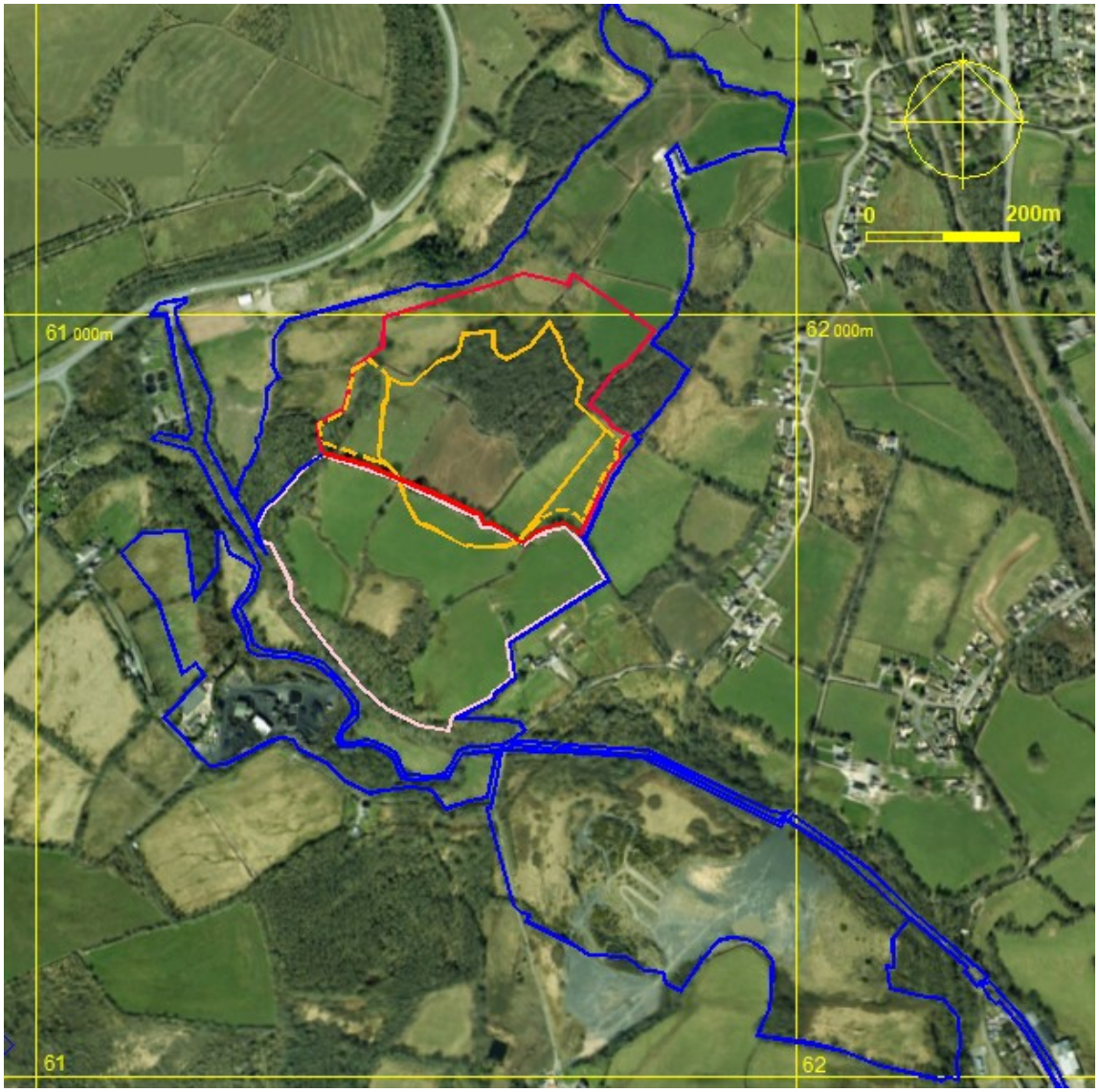
**GLAN LASH EXTENSION REVISED**
**SHAND'S ROAD**
**LLANDYBIE**
**CARMARTHENSHIRE**
**SA18 3NA**

# GREEN INFRASTRUCTURE STATEMENT

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**GREEN INFRASTRUCTURE STATEMENT**

**GLAN LASH EXTENSION : LLANDYBIE : SA18 3NA**

## 1.0 INTRODUCTION

This is the Green Infrastructure Statement for the proposed Glanlash Mine Extension Revised scheme to win anthracite from land to the north of the original Glanlash surface-mine site. The original site was granted full planning permission by Carmarthenshire County Council on 25/01/2012, permission No E/24681. The Extension Site covers 10.03 hectares of land to the north of the original Glanlash Mine Site and is centred at E261560 N213900.

The Glanlash Extension Revised scheme follows-on from the original Glanlash Mine which includes concurrent and synchronized, phased, site operations and restoration work at the original Glanlash site the Tirydail Colliery Tip Restoration site.

Many of the ecological recommendations for the original scheme and some advance planting is relevant to the operation of the Glanlash Extension Revised site.

The Glanlash Extension Revised scheme is referred to as the 'Extension Site' in this document.

## 2.0 TERMS

The definition of Green Infrastructure in the Annex Chapter 6 Planning Policy Wales 12

'*Green infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places. Component elements of green infrastructure can function at different scales. At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways and mountain ranges. At a local scale, it might comprise parks, fields, public rights of way, allotments, cemeteries and gardens. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks'.*

The Environment (Wales) Act 2016 provides a context for the delivery of multi-functional green infrastructure. Its provision can make a significant contribution to the sustainable management of natural resources. Green infrastructure is capable of providing several functions at the same time and as a result, offers multiple benefits, for social, economic and cultural, as well as environmental resilience, and responds to challenges presented by the climate emergency.

A Step Wise Approach is required to be demonstrated in the Green Infrastructure Statement to assess impacts on habitats and species:

| | |
|---|---|
| Step 1 | Avoid |
| Step 2 | Minimise |
| Step 3 | Mitigate/Restore |
| Step 4 | Compensate on Site |
| Step 4 | Compensate Off-Site |
| Steps 1-4 | relevant steps that require enhancement |
| Step 5 | Long Term Management Plan |

These steps will indicate how Net-Benefit-for-Biodiversity is achieved.

Without an achievement Step 6 would result in a refusal for a development.

*'Mitigation*' to mean 'measures taken to avoid or reduce 'negative impacts', as separate from '*Compensation*' meaning 'measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas.

## 3.0 DOCUMENTS

Refer to the following documents as reference for the statement

- CA 2024 GLAN-01 Glan Lash Landscape Existing Locations 2006
- CA 2024 GLAN-02 Rev C Glan Lash Landscape Existing 2006 Detail
- CA 2024 GLAN-03 Rev A Glan Lash Landscape Intermediate Existing 2013
- CA 2024 GLAN-04 Rev C Glan Lash Landscape Restoration Overall
- CA 2024 GLAN-05 Rev B Glan Lash Landscape Restoration Detail
- CA 2024 GLAN-06 Glan Lash1879 Maps of Site and Tirydail
- CA 2024 GLAN-07 Glan Lash Site Location General
- CA 2024 GLAN-08 Glan Lash Surrounding Designated Areas
- CA Glan Lash Habitat Measurements 10 August 2024
- CA Glan Lash Planting Schedule 10 August 2024
- CA Glan Lash Landscape and Ecological Management Plan

By Others

Glan Lash Environmental Impact Assessment Revised August 2024
Glanlash Extension Revised: Ecological Assessment, Pryce Consultant Ecologists, August 2024

## 4.0 EXISTING SITE GENERAL

The Glanlash Extension Revised site application boundary covers 10.03Ha of land to the north of the original Glanlash Mine Site and is centred at E261560 N213900. The Extension Revised site is in a rural location with no buildings or residences, roads or public rights of way (PROW) within or adjacent to it. A track runs south from Ty Uchaf farm and enters the north of the application site into Field D1 and Field D2 but is no longer easily passable through woodland blocks W2 and W3.

The nearest buildings are the farms of Y Garth to the southeast and Ty-Uchaf to the north, abutting land under control of the Applicant. A linear housing strip along Waun-Farlais lies to the east 440m from the centre of the Glanlash Extension Revised site with a section of PROW at the rear of the houses linking to Y Garth farm. The Extension Revised site is separated from the Waunfarlais Road by a topographical ridge that rises 14m above the proposed mine extension and then falls 19m to Waunfarlais Road.

Blaenau is 900m to the west of the Extension Revised site and will be shielded by the existing overburden mound. To the south of the Extension Revised site is the existing site and washery complex. Llandybie is 840m to the north of the application site. The town of Ammanford lies to the south east and is close to the Tirydail Tip Restoration site. The important Heart of Wales Line Trail passes through Ammanford and continues in a northerly direction.

Shand's Road connects the B4556 near Blaenau to Tirydail, Ammanford, following the line of a former mineral railway adjacent to the Afon Lash to its junction with the Afon Llwchwr. The north-western section of the road lies on the north-east side of the Afon Lash with the coal washery complex to its south-west. The Glanlash Mine site is on the north-east side of the road opposite the washery with the Glanlash Extension site to its north. To the south of Glanlash, the river crosses under Shand's Road to lie north-east of the road where it passes the Tirydail Tip Restoration site before the road terminates at Tirydail, opposite the college.

The B4556 lies to the west and the A483 and Heart of Wales railway line lie to the east of the Glanlash Extension Revised site. Waunhafog Road lies to the south of the coal washery, crosses Shand's Road and continues northwards as Waunfarlais Road to the east of the mine site and the proposed extension.

There are historic remains of previous mining works including disused mine shafts in the areas around both the original site and the Extension Revised site.

The land under the control of the Applicant encompasses the original Glanlash site, the Glanlash Extension Revised site and land to the north up to and around Ty Uchaf, an area to the west with Purple Moor-grass; to the south the length of Shand's Road and fields and the coal washery to the south and the Tirydail Tip Restoration site to the south east.

CA 2024 GLAN-01 Glan Lash Landscape Existing Locations 2006 and CA 2024 GLAN-02 Rev C Glan Lash Landscape Existing 2006 Detail show both the original Glanlash site and Glanlash Extension Revised site areas before any mining works had commenced. The field patterns of both areas are little changed since 1879. On the Extension Revised site a section of hedgerow has been removed from Fields C1 and C2 since 1879.

CA 2024 GLAN-03 rev A Glan Lash Landscape Intermediate Existing 2013 shows the activity in the original Glanlash site with the western overburden/subsoil mound which will remain *in situ* until the backfilling and restoration of the Extension Revised site. The excavated void is shown in the central part of the current mine site which is in the process of being backfilled to restoration levels in the south-eastern part of the site. In the eastern corner are temporary topsoil and hedgerow soil mounds. Attenuation and settlement lagoons are located around these mounds and will also remain *in situ* until the restoration phase of the Extension Revised site.

The Limit of Excavation (the 'orange line') in the Glanlash Extension Revised application site does not extend to the application site boundary. The northern section of *Molinia* (Purple Moor-grass) MG2 and MG3, woodland W1, W4 and Fields D1 and D2 and a group of trees and hedgerow 15 in Field C2 are retained. W5, H14 are to be removed and also the topsoil of Field A1 and C2 are to be stripped and stored in these areas before any further topsoil and subsoil stripping occurs in other areas and is stored in these areas.

The excavation of the Glanlash Extension Revised site and its subsequent phased restoration runs concurrently with the restoration of the original site and the continuing replanting and habitat management at the Tirydail Tip Restoration site. The working programme is phased and restored areas are to be brought into management after each phase of restoration is completed. Aftercare will commence after the completion of each restoration phase but the 10 year aftercare period and management plan covering the original Glanlash site, the Extension Revised site and the Tirydail Restoration site will not commence until the Glanlash Extension Revised site is completely backfilled and restored and the final habitats and plantings established.

The Glanlash Extension Revised site has the potential to change the landscape. Changes will be temporary during the operational period but permanent following restoration

## 4.1 EXISTING SITE HABITATS

The existing site is broken up into separate areas by woodland edges, fences and hedges and supports the following features.

- Broadleaf woodlands with scrub edges and some internal scrub areas
- Hedgerows with and without mature trees
- Plant species of significance
- Agricultural semi-improved grasslands
- *Molinia* (Purple Moor-grass) dominated grassland
- Marshy grassland/Rush pasture
- Farmland ditches
- Invasive non-native species
- Protected and Priority Species

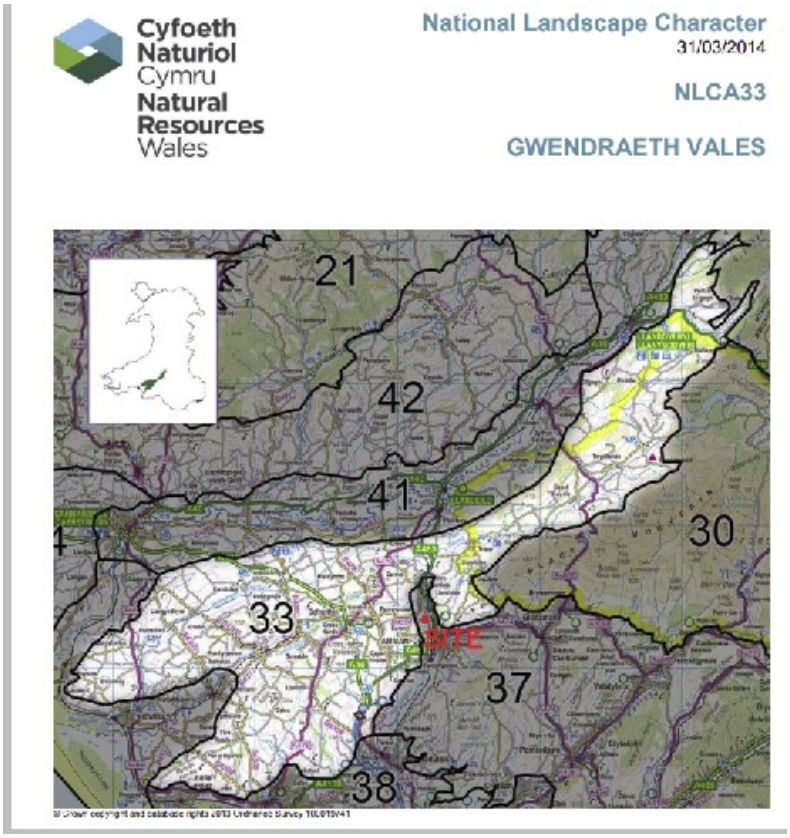
## 5.0 STATUTORY OR NON STATUTORY SITES DESIGNATED FOR PROTECTION OF BIODIVERSITY

### 5.1 NATIONAL LANDSCAPE CHARACTER AREA

The Site lies within the National Landscape Character Area NLCA37 South Wales Valleys. It is a spur on the far western edge. The main character of this area is 'extensive ribbon development fills many valley bottoms and lower slopes. Their urban and industrial character is juxtaposed with dramatic upland settings with steep hillsides, open moors or forests. Networks of railways and roads connect valley settlements.'

The area of the Site has some of these characteristics but has much in common with the adjacent NLCA 33 Gwendraeth Vales.

'The main Landscape Character area has been heavily mined for coal and quarried for limestone. In consequence, this part of the area has developed a distinctive linear or ribbon pattern of settlement along roads. Today, modern residential and industrial estate development breaks the ribbon pattern but nevertheless focuses new development around existing settlements and road crossings. The countryside setting contrasts entirely, being a complex network of small geometric fields surrounded by lush, high hedgerows and small copses. Seasonally waterlogged soils in the valleys support rushy grazing of poor agricultural quality while well drained coarse loamy and sandy soils across much of the character area are used for sheep and dairy pasture. Significant areas have now been reclaimed from former quarries and mines and the somewhat simpler and less mature restoration field layouts can be picked out, despite the inclusion of new woodland planting belts'




The Glanlash restoration plan aims to retain the landscape character of its surroundings and restore its habitats and provide a biodiversity net gain.

### 5.2 SPECIAL AREAS OF CONSERVATION AND SITES OF SPECIAL SCIENTIFIC INTEREST

Refer to CA 2024 GLAN-08 Glan Lash Surrounding Designated Areas. The Glanlash Extension Revised site proposals do not directly affect any statutory or non-statutory sites designated for the

protection of biodiversity. However, the closest part of the Caeau Mynydd Mawr **Special Area of Conservation** (SAC), a site designated to conserve the Marsh Fritillary butterfly (a European Protected Species), is located some 3.5km to the south-west and the Cernydd Carmel SAC, a site designated for its geological features and vegetation, is some 2km to the north-west. Although present on both these SACs, Dormouse (a European Protected Species) is not cited as a qualifying reason for their selection.

The Glanlash Extension Revised site is located close to the Afon Lash, a tributary of the Afon Llwchwr which flows into the Carmarthen Bay and Estuaries SAC. One of the qualifying features for the designation of this SAC is to protect the population of European Otter which is present in the SAC. The treatment of water in the attenuation and settlement lagoons is important to prevent pollution of the Afon Lash and the SAC and avoid a negative impact on potential otter presence.

Four **European Protected Species/Species groups** (EPS) occur within or around the Glanlash Extension site. These are Marsh Fritillary butterfly, Dormouse, bats and Otter. There are other significant species including birds, Hedgehog, reptiles and amphibians.

The Ecological Assessment (Pryce Consultant Ecologists, 2024) gives the following assessments of impacts on various potential ecological receptors resulting from the Glanlash Extension Revised scheme.

- Caeau Mynydd Mawr SAC. NEGLIGIBLE IMPACT to POTENTIAL NET BIODIVERSITY GAIN
- Cernydd Carmel SAC. NEGLIGIBLE IMPACT
- Carmarthen Bay and Estuaries (SAC) continued water treatment on original site with attenuation and settlement lagoons will continue to result in NEGLIGIBLE IMPACT to both the SAC and otters which are a qualifying reason for the selection of the SAC
- All SSSIs within 10km of the application site NEGLIGIBLE IMPACT
- *Molinia* (Purple Moor-grass) dominated vegetation within the north-west section of the Glanlash Extension Revised site. This land is under the control of the applicant. This whole area will be retained, the habitat restored to optimal condition to support Marsh Fritillary butterfly and then brought under conservation management. The habitat will be restored as an early action following the granting of planning permission for the mining scheme and will subsequently be managed to maintain the habitat in good condition for the duration of the mining operation plus the aftercare period, a total of 17 years. LOW IMPACT during habitat restoration, NET BIODIVERSITY GAIN thereafter,
- *Molinia* (Purple Moor-grass) dominated vegetation contiguous with and north of, but outside the application site but under the control of the applicant This whole area will be retained, the habitat restored to optimal condition to support Marsh Fritillary butterfly and then brought under conservation management. The habitat will be restored as an early action following the granting of planning permission for the mining scheme and will subsequently be managed to maintain the habitat in good condition for the duration of the mining operation plus the aftercare period, a total of 17 years. LOW IMPACT during habitat restoration, NET BIODIVERSITY GAIN thereafter.
- Semi-natural Woodland outside areas under the control of the applicant. NO IMPACT
- Semi-natural Woodland mix of retention, advance planting and restorative planting. Under the control of the applicant, HIGH IMPACT
- National Landscape Character Area NLC37 South Wales Valleys and 33 Gwendraeth Vales NEGLIGIBLE once operational works and restoration and management complete.

## 5.3 WOODLAND AREAS

The woodlands, scrub and hedgerows offer substantial, undisturbed faunal cover, foraging, nesting and roosting opportunities for protected species such as dormice, bats and birds. All vegetation removal will be undertaken so as to minimise the impact on both plant and faunal species.

In order to avoid valuable Marsh Fritillary habitat and mature and over-mature trees, the excavation area proposed in the Glanlash Extension Revised application has been considerably reduced when compared with the 2019 Glanlash Extension application. A survey of such trees was undertaken within the revised site and around its peripheries in May 2024. The revised limit of excavation is shown by the yellow/orange line on plans.

The woodland trees were visually assessed. Only trees which were considered to have merit as regards their age, size and conformation were surveyed. Most are located outside the boundaries of the proposed excavation area and will not be disturbed by the mining operation. It was not possible to gain access to measure all trees due to bramble or scrub growth around their bases. All trees located close to, but outside the excavation limit will have Root Protection Areas marked out and will be temporarily fenced to BS2837 (2012) prior to the commencement of mining in the particular area that each tree or tree group is located.

The central woodland area has been felled in recent years with only a few etiolated, poorly conformed alder and birch trees remaining but with a dense young shrub layer of willow and bramble.

The woodland areas to be retained are listed below and include approximately 20% of the existing woodland within the Glanlash Extension Revised application site

- W1 and W4 and Trees of Hedgerow H15. The majority of assessed trees will be retained.

The woodland areas to be removed

- W2 and W3 are within the excavation limit.
- W5 is outside the excavation limit but in the proposed soil storage area.
- The individual assessed trees to be removed are
    - T12 Alder
    - T23 1 Oak 1 Dead Oak
    - T24 poor Alder
    - T25 Group of Alders all poor
    - T26 1Oak
    - T27 2 mature pedunculate Oaks

The woodland loss is 80% of the woodland: approximately 23155m2 will be replaced with approximately 60160m2

The woodland within the Limit of Excavation boundary must be replaced by advance planting before any excavation and woodland removal can be commenced. This applies to areas MW1 – MW9.

MW1 – MW6 and W7 are to be planted in existing fields under the control of the Applicant.
MW7 and MW8 are in a retained field within the Application Site boundary.
MW9 is the advance planting undertaken in 2018 in the Tirydail Tip Restoration area.

The woodland topsoil and subsoil will be stripped in succession and stored separately from the grassland soils

MW10, MW11 and MW12 are the restored woodland planting areas within the Glanlash Extension Revised site.

All newly planted woodland will comprise of locally native-species, where possible of local provenance with ash replaced with other species and planting schedules as recommended by the ecologist.

Avoidance measures

- implementation of fencing for tree protection prior to any clearance/ excavation works is to avoid damage to the retained trees..
- Tree felling to be undertaken outside the bird nesting season unless checked by a suitably qualified Ecologist and approval given to proceed.

## 5.4 HEDGEROWS

All hedgerows within the Extension Site qualify as 'Important Hedgerows' as defined in the Hedgerow Regulations as they are likely to support protected species (Dormouse) and are shown on the c.1840 tythe map so are of historic significance.

All hedgerows and hedgebanks that will be removed will be subject to special treatment to permit their re-use during site restoration and, as far as possible, to retain their ecological viability. Enabling works within the Glanlash Extension Revised site will prepare hedgerows by cutting all vegetation to ground level at the appropriate time of year and will then remove the hedgebank soils to a separately defined storage area. This material will be used to form replacement hedgebanks during site restoration and will not be used for any other purpose. Where the mine phasing programme permits,

hedgerows will be removed directly from the phase about to be mined, immediately to prepared backfilled or restoration areas thus alleviating the necessity to store hedgebank soils.

The hedgerows to be retained total 257 linear metres. The hedgerows vary from hedgerows only to hedgelines with mature trees. Hedgerows to be removed total 441 linear metres.

Twice the total length of hedgerows is required to be replaced when compared to the total length of existing hedgerows within the Glanlash Extension Revised site. A minimum length of 882 linear metres is required but the proposed total length of replaced hedgerows is 1014 linear metres.

Existing, reinstated and new hedgerows will be managed to promote their biodiversity value in order to provide potential habitat for the support of Dormice, bats, birds and other faunal groups. The reinstated hedgerows will form habitat connections between areas of existing habitats of value (eg linking areas of existing woodland outside the site). Hedgerows within the restored Glanlash Extension Revised site will follow the pre-mining field pattern as far as possible including replacing a hedgerow lost since the 1879 O.S. map and will be managed to provide hedgerow trees at a spacing of about 10m - 20m.

The Extension Site restoration does not have the capacity to accommodate the required length of mitigation hedgerows and these will to be provided on the Tirydail Tip Restoration site. These are shown as RH5, RH6, RH7 and RH8 on the drawings and these new hedgerows follow previous woodland and field lines from the 1879 map.

Avoidance measures

- Hedgerow removal will be undertaken outside the bird nesting season unless checked by a suitably qualified Ecologist and approval given to proceed.

## 5.5 PLANT SPECIES OF SIGNIFICANCE

Several plant species of national, county and local significance will be affected by the scheme. Details are given below. The site ecologist will be engaged to identify and locate these plants before the start of each phase of site operations and will ensure that appropriate mitigation advice is implemented. Mitigation is likely to include the translocation of all or some of the following:

Translocation of individual plants of

- **Bluebell** (partially protected by its inclusion on schedule 8 of the Wildlife and Countryside Act 1981 (as amended) individual plants will be relocated to existing or reinstated hedgebanks and woodland areas.
- **Whorled Caraway** (Nationally Scarce and also included by CCW in category A of its list of Globally Threatened Plant Species) individual plants will be relocated to existing or restored damp grassland areas.
- **Primrose** (included by CCW in category B of its list of Globally Threatened Plant Species) individual plants (if any are found) will be relocated to existing or reinstated hedgebanks and woodland areas.
- **Bog Pimpernel**, **Bladder Sedge, Greater Pond-sedge** (of county or local significance) relocation of individual plants to pond margins on the Tirydail Tip Restoration site. Some of this plant material will then be used to vegetate the margins of the new ponds at Glanlash when the site is restored.
- **Great Horsetail, Rough Hawk's-beard** (of county or local significance) relocation of individual plants to dry areas on the Tirydail Tip Restoration site and land undergoing restoration at Glanlash.
- **Common Cudweed**, **Small Cudweed** (of county or local significance) relocation of individual plants (probably as seed collected from the plants growing on site) to suitable existing safe areas such as infrequently used tracks or paths at Tirydail Tip where it will be possible to leave them undisturbed in future.
- **Protection of existing plants *in situ*** if it is possible to avoid disturbing them.

Timing of these operations may delay site operations if not carefully planned well in advance of the intended commencement of works.

## 5.6 PONDS AND WATERCOURSES

No ponds or watercourses of significance are located within the Application Site. The restoration proposals include the provision of a watercourse with a necklace of small ponds draining through the centre of the site into a larger pond inside the southern boundary.

Also small ponds are proposed in the Glanlash Extension Site in the scrub areas within the restored woodland and form new habitats within the Application Site.

Original farmland drainage ditches are associated with the Purple Moor-grass-dominated vegetation located to the north of the excavation area in the Glanlash Extension Revised site. These drainage ditches will be maintained as part of the conservation restoration and management of that area for the whole duration of the mining phase (7 years) together with the aftercare period (10years), a total of 17 years.

## 5.7 *MOLINIA* – PURPLE MOOR GRASS AND RUSH PASTURE

The Purple Moor-grass of the northern fields, as well as being of value in its own right and of European significance, is of particular importance to support the Marsh Fritillary butterfly. Following the adoption of the revised Limit of Excavation, this area will not be disturbed. However, it is currently in poor condition but the scheme presents the opportunity to restore this habitat and provide conservation management for the whole duration of the mining phase (7 years) together with the aftercare period (10years), a total of 17 years.

## 5.8 AGRICULTURAL FIELDS

The existing grassland fields within the application are all of an agriculturally semi-improved type with areas of wetter marshy grassland and a small patch of less improved neutral grassland. It is proposed that all these grassland soils are stripped and stored together in an unsegregated bund and during the restoration phase will be replaced on restored grassland fields. All restored grasslands for agricultural use will be seeded with a grass mix agreed with the farmer for grazing.

## 5.9 PROTECTED AND PRIORITY SPECIES

Protected species of European Significance which occur in or in the vicinity of the site are

- DORMICE
    - The results of the surveys indicate that the woodland, scrub, hedgerows and bramble within the site provide habitat that has potential to support Dormice. Also the rank grassland in the north of the application site may be inhabited by the species. Although Dormice have been recorded 2.6km from the application site, neither animals nor their signs have been recorded during any of the ecological surveys carried out in connection with the Glanlash and Glanlash Extension sites between 2010 and 2024. However, it is assumed that Dormice are present within the assessment site.
    - A Dormouse Mitigation Plan will be drafted which will require the provision of at least twice the area of mature habitat in compensation for the Dormouse habitat that will be lost. New habitat will need to be planted at least 18 months to two years prior to the planned disturbance of existing habitat with potential to support dormice in order to allow time for it to become sufficiently mature to receive displaced animals. This has been previously itemised in the woodland advance planting. This Mitigation Plan will be agreed with NRW in support of the development licence application.
    - The Dormouse Mitigation Plan will define the planting details and timing and a 10 year management plan to meet the time requirements of the mitigation plan.

- BATS
  In order to minimise the impacts of the loss of potential bat habitat resulting from the scheme, the following measures will be implemented:

- In order to determine likely presence/absence of bat roosts within the woodland, a winter assessment is recommended as the canopy cover in summer prevents a clear view of the trees such that it is not possible to confidently perform a full bat roost assessment during the summer months;
- All trees found to have potential to support roosting bats should be subject to a full suite of surveys in line with good practice.
- Appropriate mitigation shall be provided should any trees with roost suitability be lost as a result of the scheme;
- Prior to the clearance of the woodland or any mature trees, a best-practice precautionary approach to felling must be agreed and formalised between the site ecologist and the developer to be implemented under the supervision of the ecologist.
- Retained habitat shall be protected during and throughout the scheme;
- New habitat (of higher ecological value) shall be created within functionally connected habitats prior to the commencement of the scheme;
- Hedgerows or lines of closely planted trees shall be created at locations where existing bat commuting or foraging routes are broken;
- No night works and/or artificial lighting shall be used after sunset unless in compliance with the Bat Conservation Trust and Institution of Lighting Professionals guidelines (2018).

- OTTER
  - No existing habitat within the Application Site is particularly attractive to otters.
  - The ponds and watercourse proposed in the Glanlash restoration plan are expected to increase the abundance of amphibians so that the ponds will provide a potential food resource making the area more attractive to Otters. Otters using the nearby Afon Lash and Afon Llwchwr as travel routes are likely to exploit this potential food source in late winter and early spring when amphibians congregate.

- MARSH FRITILLARY BUTTERFLY
  - An extensive area of habitat suitable to support Marsh Fritillary butterfly is located north of the proposed Limit of Excavation of the Glanlash Extension Revised site. It is mostly in poor condition due to the lack of management in past years. A small population of the butterfly was recorded in these fields in 2017.
  - The revised extension site excavation and storage areas have been reduced to exclude all this habitat from disturbance that would have resulted from the mining operation.
  - The current habitat is rank and in poor condition and less than optimal to support Marsh fritillary. It is proposed, as an initial part of the mining scheme, to restore this habitat to bring it back to optimal condition within a few years and thereafter it will be subject to conservation management. A Dormouse Management Plan will be drafted and agreed in support of a development licence application to NRW.

- BIRDS
  - Birds use the Application Site for cover, nesting and foraging. Removal of trees, shrubs and other dense vegetation is best undertaken between September and February inclusive to ensure that disturbance to nesting birds is kept to a minimum. Where Dormice, roosting bats and reptiles may be present it is recommended that, as far as possible, clearance is undertaken between mid-September and the end of October.

- BADGER
  - No Badger setts have been found within the application site or within at least 50m outside its boundary. Furthermore, the survey evidence and the records of casual observations indicate that there is no intensive or regular Badger activity within the application site boundary.

- REPTILES, AMPHIBIANS

- The application site supports a small breeding population of Slow-worm, a very small population of Grass Snake and the 2017 survey recorded a single Common Lizard in the Purple Moor-grass dominated land north of the proposed excavation area. Furthermore, the application site supports a small population of terrestrial phase Common Frog and a good population of Common Toad. Although there is no amphibian breeding habitat within the application site the attenuation ponds located nearby in the original site area provide such habitat.
- A *Reptile and Amphibian Mitigation and Compensation Strategy* will be implemented as the phases of the mining operation progress. This will include translocation of displaced animals as necessary and the provision of log piles and hibernacula.

- HEDGEHOG
  - The site ecologist will ensure that all site personnel are mindful of the possibility of the presence of Hedgehogs and actions required if any are found.

**5:10 SOILS HANDLING**

During site operations, soils will only be stripped, transported or spread when in a suitable state, ie not too wet and not too dry. Hedgebank soils, woodland soils and grassland will be treated separately and with special care. Each soil type will be stored separately in bunds not exceeding 1.5m in height

**5.11 INVASIVE NON-NATIVE SPECIES**

INNS recorded during the Phase 1 Habitat Survey are listed below. No nationally listed INNS were recorded within the application site.

- Japanese Knotweed (1 small population on an overburden mound in the centre of the original working site. Stands of knotweed also occur outside the application site along Shand's Road). Care must be taken not to spread propagules from any of these populations. A Knotweed Management Plan is included in the Landscape and Ecological Management Plan (LEMP).
- Himalayan Balsam (one location to the west of the application site in disturbed woodland. Also numerous plants along Shand's Road, all outside the application site). Manual methods of control required to avoid introduction to Extension Site.
- Butterfly Bush (frequently scattered over overburden mounds in the original working site) it is not considered necessary to propose control measures for this species

Potential or local INNS recorded during the surveys include the following. These species are not listed at schedule 9 of the Wildlife and Countryside Act or as nationally recognised invasive species but are very invasive in Carmarthenshire.

- Pendulous Sedge (21 records from woodland and disturbed ground).
  Whilst there is yet no requirement to consider the prevention of its proliferation and spread, it is recommended that, where possible, Pendulous Sedge is destroyed and its flower stalks removed before seeds mature. Staff and contractors undertaking restoration works will be made aware of its presence and will seek to prevent its spread by removing flowering and seeding stems and disposing of them off site.
- Bilbao's Fleabane (14 records, locally abundant on overburden mounds in the original working site) This species produces prolific seed that is wind-dispersed but it is not considered necessary to implement control measures.

**5.12 PUBLIC ACCESS AND FOOTPATH CREATION**

The Extension Site is in a rural location with no buildings or residences, roads or public rights of way (PROW) within or adjacent to the Extension Site. There are no public accesses or footpaths proposed for the Extension Site.

Since 2014 public access has been allowed along Shand's Road and on the newly constructed paths on the Tirydail Tip Restoration site. Both are frequently used and are considered by all users as an important addition to the amenity of the area.

### 5.13 SCRUB AREAS

Areas of scrub planting will be provided on edges and within proposed woodland areas to provide foraging opportunities for birds and dormice which will also be of value to invertebrates and other species.

## 6.0 SUMMARY

The mining scheme will result in NO or NEGLIGIBLE IMPACT or NET BIODIVERSITY GAIN to the following features

- Caeau Mynydd Mawr SAC. NEGLIGIBLE IMPACT to POTENTIAL NET BIODIVERSITY GAIN
- Cernydd Carmel SAC. NEGLIGIBLE IMPACT
- Carmarthen Bay and Estuaries (SAC) continued water treatment on original site with attenuation and settlement lagoons will continue to result in NEGLIGIBLE IMPACT to both the SAC and otters which are a qualifying reason for the selection of the SAC
- All SSSIs within 10km of the application site NEGLIGIBLE IMPACT
- *Molinia* (Purple Moor-grass) dominated vegetation within the north-west section of the Glanlash Extension Revised site. This land is under the control of the applicant. This whole area will be retained, the habitat restored to optimal condition to support Marsh Fritillary butterfly and then brought under conservation management. The habitat will be restored as an early action following the granting of planning permission for the mining scheme and will subsequently be managed to maintain the habitat in good condition for the duration of the mining operation plus the aftercare period, a total of 17 years. LOW IMPACT during habitat restoration, NET BIODIVERSITY GAIN thereafter,
- *Molinia* (Purple Moor-grass) dominated vegetation contiguous with and north of, but outside the application site but under the control of the applicant This whole area will be retained, the habitat restored to optimal condition to support Marsh Fritillary butterfly and then brought under conservation management. The habitat will be restored as an early action following the granting of planning permission for the mining scheme and will subsequently be managed to maintain the habitat in good condition for the duration of the mining operation plus the aftercare period, a total of 17 years. LOW IMPACT during habitat restoration, NET BIODIVERSITY GAIN thereafter.
- Semi-natural Woodland outside areas under the control of the applicant. NO IMPACT
- Semi-natural Woodland mix of retention, advance planting and restorative planting. Under the control of the applicant, HIGH IMPACT
- National Landscape Character Area NLC37 South Wales Valleys and 33 Gwendraeth Vales NEGLIGIBLE once operational works and restoration and management complete.

AVOIDANCE

The following measures should be incorporated into the design of the development, including the mining phase, to avoid and reduce impacts on wildlife:

- The considerable reduction of the extent of the proposed excavation area of the Glanlash Extension Revised site has resulted in the avoidance of disturbance to the following retained features
    - The whole area of Molinia (Purple Moor-grass) and Marsh Fritillary Butterfly Area MG2 and M3 is be retained and will not be disturbed by the scheme except to bring the habitat into optimal condition to support the butterfly and thereafter bring it into conservation management for the whole duration of the scheme plus the aftercare

period (a total of 17 years). This area is the control of the Applicant and will be incorporated into an approved and licensed Marsh Fritillary Management Plan.
    - A band of woodland W1 and W4 with the retention of mature trees.
    - Agricultural grasslands D1 and D2 retained.
- Avoid site clearance works during the bird nesting season (March to August inclusive) unless the site is checked by a Suitably Qualified Ecologist (SQE) and active nests are confirmed to be absent no later than 48 hours before works commence. Where Dormice, roosting bats and reptiles may be present it is recommended that, as far as possible, clearance is undertaken between mid-September and the end of October.
- Use of lighting on Site will be designed in line with Bat Conservation Trust and Institution of Lighting Professionals guidelines (2018) to reduce impacts on bats and other wildlife associated with retained and off-site habitats.
- Invasive Non-Native Species (INNS): Japanese Knotweed, Himalayan Balsam and Pendulous Sedge: treat as necessary in accordance with best practice or as advised and take action to avoid spread to uninfested areas.
- Protection of retained areas and features (including root protection areas to BS2837 (2012)) with fencing during operational works and use of fencing to protect new hedgelines in the Extension Site

MITIGATION

Mitigation is proposed to reduce the impacts on wildlife that cannot be avoided through design:

- Advance planting of woodland areas as part of Dormouse Mitigation Strategy
- All actions required to ensure protected and priority species are managed adequately during operational clearance. Restoration works are designed and implemented to encourage their return and successful re-establishment.
- Translocation of significant plant species as advised by site ecologist
- Soils handling: soils from woodland, hedgerows and grasslands will be handled and stored separately and carefully for reuse. Bunds will not be more than 1.5m high to preserve soil viability.
- Original farmland drainage ditches are associated with the Purple Moor-grass-dominated vegetation located to the north of the excavation area will be maintained as part of habitat restoration and conservation management of the area.
- Reinstated grasslands to be seeded with pasture mixes agreed with farmer for grazing.
- All enabling, planting works, ongoing and proposed management over the 7 year operational work programme and the 10 year management period to be undertaken in accordance with the Landscape and Ecology Management Plan (LEMP).
- All site operations will be programmed to daytime hours to reduce disturbance to sensitive nocturnal species such as bats, roosting birds and nocturnal invertebrate species.

COMPENSATION/ENHANCEMENT

Compensation is proposed to address the impacts on habitats which cannot be avoided or mitigated:

- Additional replacement woodland planting in addition to advance planting to give increased woodland cover extending to more than 2½ times the area lost.
- Hedgerows lost will be replaced by twice their length of newly created hedgerows.
- Proposed hedgerows will replicate old field boundaries where possible
- New ponds and marginal reed beds will attract otters.
- New ponds and appropriate terrestrial habitat will support amphibians.
- Encourage public access for passive recreation along Shand's Road and use of footpaths within the Tirydail Tip Restoration site.
- Scrub areas to be planted within and edging to woodland areas.
- Marshy/Rush grasslands to be created in open parts of the mine restoration site
- New woodland areas and hedgerows are sited to link back to similar adjacent existing features to compensate and enhance linkages lost to the scheme.
- Provision of cover and habitat for foraging and nesting birds by the planting of berry and seed-producing plants and nest boxes.

- The incorporation of opportunities for foraging and roosting for bats, including the provision of roost boxes.
- Incorporation of features such as log-piles and hibernacula for reptiles and amphibians. Also for Hedgehog.
- Provision of a 7 year management plan to cover the period of mining operations prior to the commencement of the 10 year after care period. Both periods will include all habitat retentions, restorations, maintenance of existing features and specialised management procedures for Purple Moor-grass areas and other habitats as well as protected and priority species. Also maintenance and management of new plantings and regular monitoring and review of management to ensure good establishment and maintenance and that biodiversity targets are met.

## 8.0 SUMMARY OF SITE AND BIODIVERSITY GAIN.

The Application Site in its existing condition has the following positive attributes

- Broad-leafed woodlands with edge and internal scrub areas
- Hedgerows with and without mature trees
- Plant species of significance
- Agricultural semi-improved grasslands
- Purple Moor-grass dominated grassland
- Marshy grassland/Rush pasture
- Farmland ditches
- Protected and Priority Species

It has the following attributes which are in suboptimal condition

- Poor central area woodland due to previous felling and absence of management
- Unmanaged farmland ditches
- Molinia areas in rank, unmanaged condition subject to serious scrub and bramble colonization making them less able to support the Marsh Fritillary butterfly.

The Glanlash Extension Revised application site has an overall area of 10.03Ha. The operational works area has been reduced when compared with the 2019 Glanlash Extension site so that an area of 3.14Ha of the revised application site (approximately a third) is retained intact. A large section of this retained area is dominated by Purple Moor-grass habitat which has supported a population of Marsh Fritillary butterfly in the past and, with restoration and conservation management, has potential to support the butterfly in the future. This area is augmented by the inclusion of a large area of similar habitat adjacent and north of the application site which will also be restored and managed and is also under the control of the Applicant.

The 6.85Ha of land affected by the operational works when the scheme is completed and the Site restored will show an increase in the areas of woodland, hedgerows, scrub and marshy grassland habitats. New features will be ponds a watercourse and reed beds. The agricultural grasslands are the only features which are reduced in area. Additional woodland planting and new hedgerows are provided in the Restoration Scheme in land under control of the Applicant and also at the Tirydail Tip Restoration site.

Refer to CA Glan Lash Habitat Measurements 9 August2024 for the detail breakdown of the Site habitat assessment and its restoration. The DECCA Framework is used to indicate the resilience of the Site's ecosystems by assessing their diversity, extent, condition and connectivity. These aspects are considered in detail in Glanlash Extension Revised: Ecological Assessment by Pryce Consultant Ecologists, August 2024.

The loss of the Site's ecology is temporary and the Restoration Plan in the Landscape and Ecological Management Plan indicates how the Site will be restored and managed to ensure the diversity, extent, condition and connectivity are restored and enhanced including off-site works and management on land under control of the applicant and Tirydail Restoration Area.

Most of the different habitats have increased areas after Restoration in comparison to the Site before works commence

The overall result in terms of increased habitat areas for the Revised Extension Site, land under the Control of the Applicant and the Tirydail for this revised application is 47.25%

The hedgerows calculated separately in linear metres and have an overall 82% net increase in length as the removed hedgerows were replaced by more than double their length and net gain takes into account existing hedgerows in the Revised Glanlash Extension Site.

| HABITATS<br>m2 | REVISED EXTENSION SITE EXISTING HABITATS (within application boundary)<br>$m^2$ | REVISED EXTENSION SITE HABITATS AREAS RETAINED AND RESTORED (within application boundary and incl<br>$m^2$ | REVISED EXTENSION SITE HABITATS TOTAL AFTER RESTORATION (within application boundary and incl land in Applicants Control and Tirydail)<br>AREA INCREASE/LOSS FOR INDIVIDUAL HABITATS AND OVERALL HABITAT AREA INCREASE<br>% | |
|---|---|---|---|---|
| EXTENSION SITE | | | | |
| Woodland | 29,388 | 33253 | 3.85% | % Gain-Increased Area |
| Scrub | 2,000 | 8380 | 6.38% | % Gain-Increased Area |
| Agricultural Grassland | 52,479 | 35212 | -17.35% | %Loss- Reduced Areas |
| Rush Grassland | 2,116 | 8943 | 6.83% | % Gain-Increased Area |
| Molinia Grassland | 14020 | 14020 | 8.60% | Area requiring restoration before it can be managed to provide an increased area of Marsh Fritillary Habitat |
| Reedbed | 0 | 40 | 0.04% | % Gain-New Habitat Area |
| Pond | 0 | 155 | 0.16% | % Gain-New Habitat Area |
| OUTSIDE EXTENSION SITE | | | | |
| Woodland within Applicant's Control and Tirdail | | 32990 | 32.99% | % Gain-Increased Area |
| Molinia Grassland outside Extension Application Boundary within Land under Control of Applicant | | 23144 | 5.75% | Area requiring restoration before it can be managed to provide an increased area of Marsh Fritillary Habitat |
| | | | | |
| Total | **100003.00** | **156137.00** | **47.25%** | **TOTAL OVERALL INCREASE IN HABITAT AREAS % GAIN** |
| Hedgerows in linm | 698 | 1271 | **82%** | **HEDGEROW % GAIN** |

The increased habitat areas are important for protected species of bats, dormice and Marsh Fritillary Butterfly and the increased habitat areas will provide Biodiversity Net Gain.

Having considered the location of the site, the phased 7-year operational working method and the 10 year aftercare period management plan, overall, the operational and restoration proposals will result in the Glanlash Extension Revised site providing a substantial Biodiversity Net Gain to the area.

Corscadden Associates

10 August 2024

Pryce Consultant Ecologists

4 August 2024