Brady (unpublished) has developed a system for using HSI scores to define waterbody suitability for GCN according to the following categories:
- HSI <0.5 = poor
 - HSI 0.5 – 0.59 = below average
 - HSI 0.6 – 0.69 = average
 - HSI 0.7 – 0.79 = good
 - HSI > 0.8 = excellent
- 2.2.5 There is a positive correlation between HSI scores and presence and abundance of GCN in waterbodies. Generally, waterbodies with high HSI scores are likely to support larger populations. However, the relationship is not sufficiently precise to conclude that a waterbody with a high HSI will definitely have a large newt population, or that a

waterbody with a low HSI score will only have a small newt population or no newts at all.

- 2.2.6 The drainage ditch network across the site was split into four distinct geographical locations based on their characteristics. These four areas were then treated as individual waterbodies for the sake of the HSI assessment.

2.3 Environmental DNA analysis

- 2.3.1 The presence/ likely absence of GCN in all of the waterbodies present within the site was determined through the use of Environmental DNA analysis (eDNA).
- 2.3.2 In accordance with good practice guidelines (Biggs, *et al.* 2014), 20 water samples were taken from the margins of the waterbodies included in the survey (where accessible) by an appropriately experienced and licensed surveyor using the correct methodology and equipment.
- 2.3.3 The samples were taken during the optimum survey period of 15th April - 30th June on 27th and 28th April 2022, with a repeat visit to one waterbody after an inconclusive result on 7th June 2022. The samples were taken by Kailey O'Brien (NRW GCN licence number - S091652/1).
- 2.3.4 The samples were taken from evenly spaced locations around the waterbodies and all areas of the waterbodies were surveyed (where accessible) in order to provide a complete overview of the diversification of the waterbody in the analysis.
- 2.3.5 The weather conditions and sedimentation levels were considered to be suitable for sampling.

2.4 GCN population size class

- 2.4.1 In order to determine the estimated population size class assessment of GCN at the site, a series of six survey visits (night and morning) were conducted according to current methodologies listed in the GCN mitigation guidelines (Natural England, 2001).
- 2.4.2 Survey visits were conducted in suitable weather conditions (see Table 4 in Appendix A) between mid-April and mid-June by NRW GCN licenced surveyors: Alex Ellis (GCN NRW licence number – S092617/1), Kailey O'Brien and Anna Burnham (GCN NRW licence number – S091104/1). A combination of the following survey methods were employed during each visit:
- Torch survey: involves walking the perimeter of water body shortly after dusk searching marginal areas for adult GCN with a powerful torch (e.g. Clulite 1 million candlepower torch).
 - Egg search: involves an examination of both living and dead submerged vegetation (especially folded leaves), fallen twigs or on other debris (plastic bags) for newt eggs.
 - Bottle trapping: involves setting traps made from empty plastic bottles around the margins of waterbodies in the evening and checking them early (before 10 am) the following day.

- 2.4.3 In order to carry out a population size class assessment, the highest count of adult newts obtained in each waterbody by any one method is summed for all waterbodies on one night. The peak total site count is then the highest of these figures. The figure which is obtained then determines whether the population of GCN at the site is small (for maximum counts up to 10), medium (for maximum counts between 11 and 100) or large (for maximum counts over 100).

3.0 RESULTS

3.1 Habitat suitability index

3.1.1 The results of the HSI assessments are given in Table 1 below.

Table 1: HSI assessment results and suitability to support GCN

Waterbody Number	Description	HSI Score	Suitability
Waterbody 1	Large man-made pond filled with reed and surrounded by a dense layer of bramble. Pond contained fish when it was first created. Water fowl present.	0.65	Average
Waterbody 2	Man-made pond on the edge of a sand dune system surrounded by creeping willow and rough grassland. A few mallard present.	0.66	Average
Waterbody 3	Large lake formed along the course of the main drainage ditch through the site. Moderate sized island in the centre, supporting trees and scrub. Lake surrounded by scrub with fairly steep banks. Lots of water fowl present.	0.33	Poor
Waterbody 4	Large area of wet woodland which floods frequently.	0.49	Poor
Waterbody 5	Section of main drainage ditch within the main steel works site. Bounded by the main road on one side and the slab storage yard on the other. Thin strips of ruderal / grassland / scrub either side. Lined with metal piling. Some water fowl present.	0.59	Below Average
Waterbody 6	Ditch through the eastern area of the steel works. Very overgrown with reed and plants from the surrounding rough grassland. Lots of run-off from the coal stores.	0.42	Poor
Waterbody 7	Large pond formed between two culverted sections of ditch. Very steep sides and water level is over 4m below ground level. Surrounded by rough grassland and scattered scrub.	0.57	Below Average
Waterbody 8	Large reed bed on edge of woodland. Dries out frequently.	0.42	Poor
Waterbody 9	Depressions in the ground within area of wet woodland filled with shallow water that will likely dry out in warmer months (not a pond).	0.41	Poor
Waterbody 10	Shallow ditch within woodland, will likely dry out in warmer months.	0.45	Poor
Waterbody 11	Reedbed at edge of car park and woodland. Very polluted.	0.41	Poor
Waterbodies 12a/12b	Extensive ditch network throughout southern fields (separated into two for purposes of further survey – 12a and 12b). Very overgrown, barely any open water, choked with reed and scrub.	0.55	Below Average

3.2 Environmental DNA analysis

- 3.2.1 All twelve waterbodies were re-visited in order to undertake eDNA surveys.
- 3.2.2 Three waterbodies were subsequently not surveyed (Waterbodies 6, 8 and 10) as they either were found to have a much faster flow than previously anticipated or they were completely dry, making them unsuitable to support a GCN population.
- 3.2.3 The details of the eDNA survey results are shown in Table 2 below.

Table 2: eDNA Survey Results

Waterbody Number	eDNA Result	2nd eDNA result
Waterbody 1	Negative	N/A
Waterbody 2	N/A – presence confirmed so not required	N/A – presence confirmed so not required
Waterbody 3	Negative	N/A
Waterbody 4	Negative	N/A
Waterbody 5	Negative	N/A
Waterbody 6	N/A – Fast flow so not required	N/A
Waterbody 7	Negative	N/A
Waterbody 8	N/A - Dry	N/A
Waterbody 9	Negative	N/A
Waterbody 10	N/A – Fast flow and very shallow so not required	N/A
Waterbody 11	Negative	N/A
Waterbody 12a	Inconclusive Result	Negative
Waterbody 12b	Negative	N/A

3.3 GCN population size class

- 3.3.1 Those waterbodies found to have HSI scores of 'Below Average' or above were subject to population estimate survey techniques including torching, egg searches and bottle trapping.
- 3.3.2 The results of these survey techniques are shown in Table 3 below.

Table 3: Population Estimate Survey Results

Waterbody Number	Methods	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
Waterbody 1	Torching	No records	No records	No records	No records	N/A	N/A
Waterbody 2	Egg search	GCN eggs recorded	N/A	N/A	N/A	N/A	N/A
	Torching	4 male GCN 2 female GCN	1 male GCN 4 female GCN	3 female GCN 1 male smooth	2 male GCN	No records	No records

Waterbody Number	Methods	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
	Bottle trapping	8 female GCN 1 male GCN 1 male smooth newt	10 female GCN 4 male GCN 1 male smooth newt	3 male GCN 5 female GCN	1 female GCN 3 male GCN	5 female GCN 8 male GCN 1 male smooth newt	3 female GCN 2 male GCN 1 juvenile smooth newt
Waterbody 5	Torching	No records	No records	No records	No records	N/A	N/A
Waterbody 12a	Torching	No records	No records	No records	1 female smooth newt	N/A	N/A
Waterbody 12b	Torching	No records	No records	No records	No records	N/A	N/A

4.0 EVALUATION AND CONCLUSIONS

- 4.1.1 Based on the survey finding and population estimates, the red line boundary does not support a population of GCN.
- 4.1.2 There is one waterbody outside of the red line boundary (over 250 m from the boundary and over 500 m from suitable habitat within the proposed development), with a peak count of 14 GCN which is classed as medium population estimate (English Nature, 2001).
- 4.1.3 GCN present within waterbody 2 are unlikely to be present within the red line boundary as the habitat directly surrounding the waterbody and within the surrounding habitat (Margam Moors SSSI) are of good quality suitable for foraging and hibernating GCN. In addition to this, there are waterbodies within the SSSI that waterbody 2 are closer to, than the waterbodies within the red line boundary. Therefore, it is likely GCN will be moving between waterbody 2 and the SSSI waterbodies than commuting to waterbodies further afield (within the red line boundary).
- 4.1.4 Under current proposals, no areas of suitable habitat associated with this population are due to be removed.

5.0 REFERENCES

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000), Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4): 143-155.

RSK Biocensus (October 2021), *Project Cronus: Port Talbot – PEA REV00*. RSK

6.0 FIGURES

Figure 1 – Waterbody locations and survey results



Legend:

Site boundary

2021/2022 survey area

Waterbody locations

eDNA Result

Positive

Negative



00	16/08/2024	2487033	TG	EC	KOB
Rev	Date	Description	Drm	Chk	App

P&C EAF



TITLE: Figure 1:
Waterbody locations

0150300450

Metres

SCALE: 1:12,000 @ A3

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APPENDIX A – SURVEYOR AND WEATHER INFORMATION

Table 4: Weather data for population size class surveys

Visit number	Time	Date	Weather	Temperature/ °C	Surveyor
1	PM	13.04.2022	Dry, foggy	9	Anna Burnham and Libby Brooks
	AM	14.04.2022	Dry	9	
2	PM	05.05.2022	Slight breeze, dry	12	Kailey O'Brien and Libby Brooks
	AM	06.05.2022	Slight breeze, dry	11	
3	PM	11.05.2022	Slight breeze, dry	14	Alex Ellis and Libby Brooks
	AM	12.05.2022	Dry	10	
4	PM	18.05.2022	Dry	12	Kailey O'Brien and Libby Brooks
	AM	19.05.2022	Dry	11	
5	PM	06.06.2022	Slight breeze, dry	14	Kailey O'Brien and Felix Tuff
	AM	07.06.2022	Dry	13	
6	PM	14.06.2022	Dry	15	Alex Ellis and Kailey O'Brien
	AM	15.06.2022	Dry	12	



**INVESTORS
IN PEOPLE**

RSK TECHNICAL NOTE

Project No.: 2487033

Title: Port Talbot Steel Works- Electric Arc Furnace - Pre-construction Surveys Report

Date: 22/08/2025

Status: Rev00

1.0 ELECTRIC ARC FURNACE PRE-CONSTRUCTION SURVEYS

1.1 Introduction

- 1.1.1 This technical note details the results of the pre-construction surveys undertaken at Tata Steelworks, Port Talbot, for the Electric Arc Furnace (EAF) project.
- 1.1.2 Due to the original survey data being over two years old, it was necessary to carry out further surveys to confirm that the ecological baseline has not materially changed since the planning application submission.
- 1.1.3 The site for the EAF project covers 162.7 ha, and is located to the south-east of the town of Port Talbot. It is bordered by additional Tata Steelworks land to the north, east, and west of the site, with Margam Moors Site of Special Scientific Interest (SSSI) located to the south. The Bristol Channel sits approximately 880m west of the site.
- 1.1.4 The site will be developed for a new EAF steel production facility, which will require the demolition of existing buildings.

1.2 Methodology

- 1.2.1 A walkover survey was carried out to assess the habitats on site, and to confirm that there has been no change to the habitats present since the previous survey data was collected.
- 1.2.2 A Great Crested Newt (GCN; *Triturus cristatus*) survey was carried out using torching, egg searching, and bottle trap methods, to confirm the continued presence of GCN in a pond located outside of the red line boundary, to the south-west of site.

1.3 Results

Habitats

- 1.3.1 The site consists of a variety of habitats including scrub, grasslands, ephemeral short perennial vegetation, broadleaved plantation, coastal floodplain grazing marsh, swamp,

and areas of open water and reedbed. Collectively, the grasslands, shrub and ephemeral short perennial vegetation can be identified as an open mosaic habitat on previously developed land, which is a habitat of principal importance in Wales, listed under Section 7 of the Environment (Wales) Act.

- 1.3.2 The walkover survey confirmed that there were no material changes to the habitats on site since the previous surveys.

GCN

- 1.3.3 The GCN survey confirmed the continued presence of GCN in the pond to the south-west of the site.
- 1.3.4 Two GCN were seen during torch searches, a GCN egg was identified during the egg search, and 7 male GCN and 11 female GCN were recorded in bottle traps.

1.4 Conclusion

- 1.4.1 The survey results show that there have been no material changes to the habitats on site since the previous survey data was collected and so the previous impact assessment and proposals remain valid.
- 1.4.2 The GCN surveys also confirmed that GCN are still present in the pond to the south-west of site. However, as the pond is located over 250m from the red line boundary, and more than 500m from suitable habitat within the proposed development, it is unlikely that GCN will be impacted by the proposed development. Therefore, no further action is required.

Appendix D Management and Monitoring Prescriptions

The following tables set out the management and monitoring prescriptions by habitat or species type, along with the objectives of that management; specific measures relating to that habitat; and frequency of management and monitoring activities, following completion of the Site establishment works. Furthermore, where there are considerations that are relevant to the interface of habitat types or species considerations relevant to management, these are described under “other considerations”.

These management and monitoring prescriptions should be read with the main text of the HMP, to provide context to these prescriptions. A management and monitoring activity schedule for the 30 years following completion of the Site establishment works is also provided (**Appendix G**). Note that all management activity frequencies, extents and approaches are subject to adjustment, depending on the outcomes of monitoring.

Full formal review, and as necessary, update of the HMP will take place a minimum of every 6 years, to allow the plan to evolve in response to monitoring findings. Any proposed changes to the HMP will be discussed and agreed with NPTC.

Dune Slack Ponds

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of Dune Slack Pond	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include: - removal of scrub to baseline (Year 0), - maintenance of open water of no less than 50% and removal of undesirable plants	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. All vegetation management will take place in the period November - January inclusive (as a guide) in each management year. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of Dune Slack Ponds	Monitoring to confirm establishment of proposed habitats and to inform future management	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken:		Monitoring to be undertaken by suitably qualified ecologist. Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required.

Habitat Management Plan

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
	requirements.	- Extent of open water and perimeter shading. - Extent of desirable and undesirable attributes (see Table 6.1) (e.g. invasive non-native species or dominance by undesirable species).		
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following November-January inclusive (avoiding breeding bird season etc) – see sand dune grassland/scrub table below		
GCN Population assessment	To assess population size of GCN within existing and created dune slack ponds.	Six survey visits completed during March to June as per relevant best practice guidelines, with at least three visits completed between mid-April and mid-May. Surveys to comprise bottle trapping and torch surveys, with peak adult count recorded.		

Habitat Management Plan

South Facing Dunes

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of South Facing Dunes	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include: removal of scrub to baseline (Year 0),	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. All vegetation management (scrub removal) will take place in the period November -January inclusive (as a guide) in each management year. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of south facing dunes	Monitoring to confirm establishment of proposed habitats and to inform future management requirements.	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken: - Extent of desirable and undesirable species (see Table 6.1) - presence/absence of invasive non-native species or dominance by undesirable species.		Monitoring to be undertaken by suitably qualified ecologist. Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required.
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following November-January inclusive (avoiding breeding bird season etc).		

Habitat Management Plan

Sand Dune Grassland / Scrub

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of Sand dune grassland	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include the cutting to 100-150 mm above ground level of 30% of the total grassland areas within a given management period.	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. Grassland cutting to be undertaken in August/September of each management year. Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of sand dune grassland	Monitoring to confirm establishment of proposed habitats, monitor species diversity in response to the management plan and to inform future management requirements.	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken: - Extent of desirable and undesirable species (see Table 6.1) - presence/absence of invasive non-native species or dominance by undesirable species		Monitoring to be undertaken by suitably qualified ecologist. Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required. All scrub management will take place in the period November - January inclusive (as a guide), where required. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following November-January inclusive (avoiding breeding bird season etc).		
Invertebrate		An invertebrate survey will be conducted	Surveys to be undertaken	

Habitat Management Plan

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
monitoring		with, in each monitoring year, invertebrate survey visits including the spring, summer and autumn periods. The survey protocol will follow that undertaken for the baseline survey work undertaken prior to commencement of the Proposed Development and will seek to determine the species present and their conservation value.	March-September every 6 years through the Management Plan period.	

Appendix E Photograph of Recently Created Dune Slack



Appendix F Establishment Works Schedule: Habitat Creation and Enhancement

Annualised monthly scheduled for proposed Margam Burrows Site establishment works (habitat creation and enhancement measures, as described in **Section 5**). To be completed following the securing of planning consent for the proposed Margam Substation and appropriate associated Condition, S106 or legal agreement for the proposed Margam Burrows Site.

[illegible]

Habitat Management Plan

[illegible]

Appendix G Management and Monitoring Schedule

[illegible]