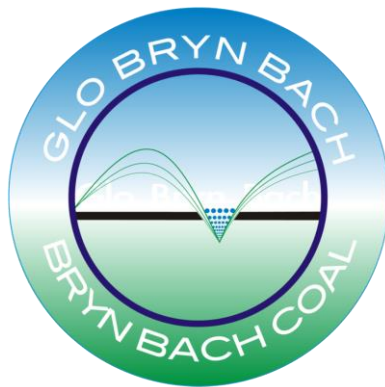




**Environmental Impact
Assessment**

Non-Technical Summary

Glan Lash Extension

June 2018

Contents

1.0 Introduction	3
2. Background to this Application & Site Selection	4
3. Proposed Development.....	6
3.1 Landscape and Land Use.....	6
3.2 Geology & Slope Stability.....	6
3.3 Hydrology and Hydrogeology	7
3.4 Soils & Field Enclosures.....	7
3.5 Ecology	8
3.6 Archaeology.....	9
3.7 Rights of Way.....	9
4.0 Working Proposals.....	10
4.1 Plant Requirements & Hours of Work.....	10
4.2 Method Statement & Phasing of Development	11
4.3 Coal Processing & Coal Vehicle Route.....	12
4.4 Employment.....	13
4.5 Site Liaison Committee.....	13
5. Environmental Impacts.....	14
5.1 Visual Impact.....	14
5.2 Ecology	19
5.3 Noise	21
5.4 Dust.....	23
5.5 Hydrogeology & Hydrology.....	24
5.6 Water Treatment.....	25
5.7 Blasting & Site Illumination.....	26
5.8 Archaeology.....	26
5.9 Rights of Way.....	27
6. Glan Lash Mine Site & Extension Restoration.....	28
7. Public Consultations& Health Impact Assessment	29
8. Benefits of Development.....	30

1.0 Introduction

Bryn Bach Coal Limited

Glan Lash Mine Site
Shand's Road
Bleanau
Llandybie
SA18 3NA

01269 598 700
07770 967 555

chris@brynbachcoal.co.uk

Chris James - Director

Bryn Bach Coal Ltd is applying to Carmarthenshire County Council for permission to mine by surface mining operations 110,000 tonnes of premium quality anthracite from the proposed Glan Lash Extension. The existing site was granted full planning permission by Carmarthenshire County Council on the 25/01/2012 permission No E/24681.

The Extension covers 10.03 hectares of land to the north of the current Glan Lash Mine Site and is centred at E261560 N213900. The extension area can be found in a secluded area of land isolated from human habitation. The extension area is separated from the Waunfarlais Road by a topographical ridge that rises 14m above the proposed extension and then falls 19m to Waunfarlais Road. The settlement of Waunfarlais is 440m from the centre of the extension. Blaenau is 900m to the west of the extension and will be shielded by the existing overburden mound. The overburden mound will remain in situ until the restoration phase of the extension. To the south of the extension area is the existing site and washery complex. Llandybie is 840m to the north of the extension. Further visual and noise attenuation can be provided by the positioning of topsoil & subsoil mounds around the site boundary.

The proposed extension is a continuation of the current development and therefore the impacts on the environment and the amenity can be confidently assessed using data gathered during the operational phase of the current site. We have adjusted the site boundary of the proposed extension and excavation limits in order to mitigate the environmental impacts of the proposed extension and protect areas of important natural and built heritage. The extension will not require an increase in plant levels or production hours.

2. Background to this Application & Site Selection (Ref GLE-01)

Bryn Bach Coal Ltd has developed a unique business strategy for small, compact, low impact mine operations. We believe we have proved that a small opencast mine can be worked in an environmentally considerate manner and that environmental impacts can be minimised by thoughtful operational design

In 2012 Bryn Bach Coal Ltd was granted planning permission to work the existing Glan Lash Mine Site. Coal produced from this development has been processed at the Glan Lash Washery which covers 2.64 hectares and is centred on E216300 N213500. The Glan Lash Washery is presently fully operational.

National Coal Board correspondence showed that the original Glan Lash Site was proposed by the Ministry of Fuel & Power in 1948. A much larger scheme was considered by the National Coal Board in 1962 and our existing site and the proposed extension formed part of that larger scheme

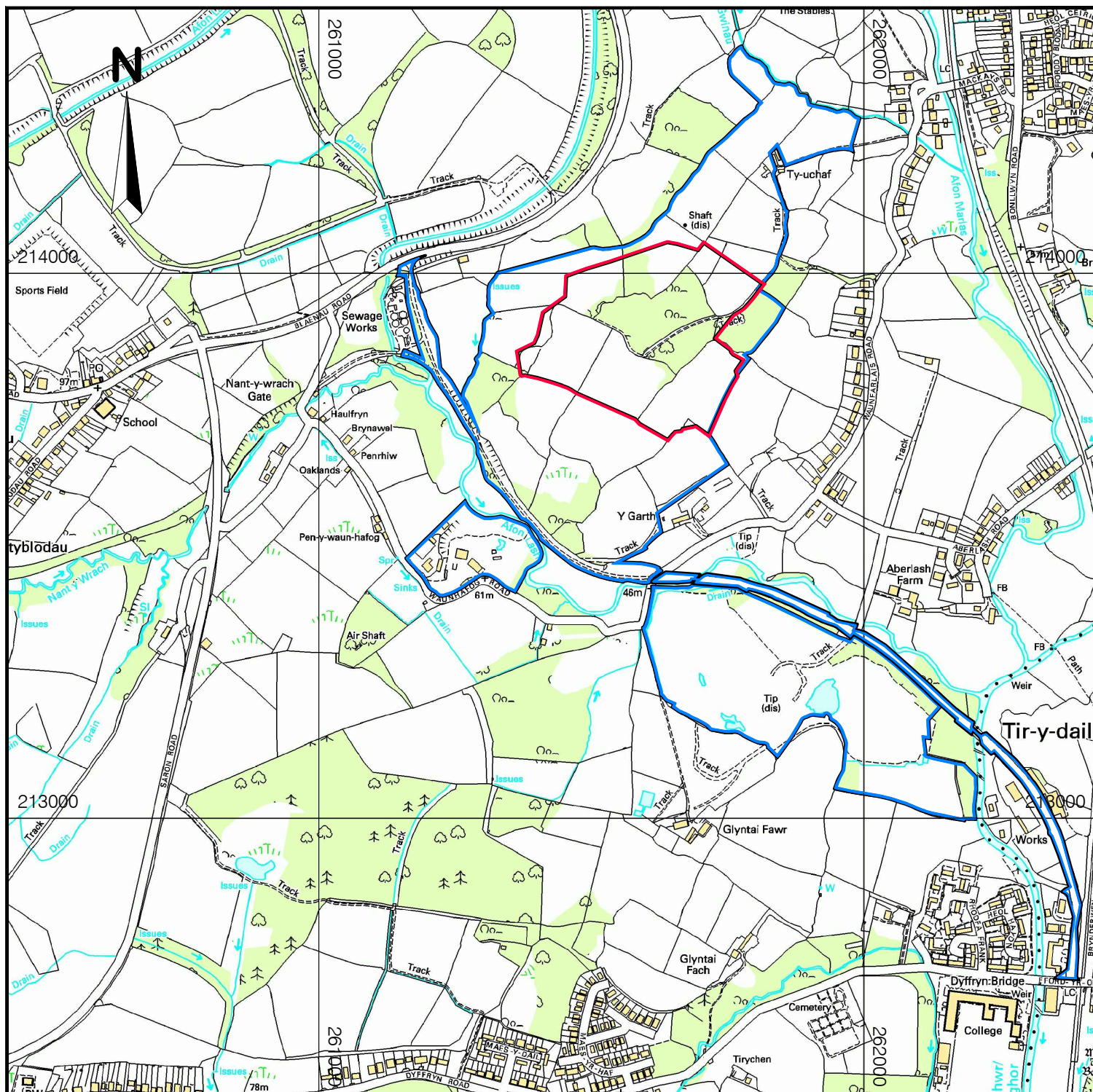
Bryn Bach Coal has failed to recover the drilling information from the National Coal Board or the British Geological Society regarding the proposed 1948 & 1962 sites and therefore commissioned a small drilling programme to determine the extent of the reserve within the extension area.

This drilling programme proved that the Lower Pumpchwart, Lower Trichwart and Stinking seams do occur with the seams gently rising to the north. The Lower Trichwart and Stinking seams crop out at the interface of the solid strata and the glacial drift deposit. The solid strata are overlain by glacial drift which varies in thickness from 4m in the north/west to 23m in the south/east of the proposed extension.

The results of the drilling programme have been used to define an area that can be worked at an economic coal/overburden ratio. The site area also provides enough room for subsoil and topsoil storage, these mounds can be positioned to provide both noise and visual impact mitigation. The proposed site layout also retains and protects existing landscape features that surround the extension area.

The Glan Lash Extension provides an area of premium quality anthracite that has the required economic coal/overburden ratio to enable the full restoration of the existing and the proposed extension.

The Glan Lash Extension development will continue to fit our business strategy as we have developed a niche market for premium quality anthracite with the consistent quality associated with a small mining operation a fundamental requirement. The other suppliers of anthracite in South Wales mine multiple seam large scale sites and therefore offer a blended product.



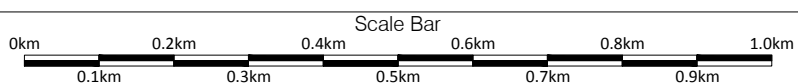
Legend



Site Boundary (Coloured Red on Outside of area)



Land in Control of the Applicant (Coloured Blue on Inside of area)



15th March 2019



Glo Bryn Bach Coal,
Glan Lash Washery,
Shands Road, Nr Blaenau,
Ammanford, Carmarthenshire, SA18 3NA

GLAN LASH EXTENSION

Development Location Plan GLE-01

1:10 000 Digital Raster by Ordnance Survey © Crown
copyright 2011. Reproduction not permitted.

Bryn Bach Coal Ltd is a local firm that employs local labour and uses a local supply chain. We are the smallest opencast coal mining operation in Wales.

A college lecturer of mine stated 40 years ago that “in generations to come we will look back on the burning of coal for power generation and to heat space as a waste, it is such a valuable resource and it can do so much more than that”. This philosophy has driven our business strategy to pursue and secure customers that do not burn our coal.

Bryn Bach Coal Limited is an “**exception**” to the normal opencast operation that South Wales has been accustomed to as 50% of the coal produced from the Glan Lash Site has not been burnt.

This exception has been accomplished firstly as Bryn Bach Coal Limited is the largest supplier of anthracite to the British brick manufacturing industry. Between 0.5-1.0% anthracite is used in the clay mix within each brick to react with the clay and add colour. This use as a brick colourant means the anthracite is not burnt and therefore does not release carbon into the atmosphere. The consistent quality is a primary reason why we are the preferred supplier. We have also developed working practices to eliminate certain contaminants which can cause major problems during the process of manufacturing bricks.

Secondly Bryn Bach Coal Limited is a supplier to the water filtration industry where the coal is used as a filter medium in the water industry and we currently supply two local businesses. The anthracite is used in filter beds to purify drinking water and in de-salination plants. Again, the anthracite is not burnt and therefore does not release carbon into the atmosphere.

The remaining 50% of our production is used for domestic heating. It provides competition in the domestic coal market with local coal merchants reliant on our product to provide a consistent, competitive and affordable alternative. In the region of 90% of our domestic grade coal is sold within South West Wales. The use of anthracite for domestic heating is not considered a major contributor to carbon release into the atmosphere. Should we be unable to supply our domestic customers they could be forced to use anthracite from countries such as Vietnam or China which would have a major carbon footprint compared to our local supply. The other alternative would be for our domestic customers to change appliances and use oil or gas, these are fossil fuels and will emit carbon into the atmosphere.

It should be noted that all of the above customers are exempt from the Climate Change Levy, and it can therefore be concluded that the use of the coal from this development will not result in significant carbon release and will not have an adverse impact on climate change, consistent with the Bryn Bach Coal Limited business strategy.

Bryn Bach Coal would argue that to refuse planning permission based on the impact our proposal will have on Climate Change and Carbon Emissions would be globally irresponsible.

3. Proposed Development

3.1 Landscape and Land Use (Ref GLE-02)

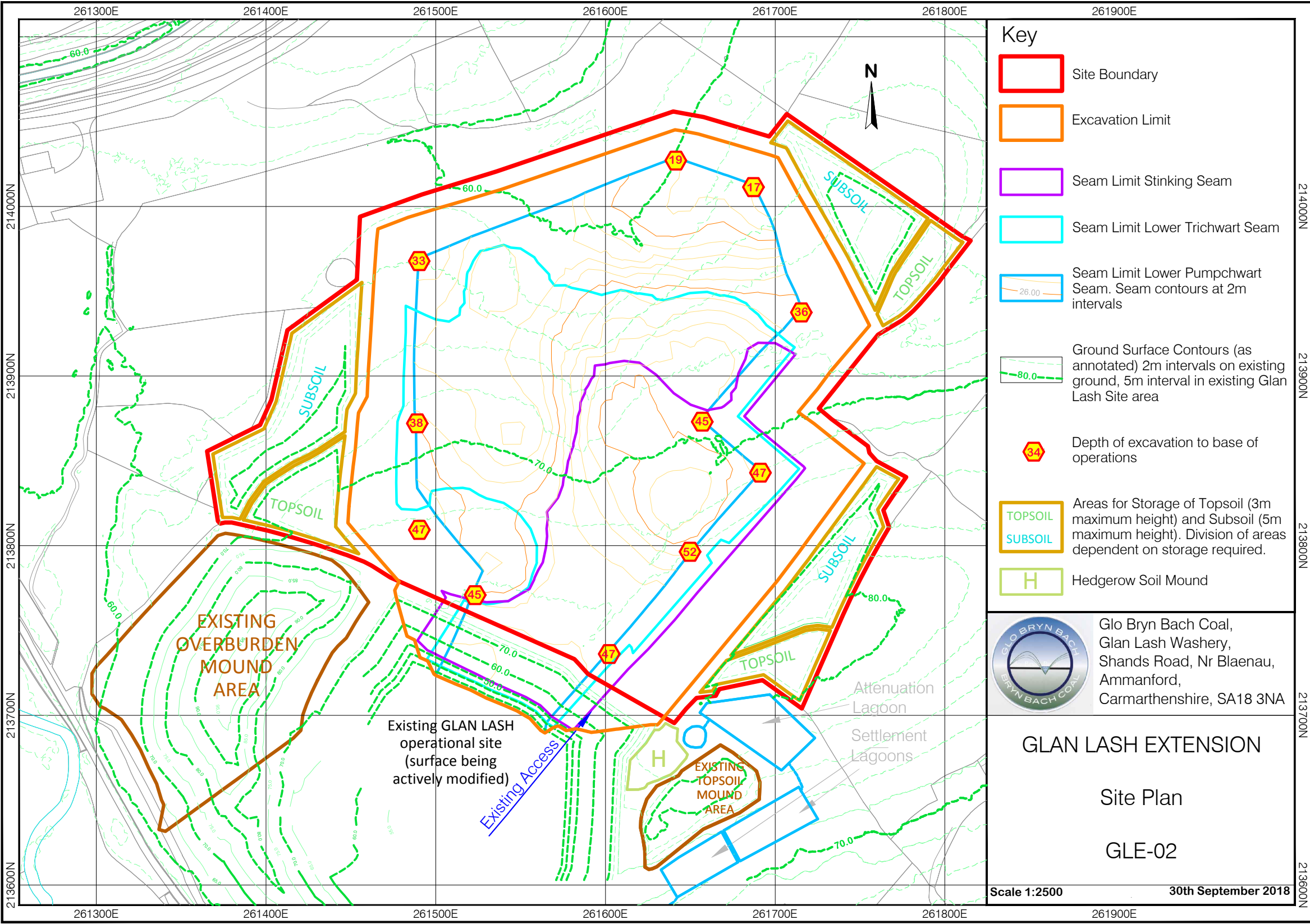
The extension covers 10.03 hectares of land within the site boundary and consists generally of 4 semi-improved neutral grassland fields which are enclosed with associated hedgerows. The remaining area consists of an area of broad-leaved woodland, areas of rush dominated grassland and some small areas of purple moor grass dominated mire.

Hedgerows divide the fields and comprise of generally dense bushy growth. The hedgerows have not been regularly managed and the majority are not fenced as to prevent grazing, but do include a post and wire fence to ensure they are stock -proof.

The woodland extends to 2.52 hectares within the site boundary. This woodland is very wet with a lowland mix of deciduous trees mainly Common Alder, Hazel, Grey Willow and Birch. The woodland has been extensively harvested for timber and a fell licence has been issued by Carmarthenshire CC.

In 1988 Lister & Whitbread did not identify this central woodland as an Ancient Woodland during their national assessment. However, in 2011 it was listed as a historic woodland by the CCW/NRW and then by the West Wales Biodiversity Information Centre as it used the 2011 inventory as its source.

A detailed investigation has been carried out by Pryce Ecologists and Heritage Recording Services Wales using the Tythe Map of 1842 and Ordinance Survey plans from 1886 onwards. This investigation clearly demonstrates that this woodland has been wrongly identified by the CCW/NRW in 2011 and that the 1988 assessment is correct.



3.2 Geology & Slope Stability

The site comprises a relatively thick cover of Glacial Drift deposits (which thin towards the north) beneath which coal bearing Coal Measures strata occur.

The operation will involve the removal of the over-lying glacial drift deposits and the extraction of three coal seams, Stinking, Lower Pumpchwart and Lower Trichwart, which are generally inclined towards the south.

It is proposed to develop north / south orientated working panels which will be worked in a southerly direction and advanced towards the east. This method will ensure that the thrust affected strata will be inclined into and parallel to excavation faces, thereby significantly improving stability.

3.3 Hydrology and Hydrogeology

Hydrology

No significant water features have been identified on the site and it has been concluded that the minor peripheral seepage points which lie outside of the site boundary will not be negatively impacted upon.

Hydrogeology

The Coal Measures within the site area can be considered as dry with no significant inflows having been recorded on the current site.

The proposed site will intersect abandoned underground mine workings in the Lower Pumpchwart and Lower Trichwart seams associated with the Ty-Uchaf Colliery. It is not known whether these workings are dry or will contain water but it is considered likely that they will be flooded.

3.4 Soils & Field Enclosures

The extension excavation limit covers 7.98 hectares of land within the site boundary, and consists of 4 semi-improved neutral grassland fields which are enclosed with associated hedgerows. There is an area of woodland that extends to 2.52 hectares within the excavation limit. This woodland is very wet with a lowland mix of deciduous trees mainly Common Alder, Hazel, Grey Willow and Birch. Within the excavation area there is 1.07 hectares of rush dominated grassland with some small areas of purple moor grass dominated mire.

All topsoil and subsoil removal will be in accordance with the existing approved Ecological Management Plan and in accordance with the existing approved Archaeological Scheme of Investigation.

The areas of rush dominated mire and purple moor grass will be translocated and re-laid in the receptor area in accordance with the existing approved Ecological Management Plan.

In summary all the topsoil and subsoil from the extension area will be stripped and stored as follows: -

Area	Topsoil (m ³)	Subsoil (m ³)
Western Storage	4,903	13,211
Eastern Storage	2,399	11,746
Northern Storage	1,837	9,982

Hedgerows

The above field enclosures and woodland are divided by hedgerows and ditches. The soil material from the hedge-banks within the excavation area will be lifted in accordance with our Ecological Management Plan and under the watching brief of our site Archaeologist. The hedge-bank material will be stored alongside our existing hedge-bank storage mound. It has been calculated that 680m³ of hedge-bank material will be removed and stored.

3.5 Ecology

The Extension Site proposals do not directly affect any statutory or non-statutory sites designated for the protection of biodiversity. Four European Protected Species/groups (EPS) occur within or around the Glan Lash Extension site. These include Marsh Fritillary butterfly, Dormouse, Bats and Otter. However, most of these areas are judged to provide only sub-optimal habitat for the species.

Trees with potential to harbour roosting bats are present within the extension site although only one Common Pipistrelle day roost was found during the 2016-2017 survey.

It is anticipated that Otters will not be adversely affected by the scheme.

No signs of Badger were found during the surveys although the drier land is likely to occasionally be used by foraging animals.

Nesting birds occur commonly throughout the site. No habitat with potential to harbour nesting birds will be cleared during the nesting season (March-August inclusive). The restoration scheme will provide suitable habitats in compensation for those temporarily lost to the mining operation.

Reptiles and terrestrial-phase amphibians are likely to occur in small numbers but the surveys found no habitats where concentrations are likely. No amphibian breeding ponds are located within the site.

Areas of Eu-Molinion and Purple Moor-grass – rush pastures located in the north of the site which will be disturbed as a result of the scheme will be translocated to adjacent, currently semi-improved agricultural fields in the north of the site.

No designated Ancient Woodlands are located within the site or will be impacted by the scheme.

Several of the hedgerows within the site qualify as Important Hedgerows under the Hedgerow Regulations 1996.

The site has been redesigned in the light of the findings of the ecological surveys to, as far as possible, retain and preserve significant ecological features. Retained habitats will be managed to enhance their attractiveness to all protected, concern and non-designated species but, where it is impossible to retain habitats in situ during site operations, habitat translocation will be undertaken using experienced, specialist contractors.

3.6 Archaeology

An archaeology report of the proposed extension to the presently operating Glan Lash Small Mine, identified 26 heritage assets within the boundary of the proposed extension area. Of the sites within the proposed extension boundary and those on the edges, all but three (3) sites were post-medieval in date, of which all are either associated with the former early 20th century Ty Uchaf Colliery, the Llanelli Railway, a WWII Pillbox, or else 18th and 19th century field boundaries.

The most significant sites identified within the boundary of the proposed extension area are the reputed Bryncoed Iron Age defended enclosure and the Bryncoed WWII Pillbox, both positioned at the far east side of the proposed extension boundary but outside the excavation limit.

3.7 Rights of Way

There are no rights of way that pass over the current Glan Lash mine site, the proposed extension area, the Tir y Dail restoration site or the Shand's Road. The closest footpaths are to the west of the Tir y Dail restoration site along the access road to Glyntai Fawr Farm and a short section north/west of the houses along Waun-Farlais Road.

Since 2014 and the completion of the Tir y Dail Colliery Tip Restoration by Bryn Bach Coal Limited, public access has been allowed over the Shand's Road and along the newly constructed path that meanders across the restored colliery tip. Both are frequently used and are considered by all users as an important addition to the amenity of the area.

As part of the original planning application for the Glan Lash Mine site Bryn Bach Coal Ltd offered a 21-year lease at a nominal fee of £1.00 to Carmarthenshire CC for the adoption

of the Shand's Road and the footpath that crosses the restored Tir y Dail tip as a cycleway and public footpath. This offer has not been taken up as yet, but the offer will remain in place for the duration of the extension should we be successful with this application.

4.0 Working Proposals

4.1 Plant Requirements & Hours of Work

The working of the Glan Lash Extension will require no change to the existing permitted hours of work:

Monday - Friday 7.30am – 5.30pm

Saturday 7.30am – 1.00pm

There will be no work undertaken on Sundays or Bank Holidays. All plant repairs, site maintenance, plant movements and site operations will take place within the above hours.

Similarly, the Glan Lash Washery complex will not require an alteration to the existing permitted hours of working:

Monday - Friday 7.00am – 6.00pm

Saturday 7.00am – 12.00pm

The excavation of all soil forming material, glacial drift and mudstone within the extension excavation limit will be undertaken by a Cat 374 (80 tonne) tracked hydraulic excavator. The Cat 374 excavator will load 3 Cat 740 (40 tonne) ADT's. The 2 X Cat 730 will be utilised for coal haulage and as cover for mechanical breakdowns. When used for coal production the Cat 730 will haul coal from the operational cut over the washery weighbridge and to the coal washing plant.

After allowing for meal breaks, mechanical breakdown, utilisation due to rainfall and Bank Holidays it is anticipated that overburden production can be achieved for an average of 38 hours per week. Therefore, the average weekly overburden production will be: - $38 \text{ hrs} \times 182\text{m}^3/\text{hr} = 6,916\text{m}^3 / \text{week}$.

The extension has an overburden/coal ratio of 21.3m³:1. This means an average weekly coal production of 325 tonnes of coal can be anticipated. This level of production will result in a production period of 338 weeks or 6.5 years.

General site maintenance and tipping operations will be undertaken by a Cat D6R tracked dozer. This size dozer has proven itself ideal for a small compact operation.

Dust suppression will be carried out by a water bowser towed by our JCB telehandler. This set up has proved successful in controlling dust within the site and our washery complex.

Our site office, car parking area and welfare facilities have been established within the Glan Lash washery alongside the washery site entrance. There is no requirement to alter this set up for the extension. Gas oil will be stored in an Environment Agency double skinned storage tank positioned within a concrete bund. Lubricants and greases will be stored in a lockable store and form part of the washery & plant maintenance area.

4.2 Method Statement & Phasing of Development (Ref GLE-03)

The method statement for the working of the Glan Lash Extension has been structured so as to maximise the resource but minimise the area of land required to work the reserve. The Glan Lash Extension is a classic box cut operation, which will be phased into 7 individual panels running North-South. The panel width at the base seam the Lower Pumpchwart will be 30m, each panel will be worked in a series of individual cuts.

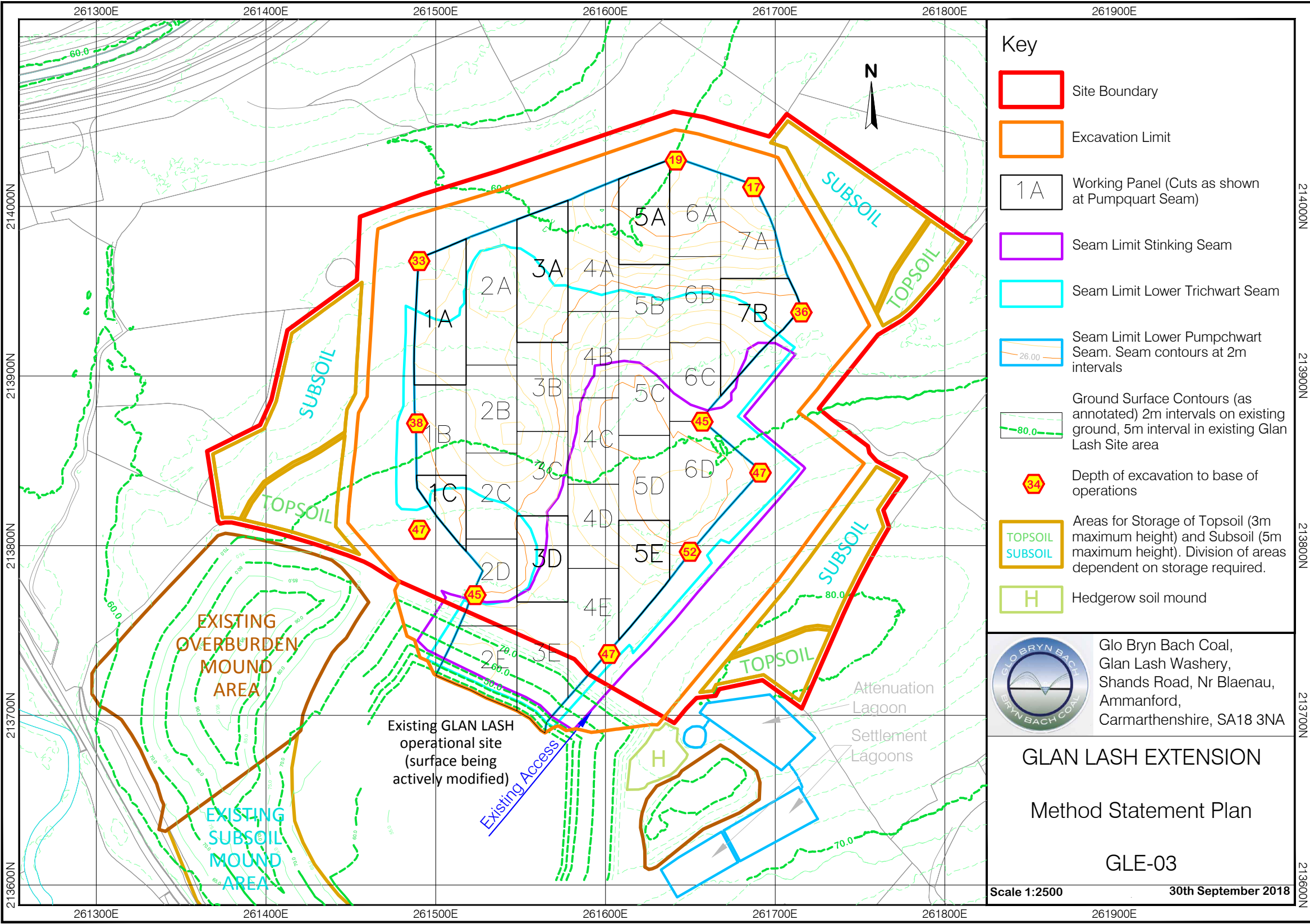
The site boundary extends to 10.03 hectares. The excavation area covers 7.98 hectares from which the 110,000 tonnes of coal will be extracted. The additional hectares within the site boundary will be required for soils storage.

The Total General Excavation Quantities (within excavation limit)

	Quantity (m ³)	Translocated (m ³)
Topsoil	10,387	1,248
Subsoil	36,811	1,872
Glacial Drift	1,024,769	
Shale / Mudstone	1,269,883	
Recoverable coal	78,571	
Total General Excavation	2,420,421	

Working Overburden/Recoverable Coal Tonnage Ratio:

$$(2,420,421\text{m}^3 - 78,571\text{m}^3) / 110,000 \text{ tonnes} = \mathbf{21.3 \text{ m}^3 : 1 \text{ tonne}}$$



Coal Quantities

The seam area will be multiplied by the seam thickness, then by a 95% recovery factor and finally by a conversion factor of 1.4 tonnes/m³. A 30% recovery of coal volume within the old mine workings has been estimated.

Seam	Volume (m ³)	Conversion	Total (tonnes)
Stinking Seam	8,159	x 1.4	11,423
Lower Trichwart Seam	19,680	x 1.4	27,552
Lower Pumpchwart Seam	50,732	x 1.4	71,025
Total			110,000

Plant

The overburden production and coal excavation will be undertaken using the same plant items that have been used to work the existing site, there is no requirement to increase the size or number of plant items to work the extension.

Plant	Quantity	Use
CAT 374 Hydraulic Excavator (80 tonne)	1	Overburden production
CAT 740 Articulated Dump Truck (40 tonne capacity)	3	Overburden production
CAT 730 Articulated Dump Truck (30 tonne capacity)	2	Coal haulage & breakdown cover
CAT D6R XL Dozer	1	Overburden production
Hitachi 350 LC Hydraulic Excavator (35 tonne)	1	Overburden & Coal excavation plus breakdown cover
CAT 319 Hydraulic Excavator (20 tonne)	1	Coal seam cleaning & topsoil excavation
Total	9	

4.3 Coal Processing & Coal Vehicle Route

The coal seams within the operational cut will be excavated using the Cat 219 which will load the run of mine coal directly from the coal seam into the Cat 730 ADT's. The Cat 730's will haul the coal across the existing Glan Lash site over the Shand's Road via the existing mine site entrance into the washery site. Once within the washery site the Cat 730's will be weighed and the coal tipped directly into the washery feed bin or into stock. All the coal mined from the existing site has been transported to the washery using this method and there is no requirement for a change to this operation.

The run of mine coal will then be processed using our existing washery facility. The processed coal will then be transported by road vehicles along the Shand's road to access the B4556 at our existing entrance. Currently our customers use a range of road vehicles, these vary from 3.5 tonne GVW flat- bed lorries (coal merchants) to 44 tonne GVW articulated lorries (bulk load customers). There will be no change to this requirement or the frequency of use by vehicles during the working of the extension. To date we have not received any complaints concerning any impacts our current operations have had on the B4556 or its users.

4.4 Employment

The Glan Lash Extension mine site will provide employment for 11 full time employees. This level of employment will be maintained for both the production period of 6.5 years and the restoration period of 8 months.

Currently we employ 4 employees on the mine site and 4 employees at the washery site. Any shortfall of labour requirement has been made up by flexible working practices between the mine site and the washery complex, this has been possible due to reduced coal production as a result of the instability issues on site over the last 2 years.

Therefore, should this application be successful 3 additional jobs will be created and it will also secure continued employment for the 8 full time employees currently working for Bryn Bach Coal Ltd.

It is company policy to employ local labour and to use local hauliers, suppliers and sub-contractors. The Glan Lash Extension will also create 7.2 years of work, supplies and orders which will also have a positive impact on employment in the area.

4.5 Site Liaison Committee

The Glan Lash Liaison Committee was formed and held its first meeting in September 2012. The meetings have been held every 3 months and include representatives of Bryn Bach Coal Ltd, Carmarthenshire County Council, local County Councillors, Llandybie Community Council, Bleanau Community Council and 4 local residents. A site report has been presented at each meeting describing current operations, future work to be undertaken and any complaints that have been received. Discussions then take place about site operations, restoration, traffic movements and any other relevant business. A record is kept of all proceedings and copies of that record are distributed to each organisation and the individuals that attend. Bryn Bach Coal has kept the committee informed of the progress being made towards an application to work the extension and the committee has made a visit to the site of the proposed extension. The Liaison Committee has been an important part of the pre-application public consultation process.

As part of Bryn Bach Coal's commitment to the local community we have paid £5,000 per year into a fund that is administered by the Liaison Committee. The funds are then distributed to local good causes so that a positive impact can be made locally. To date £35,000 has been paid into the fund by Bryn Bach Coal Ltd and this has been distributed to local good causes by the Liaison Committee.

Should this application be successful then the Liaison Committee will continue through until the restoration of both the existing and extension sites.

Bryn Bach Coal Ltd also pledges a further 7 yearly contributions of £5,000 into the fund, which will continue to be administered by the Glan Lash Liaison Committee allowing further distribution of funds to local good causes.

5. Environmental Impacts

The environmental impacts will be addressed under the following sections:

5.1 Visual Impact

5.2 Ecological Impact

5.3 Noise

5.4 Dust

5.5 Hydrogeology & Water Treatment

5.6 Blasting & Site Illumination.

5.7 Archaeological Impact

5.8 Rights of Way

5.1 Visual Impact

In order to predict and judge the magnitude and significance of the effects that the Glan Lash Extension may have on the landscape character and visual amenities of the area, we will describe the existing landscape situation, potential impacts, mitigation measures and an assessment of the visual impact from various viewpoints. The Visual Impact Sight Line Location Plan GLE-05/1 shows the extension site and the various sight lines that form the basis of our assessment. Visual Impact Cross Sections have been drawn to show the surrounding topography, any natural mitigation and the changes to the landscape that the Glan Lash Extension will bring during production and following restoration.

Existing Situation (Ref GLE-05/1)

The Extension covers 10.03 hectares of land to the north of the current Glan Lash Mine Site and is centred at E261560 N213900. The extension area can be found in a secluded area of land isolated from human habitation. The extension area is separated from the Waunfarlais Road by a topographical ridge that rises 14m above the proposed extension and then falls 19m to Waunfarlais Road. The settlement of Waunfarlais is 440m from the centre of the extension. Blaenau is 900m to the west of the extension and will be shielded by the existing overburden mound. The overburden mound will remain in situ until the restoration phase of the extension. To the south of the extension area is the existing site and washery complex. Llandybie is 840m to the north of the extension.

Potential Impacts

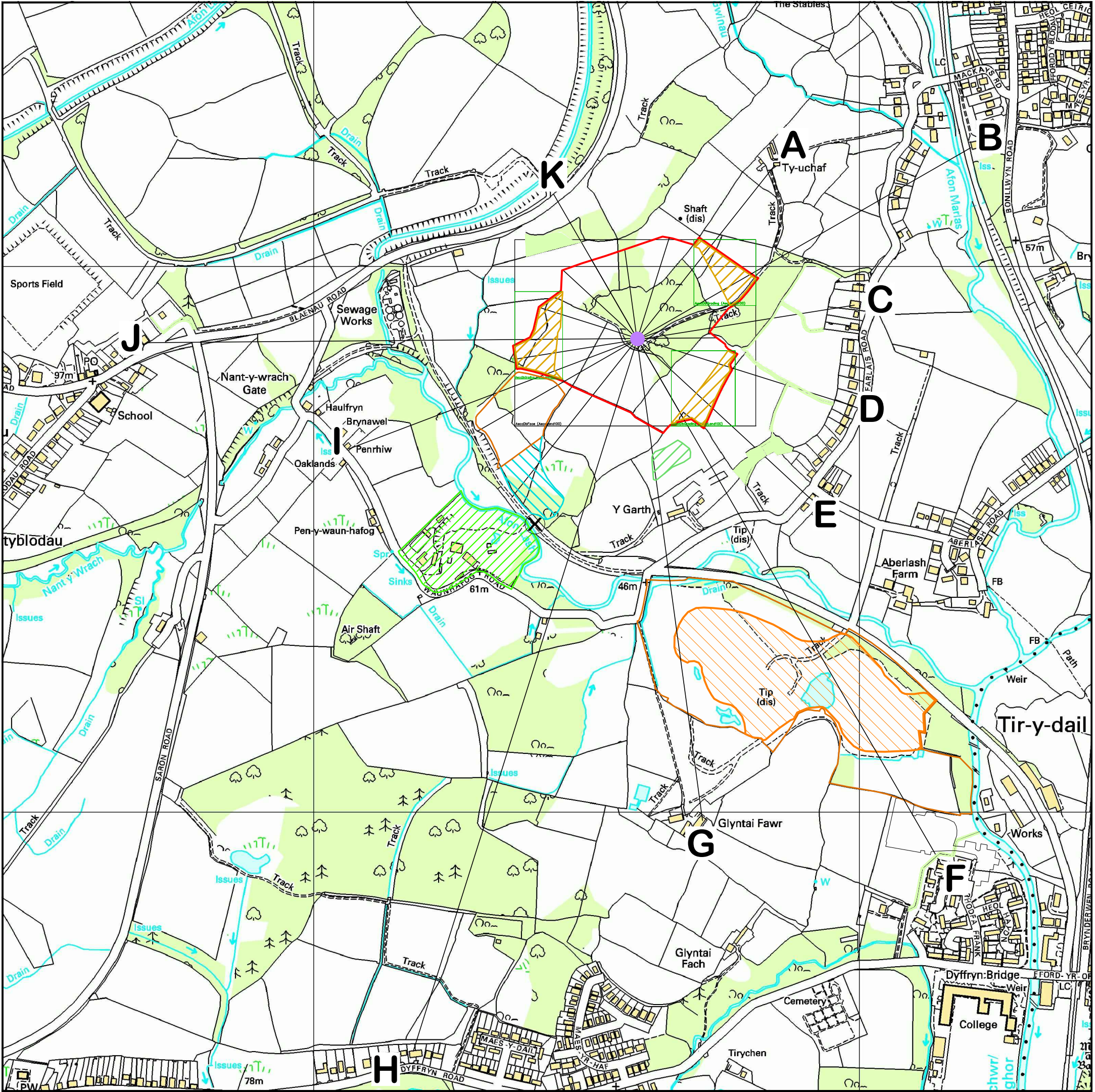
The Glan Lash Extension has the potential to change the landscape. Any changes will be temporary during the operational period but permanent following restoration. The following issues have been identified as potential impacts: -

- Any change to the landscape
- Visual Impact of operational areas and activity on settlements and individual properties
- Visual Impact of operational areas and activity on users of the B4556
- Visual Impact following restoration of the Extension site on settlements and individual properties

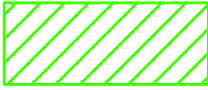
Mitigation Measures

The design objective of the Glan Lash Extension has been to avoid and reduce any unavoidable effects on landscape or on any viewpoints by using the following methods: -

- Site selection and design has ensured a shielded location.
- The Glan Lash Extension has been integrated into the local surroundings.
- The design of the Extension has made maximum use of the surrounding topographical landscape features, field enclosures, tree lines and hedges to shield the proposal.
- By phasing the site and keeping the disturbed operational area to an absolute minimum.
- The topsoil and subsoil mounds have been sited to provide visual attenuation, these mounds will be graded and grassed to shield operational areas and provide additional mitigation.



Legend

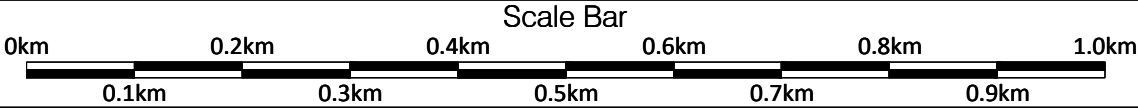
- | | | | |
|--|---|---|---|
|  | Site Boundary of Glan Lash Extension |  | Extent of Tirydail and Glan Lash Tips |
|  | Existing Glan Lash Washery Site |  | Extent of Tirydail Tip reclamation area |
|  | Proposed Topsoil and Subsoil Mounds Areas |  | Existing Topsoil and Subsoil Mounds |
|  | Sight Line, as numbered |  | Site Entrance |



Glo Bryn Bach Coal,
Glan Lash Washery,
Shands Road, Nr Blaenau,
Ammanford, Carmarthenshire, SA18 3NA

GLAN LASH EXTENSION

Visual Impact Sight Lines Plan
GLE-05/1



16th September 2018

1:10 000 Digital Raster by Ordnance Survey © Crown
copyright 2011. Reproduction not permitted.

- The aim of the restoration proposal as illustrated by our restoration plan is to integrate the restoration of both the existing and proposed site into the surrounding landscape and restore the land form as close to existing as possible.

Assessment

The visual impact assessment has been undertaken from various viewpoints as shown on Plan GLE-05/1. The assessments will be based on the view from the upper storey when the sight line is from an adjacent property and from 2m above ground level when based on the view of a pedestrian. The cross sections will show how the visual impact of the proposed development is mitigated by topography and natural features such as tree lines, woodland and rising ground. The cross sections will also show how mitigation is obtained by design through the positioning of the topsoil and subsoil mounds. The properties Pen-y-Waun-Hafog, Garth Farm and Penllwynhelig are all owned by Davies & Lumber Ltd a major beneficiary of the Glan Lash Extension development and have therefore not been included in the assessment.

Visual Cross Section A

It is our assessment that the visual impact on Ty Uchaf Farm will be **minor** in the early stages of the development but can be considered **moderate** for the final stages of the proposed extension. After restoration of the extension due to the rising ground deflecting the sight line above the restoration surface, it is considered there will be **no impact** on Ty Uchaf post restoration.

Visual Cross Section B

It is our assessment that during the operational phase the visual impact of the proposed extension on houses situated on Mackays Road and the lower section of Waunfarlais Road will be **minor**. After restoration of the extension due to the rising ground deflecting the sight line above the restoration surface, it is considered there will be **no impact** on any houses on Mackays or the lower section of Waunfarlais Road post restoration.

Visual Cross Section C

It is our assessment that the visual impact of the operational phase of our proposed extension on Bryn Cadno and this section of Waunfarlais Road is that there will be **no impact**. After restoration of the extension due to the rising ground and intermediate woodland deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on Bryn Cadno and this section of Waunfarlais Road post restoration.

Visual Cross Section D

It is our assessment that the visual impact of the operational phase of our proposed extension on Golwg-y-Mynydd and this section of Waunfarlais Road is that there will be **no impact**. After restoration of the extension due to the rising ground and intermediate tree lines deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on Golwg-y-Mynydd and this section of Waunfarlais Road post restoration.

Visual Cross Section E

It is our assessment that the visual impact of the operational phase of our proposed extension on Rhiw Marlais and this section of Waunfarlais Road is that there will be **no impact**. After restoration of the extension due to the rising ground and intermediate block of woodland deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on Rhiw Marlais and this section of Waunfarlais Road post restoration.

Visual Cross Section F

It is our assessment that the visual impact of the operational phase of our proposed extension on Rhoda Frank is that there will be **no impact**. After restoration of the extension due to rising ground and the restored Tir y Dail Colliery tip deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on Rhoda Frank post restoration.

Visual Cross Section G

It is our assessment that the visual impact of the operational phase of our proposed extension on Glyntai Fawr Farm is that there will be **no impact**. However, during the working of Cuts 4 & 5, overburden will be required to be placed above ground, during this limited period we assess the visual impact as **moderate**. After restoration of the extension due to rising ground to the north of the Afon Lash deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on Glyntai Fawr Farm post restoration.

Visual Cross Section H

It is our assessment that the visual impact of the operational phase of our proposed extension on 61 Dyffryn Road and this section of Dyffryn Road is that there will be **no impact**. After restoration of the extension due to the intermediate block of woodland deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on 61 Dyffryn Road and this section of Dyffryn Road post restoration.

Visual Cross Section I

It is our assessment that the visual impact of the operational phase of our proposed extension on Penrhiw and this section of Waun Hafog Road is that the visual impact will be **negligible**. After restoration and the removal of the soils in the storage area and the main overburden mound the intermediate blocks of woodland will deflect the sight line above the restoration surface, it is considered there will be **no impact** on Penrhiw or this section of Waun Hafog Road post restoration.

Visual Cross Section J

It is our assessment that the visual impact of the operational phase of our proposed extension on 165D Blaenau Road and this section of Blaenau Road (if this sight line was feasible) is that the visual impact would be **moderate**. However, as there are no first-floor windows facing east and the only way to view this sight line would be from ground level outside the house, the intermediate blocks of woodland now deflect the sight line well above the surface level of the proposed extension. Therefore, the visual impact assessment can be reduced to **minor**. After restoration and the removal of the soils in the storage area and the main overburden mound, the intermediate blocks of woodland will deflect the sight line above the restoration surface, it is considered there will be **no impact** on 165D Bleanu Road or this section of Blaenau Road post restoration.

Cross Section K

It is our assessment that the visual impact of the operational phase of our proposed extension on this section of the Blaenau Road is that the visual impact will be **minor**. After restoration of the extension, due to the intermediate block of woodland deflecting the sight line well above the restoration surface, it is considered there will be **no impact** on this section of the Blaenau Road post restoration.

5.2 Ecology

Pryce Consultant Ecologists have been commissioned by Bryn Bach Coal Ltd to undertake an ecological assessment of the proposed development. The report establishes the wildlife conservation significance of the proposal and its importance in International, National and Local contexts. The report also informs of any mitigating disturbance to ecological features and identifies constraints to the proposal as a result of the report's findings. The report also proposes a restoration scheme for the Glan Lash Extension and a revised restoration scheme for the existing Glan Lash mine site.

The Extension Site proposals do not directly affect any statutory or non-statutory sites designated for the protection of biodiversity

The Glan Lash Extension site is also located close to the Afon Lash, a tributary of the Afon Llwhwr which flows into the Carmarthen Bay and Estuaries Special Area of Conservation (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. These are areas of ecological importance in a European context but it is judged that proposed site operations will not directly impact on any of the SACs or the features for which they have been designated.

Positive wildlife-conservation management has been practiced at the Tir y Dail Tip reclamation site since the start of the existing Glan Lash site and will continue. Restoration of both Glan Lash and Tir y Dail Tip will result in the creation and maintenance of habitats which have the potential of supporting all these European protected species.

No other protected sites will be affected by the proposals.

Four European Protected Species/groups (EPS) occur within or around the Glan Lash Extension site. These include Marsh Fritillary Butterfly, Dormouse, Bats and Otter.

Marsh Fritillary butterflies and larval webs were recorded within the northern fields of the Extension site during the 2017 surveys, where suitable habitat is present but mostly in sub-optimal condition. The proposed mining operations will necessitate the removal of some of this Marsh Fritillary habitat but it will be translocated to adjacent, currently semi-improved, agricultural fields to the north of the operational area. This land is in the control of the developer and will be managed for the duration of both site operations and the aftercare period. The area within the operational site from which the Marsh Fritillary habitat will have been removed prior to the mining operation, will be reinstated to a condition suitable to facilitate the restoration of grassland having potential to develop into habitat suitable for accommodating the species in the longer term.

Dormouse has been recorded 2.6km from the Glan Lash site in the past but no sightings or signs of animals were observed during any of the previous surveys.

On completion of the mining operation, the backfilled site will continue to be restored mainly to woodland and grassland with dividing hedgerows as shown on the restoration plan. This will provide a further total of 9ha of potential Dormouse habitat over and above the 3.5 hectares of mitigation habitat provided at Tir y Dail Tip during the first phases of the scheme.

Trees with potential to harbour roosting bats are present within the extension site although only one Common Pipistrelle day roost was found during the 2016-2017 surveys. No buildings are located within the extension site so there is no potential for bat species that roost in buildings to roost within the site.

It is anticipated that Otters will not be adversely affected by the scheme.

No disturbance to European Protected Species or their habitats will be commenced before appropriate licences have been procured from Natural Resources Wales. The licencing process will require detailed and comprehensive mitigation proposals which will be implemented prior to the disturbance of existing habitats in order to compensate for any perceived adverse impacts on these species.

UK/nationally protected species that occur within or around the Glan Lash Extension site include Badger, nesting birds, reptiles and amphibians.

No signs of Badger were found during the surveys although the drier land is likely to occasionally be used by foraging animals.

Nesting birds occur commonly throughout the site. No habitat with potential to harbour nesting birds will be cleared during the nesting season (March-August inclusive). The restoration scheme will provide suitable habitats in compensation for those temporarily lost to the mining operation.

Reptiles and terrestrial-phase amphibians are likely to occur in small numbers but the surveys found no habitats where concentrations are likely. No amphibian breeding ponds are located within the site. The clearance of potential reptile and amphibian habitat will, as far as possible, be undertaken in September or October when animals are active and are able to escape. This timing is compatible with the licence requirements for removal of habitat where Dormouse is present.

Several habitats of conservation significance are present within the site. These include Molinia meadows on chalk and clay (Eu-Molinion) listed at Annex I of the EC Habitats Directive, together with several Habitats of Principal Importance listed under Section 7 of the Environment (Wales) Act 2016. These are Wet woodland, Lowland mixed deciduous woodland, Hedgerows and Purple Moor-grass – rush pastures. Areas of Eu-Molinion and Purple Moor-grass – rush pastures located in the north of the site which will be disturbed as a result of the scheme will be translocated to adjacent, currently semi-improved agricultural fields in the north of the site.

No designated Ancient Woodlands are located within the site or will be impacted by the scheme.

The site has been redesigned in the light of the findings of the ecological surveys to, as far as possible, retain and preserve significant ecological features. Retained habitats will be managed to enhance their attractiveness to all protected, concern and non-designated species but, where it is impossible to retain habitats in situ during site operations, habitat translocation will be undertaken using experienced, specialist contractors. Furthermore, the comprehensive restoration scheme will provide appropriate management of these habitats and also provide additional and more extensive areas which will develop to maturity in the fullness of time.

The Restoration Scheme is detailed in the Restoration Plan and will provide a phased approach to the restoration of the Glan Lash site as the coal reserve is worked-out. New habitats designed to maintain and enhance the capability of the site to support local floral

and faunal populations will be created and maintained. The scheme will also continue to address the part-completed Tir y Dail Tip Restoration by extending and continuing to manage recently created habitats. Aftercare maintenance will continue for five years following the completion of the mining operation, extending to ten years in new and restored woodland areas.

There will be input from a qualified ecologist at all stages of the project. Careful planning and supervision of site personnel will seek to ensure that disturbance to all existing habitats and species is kept to an absolute minimum. Future site maintenance will bear due regard to the well-being of all habitats, flora and fauna.

No other significant ecological issues were identified during the assessment.

5.3 Noise

Bryn Bach Coal Ltd has commissioned Kevan Walton Associates Ltd to undertake a noise assessment of the proposed extension development and to assess the likely noise impact on the closest dwellings.

The most appropriate index for assessing noise level is LAeq. This measurement will define the equivalent continuous steady sound level that would produce the same sound energy as a fluctuating sound over the same period. Background noise has been measured as LA90, being the noise level exceeded for 90% of the time.

Noise levels for the plant to be used have been obtained from the plant used at our current operations at the existing Glan Lash mine site. The noise levels associated with the coal washing plant have been obtained while washing coal from the existing Glan Lash mine site.

Guidance notes define day and night working. Day- time working is defined as between the hours of 07:00 and 19:00, therefore daytime values are applicable to this application. The guidance also states that noise levels at noise sensitive properties should not exceed the background noise by more than 10dB(A), subject to a maximum of 55dB(A)LAeq.

Construction work and preparatory work such as topsoil stripping are recognised as short- term operations and as such higher levels noise levels are permissible for up to 8 weeks in any year. The stripping of topsoil and subsoil and the subsequent placement in mounds around the perimeter of the extension would be considered as construction and preparatory work.

Existing Situation

The background noise levels were measured at various noise sensitive properties surrounding the proposed extension.

Location	Background Noise (dBA90.1hr)
Pen-y-Waun Hafog	36
Llwyn Celyn	40
Tylegwyn	33
Nirvana	34
Ty Uchaf Farm	31

Potential Impacts

- The presence of earth moving equipment will inevitably lead to an increase in noise levels at short range.
- The operations with most noise tend to take place in the early stages of each operational cut when plant is working in exposed surface locations such as soil stripping and soil mound construction.
- This increase in noise will affect the local environment and could exceed operational guidance levels at noise sensitive properties.

Mitigation Measures

- Site Selection- secluded area of land away from major settlements.
- Site Design- Box cut method will result in operations being confined at depth. The operation will move slowly through cut sequence 1-7, the noise impact will therefore be spread as a function of distance from nearby properties.
- Site Scale- Small compact operation with limited number of plant items.
- Modern plant fitted with the latest efficient silencers.
- Positioning of soil mounds and overburden mound to offer noise attenuation
- Topography- Site is shielded by topographical ridges that offer natural noise attenuation.
- Woodland- The site is surrounded by dense woodland and hedgerows these offer soft ground attenuation.
- The proposed development is a continuation of an existing operation. Noise impacts can be assessed with confidence.
- Operational activity will be mainly below ground level and behind existing and proposed overburden, topsoil and subsoil mounds.

Assessment

Noise levels for each operating plant item have been used with allowance made for the mobility and duration when used for various activities. Attenuation has been allowed for

when operations occur behind excavation faces, mounds, natural topography and soft ground attenuation items such as trees, woodland and hedgerows.

Pen-y-waunhafog- **No Impact.**

Llwyn Celyn- **No Impact.**

Tylegwyn – **Minor.**

Nirvana- **Negligible.**

Ty Uchaf Farm- **Minor for the majority of time, but Moderate for limited periods.**

In conclusion, the extension to the present mine site, to the North and North East will be undertaken using the same or similar equipment to that used at the existing Glan Lash mine. The depth of the excavations will be similar, in places deeper than the present excavations and this deepening will serve to further attenuate the noise from the operations.

In addition, overburden will be removed from the new extension to backfill the void in the existing site and therefore surface working will be limited. There will be a short period of time when the overburden mound will be extended but this will be shielded by the existing overburden mound.

It is therefore not anticipated that the noise impact of the extension will be significantly different to the existing operations.

5.4 Dust

A report has been compiled by Kevan Walton Associates Ltd in order to assess the base line conditions and likely additional airborne dust as a result of the mining activities associated with the proposed Glan Lash Extension.

Potential Impacts - Most operations associated with surface mining have the potential to create dust.

- Soil stripping and storage
- Overburden excavation and haulage
- Overburden backfilling
- Off-site haulage
- Restoration activities
- Drilling and Blasting (not applicable in this application)
- Erosion of bare ground

The likelihood of dust causing a nuisance to properties closest to the development will be a product of the probabilities of wind speed, direction, dry ground conditions and the failure of mitigating measures.

Mitigation Measures

- Site selection
- Site design and layout
- Meteorological conditions
- Minimisation of material handling
- Natural moisture content of excavated materials
- Operations shielded by excavation profiles associated with box cut
- All plant to have upward discharging exhaust systems
- Limited plant numbers and haul lengths
- Wetting of haul roads by towed water bowser

A dust assessment dated 10th March 2011 was undertaken for the existing operations, only four of the properties assessed are relevant to current operations, these being Pen-y-Hafog, Tylegwyn, Nirvana and Llwynceilyn.

The assessment took the form of a meteorological investigation into the prevalent wind direction and, combined with number of dry days and proposed mitigation, an assessment made of those days where dust from the operations could impinge on surrounding properties. During the course of the current excavations, over a period of 6 years, no dust impact incidents have been recorded, suggesting that the dust controls implemented have been effective.

The method of extraction and excavation will use the same or similar plant to the existing operations and the overall dust impact is anticipated to be of similar magnitude, i.e. Low.

The Dust Impact Report considers the impact of dust from our proposed operations on dust sensitive properties.

Standard dust control measures, including damping down, spraying roads and reducing height of drop of materials should be adequate to control fugitive dust emission. Experience suggests that 90% effectiveness of these controls can be achieved.

Current research suggests that properties at a distance from dust sources greater than 200 metres are unlikely to be affected by fugitive dust from the mining operations. None of the nearby dwellings are within 200m of the coal extraction site. On average, there are only likely to be 1-4 days per year when control methods for coal extraction activities are not effective and when meteorological conditions are appropriate to fugitive dust affecting the nearest properties.

Without effective mitigation the impact of the mining operations has been assessed to be **Negligible** to **Slightly Adverse** and with the proven controls will be **Negligible** in all cases.

5.5 Hydrogeology, Hydrology

Hydrogeology

A report by James Associates has been commissioned to assess the Hydrogeology of the proposed extension and any impacts it might have on the surface or groundwaters associated with the scheme.

The Coal Measures strata are overlain by a cover of Glacial Drift deposits which are shown to reduce in thickness as followed towards the northern site boundary. Within the current site the deposits have attained a thickness of up to 20 metres. Minor inflows of water have occurred from the loose, unconsolidated, discontinuous, sandy horizons which occur within the otherwise stiff pebbly clay. The Coal Measures within the site area can be considered as dry with no significant inflows having been recorded on the current site.

The report concludes that there should be **no unexpected or unacceptable negative impacts** on surface or groundwater regimes associated with the proposed extension.

Hydrology

A report by James Associates has been commissioned to assess the Hydrology of the proposed extension and any impacts it might have on any surface water features associated with the scheme.

The proposed extension covers two surface water catchment areas one in which the water flows north to the Afon Marlas and the other in which the flow is to the south towards the Afon Lash.

Within the assessment area no watercourses have been identified, only surface water within field boundary ditches and minor surface seepages. The report concludes that the proposed extension will have **no noticeable negative impact upon the surface or groundwater regimes outside the site boundary.**

5.6 Water Treatment

Water treatment facilities already provided in the north eastern part of the existing Glan Lash site will remain operational and all site water will be pumped to the water treatment facilities prior to discharge.

Progressive restoration of the existing operation will continue, in accordance with Restoration Plan (GLE-06). Restoration operations will include contour berms along slopes in order to arrest surface water flow. Berms will be constructed at 10m vertical intervals, with a fall of 2%, and drain into the main arterial watercourse.

Flow rates on the operational site will be controlled by in- cut pumping initially, as well as through provision of the surface attenuation pond. Discharge from this attenuation pond will be via a low-level small diameter 'throttle' pipe to the two settlement lagoons. These lagoons will work in parallel, discharge flow rate controlled by the 150mm discharge pipe from the attenuation pond.

The scale of working in the proposed extension will remain the same as in the currently operational site. **Therefore, it is considered that the existing treatment regime will still be appropriate for use in the extension.**

5.7 Blasting & Site Illumination

Blasting

Despite the shale above the Lower Pumpchwart Seam being extremely difficult to excavate efficiently Bryn Bach Coal Ltd will continue with our commitment not to blast due to the possible impact this may cause on our closest neighbours. The reduced production has been reflected in the hourly production rate of 182m³/hr for the Cat374 hydraulic excavator. We conclude that we will not blast the overburden above the Lower Pumpchwart for efficient overburden excavation. Therefore, a potential impact has been totally mitigated by site selection, design and considerate operational decision making.

Site Illumination

We will not require any alteration to the existing consented working hours. There has been no need to illuminate the working area whilst working the existing site, we have shortened the working shifts to allow for the dark evenings during the mid-winter period. We have allowed for these shorter working hours in our anticipated 38hrs weekly average utilisation target. Therefore, a potential impact has been totally mitigated by site selection, design and considerate operational decision making.

5.8 Archaeological

Bryn Bach Coal Ltd has commissioned Heritage Recording Services Wales to compile a report, which entailed a site visit and a desk-based assessment of all readily available historical and archaeological documentary sources, for the immediate area and land surrounding the proposed extension up to a 1km distance. The assessment identified 89 heritage assets within the 1km radius. Of these 26 sites were identified within the boundary of the proposed extension area. The most significant sites within the boundary of the extension area are the reputed Bryncoed Iron Age defended enclosure and the

Bryncoed WW2 Pillbox both positioned at the far east of the proposed development, both outside the limit of excavation.

In terms of direct physical impact, the assessment has identified 21 instances where the heritage assets will be directly affected. The severity of the direct effect on these assets will be **Major**. Mitigation can be achieved by an archaeological watching brief during the removal of all field banks, turf removal, topsoil and subsoil stripping in order that records can be kept and any archaeological features encountered during the above works.

In terms of potential indirect effects, no High Value designated sites within the prescribed 1km radius have been identified. However, the undesignated WW2 Pillbox is considered to be a High Value site. The sensitivity of this monument is considered to be high (of national and regional importance in terms of research objectives) and the indirect visual magnitude of effect is considered to be **Major**. As such, the overall significance of effect on this monument would also be **Major and Adverse**, however only temporary throughout the lifetime of the proposed extraction work. Once the extraction work has been completed, the excavation area will be restored.

In terms of recommendations, it is advised that prior to any ground works commencing, a field evaluation should be undertaken in the area at the east end of the proposed extension area, with a series of trial trenches strategically placed in the anticipated positions of the probable continuation of the Bryncoed Iron Age defended enclosure. The results of this evaluation will then inform decisions as to whether to re-design parts of the scheme in order to avoid any potentially significant buried features, or to mitigate the development impact through preservation by record.

It has also been advised that an archaeological watching brief be maintained in the area of the proposed extension, during the removal of all of the field banks in the area, during all turf, top soil stripping and sub soil stripping, in order that records can be kept of any known and unknown archaeological features and deposits that may be encountered during groundwork.

The assessment has also advised as a mitigation measure, that the Bryncoed WWII Pillbox, positioned at the far southeast end of the extension area be protected by adequate fencing to a distance of at least 20 meters from the structure. This will ensure that the site is adequately protected from heavy plant, accidental damage from straying heavy plant, vibration and land slippage and collapse from both the extraction area and the proposed top soil mound.

5.9 Rights of Way

There are no rights of way that pass over the current Glan Lash mine site, the proposed extension area, the Tir y Dail restoration site or the Shand's Road. The closest footpaths are to the west of the Tir y Dail restoration site along the access road to Glyntai Fawr Farm and a short section north/west of the houses along Waun-Farlais Road.

Since 2014 and the completion of the Tir y Dail Colliery Tip Restoration public access has been allowed over the Shand's Road and along the newly constructed track that meanders across the restored colliery tip. Both are frequently used and are considered by all users as an important addition to the amenity of the area.

As part of the original planning application for the Glan Lash Mine site Bryn Bach Coal Ltd offered a 21-year lease at a nominal fee of £1.00 to Carmarthenshire County Council for the adoption of the Shand's Road and the footpath that crosses the restored Tir y Dail tip as a cycleway and public footpath. This offer has not been taken up as yet, but the offer will remain in place for the duration of the extension should we be successful with this application.

It is our assessment that the proposed extension will have **No Impact** on any rights of way and that in the long term the impact will be positive.

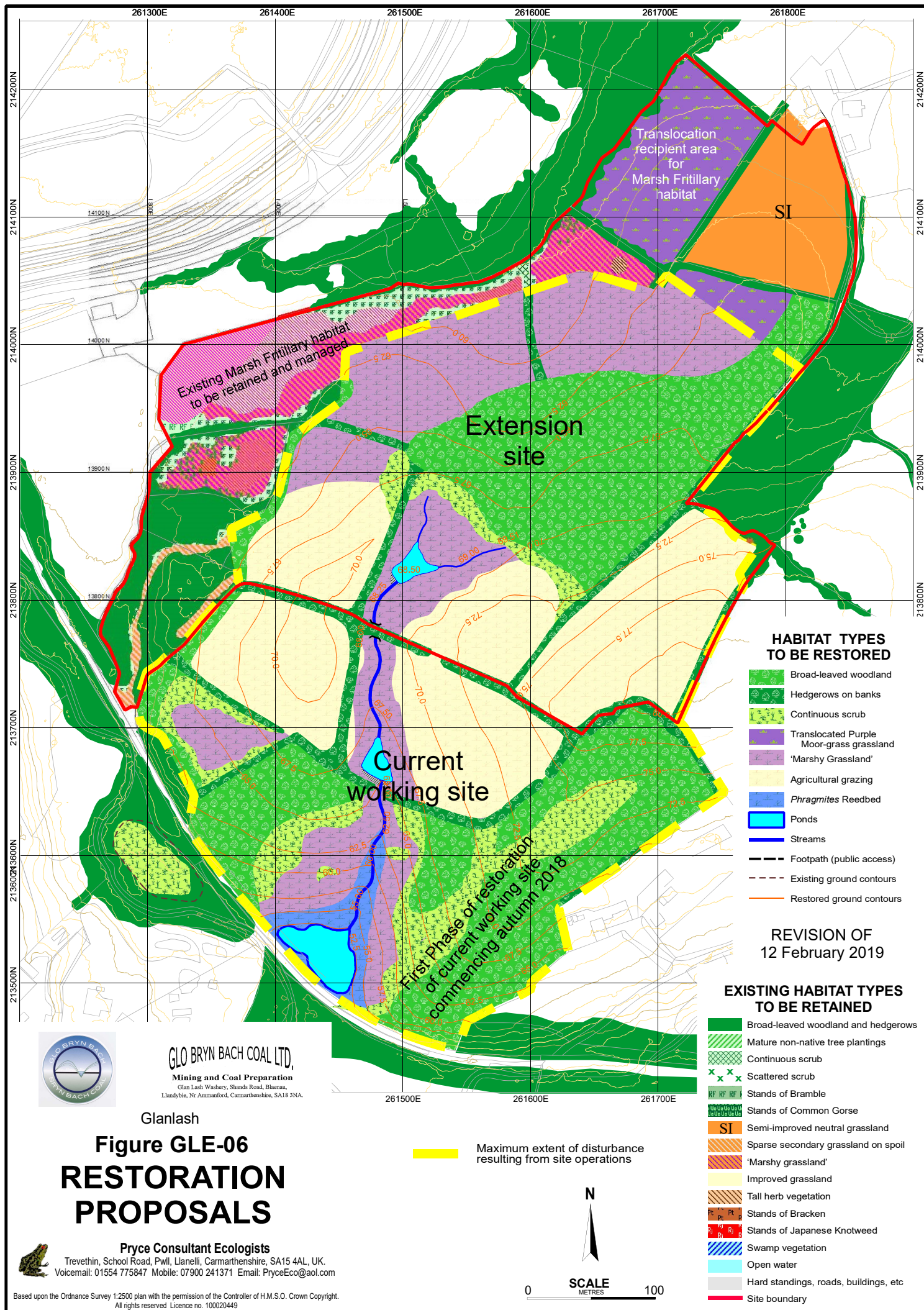
6. Glan Lash Mine Site & Extension Restoration.

Restoration Strategy (Ref GLE-06)

The aim of the restoration proposal as illustrated by our restoration plan is to integrate the restoration of both the existing and proposed site into the surrounding landscape and restore the site to as close to existing as possible. The strategy will include the creation of habitats and aim to enhance and extend the present range of habitats and the structural diversity of vegetation. Appropriate features will be designed into the scheme to provide foraging, roosting, nesting and refuge sites.

Neutral grassland will be provided enclosed within hedge-banks and hedgerows broadly reflecting the previously existing hedgerow pattern. The scheme will offer new broad-leaf woodland and scrub plantings, on completion of the extension proposal there will be nearly 4 times the area of deciduous woodland than existed before mining operations commenced.

Open marshy grassland areas and glades will be created across a valley feature that will be formed to allow for the material used in the restoration of the Tir y Dail Tip. This valley feature will direct all surface water run off towards a newly created pond feature adjacent to Shand's Road. Any water seepages from the restored backfill will occur at this location. This pond will be managed for biodiversity and habitat enhancement during the restoration and aftercare periods.



Aftercare Scheme for The Existing Glan Lash Mine Site & Extension

The 5-year aftercare scheme which will be provided for approval and shall include details of:

- Landscaping and planting
- Cultivations, seeding and management of all habitats both existing and created.
- Grazing management
- Maintenance and management of surface drainage features
- Annual sampling of soils and secondary treatments carried out where deemed necessary
- Weeds as defined by the Weeds Act 1959 will be eradicated
- Full advantage will be taken of any naturally occurring springs or seepages to allow the establishment of flushed vegetation
- Periodic monitoring will assess the success of habitat creation, enhancements and management.

7. Public Consultations & Health Impact Assessment

Bryn Bach Coal Ltd commenced communications with The Glan Lash Liaison Committee in 2015 regarding their intention to investigate the possibility of an extension to the existing site and the commissioning of a small drilling programme. The committee has been fully informed of all developments concerning the proposed extension at the regular Liaison Committee meetings.

The Liaison Committee, Llandybie Community Councillors and local Carmarthenshire County Councillors have all attended a site visit in which the existing operations were viewed and the proposed extension area was walked and discussed.

In November 2018 a leaflet drop was conducted which gave a brief overview of the extension proposal including location and working statement plans. This leaflet was delivered to 75 residential properties surrounding the proposed extension. There was an open invitation to attend a site visit in order to view and discuss the existing and proposed operations and walk the proposed extension area.

The leaflet also offered the opportunity for anyone concerned about any health issues to contact Environmental Compliance Ltd (ECL). Bryn Bach Coal Ltd has commissioned ECL to conduct a Health Impact Assessment to assess the potential positive impacts and also the unintended consequences of the proposed extension on health and well-being. ECL have been commissioned in order to achieve impartiality. The Health Impact Assessment

has been included alongside this Environmental Impact Assessment and forms part of the planning application to extend the existing operation in a northerly direction.

8. Benefits of Development

The benefits of this development are twofold: -

Operational Benefits

The scale and design of the extension allows

- The ability to work in an environmental and considerate manner
- Minimum Disturbance to both the environment and amenity of the area
- Minimised visual impacts and operational noise
- A confident assessment of all operational impacts as a result of the continuation of a current operation
- Protection of areas of natural and built importance by design
- Provision of an important resource to meet society's needs that has an established market.
- An environmentally friendly alternative to the established use of premium Welsh Anthracite.
- Bryn Bach Coal Ltd to maintain and source new markets for Welsh Anthracite as a water filtration medium and as a colourant for the brick making industry. These markets do not require the coal to be burnt and therefore do not contribute to carbon release and ultimately climate change.

Employment

- Provide direct full-time employment for 11 employees and support between 5-10 jobs elsewhere in Wales.
- Securement of employment in local businesses that use our premium anthracite for water filtration and for domestic heating through local coal merchants.
- Positive benefits to the local economy by providing contracts to local hauliers, suppliers and manufacturers.

Amenity Benefits

The long-term benefits of this development will continue to improve the local environment and the recreational opportunities of the area. It has always been Bryn Bach Coal's approach to work closely with the local community.

Should the extension be granted Bryn Bach Coal Ltd will be able to:

- Continue to provide quiet public access provision along the Shand's Road linking to the footpath constructed across the restored Tir y Dail Colliery Tip.
- Provide the opportunity to upgrade Shand's Road into a useable condition for public access as an adopted cycle track & footpath. This is dependent upon Carmarthenshire County Council taking up the offer of a 21-year lease.
- Enhance the landscape and bio-diversity of the area.
- Following the restoration Schemes for the Existing Glan Lash/ Extension site and the Tir y Dail Colliery Tip site, provide appropriate conservation and habitat management of the retained and restored ecological features. After completion of the extension restoration there will be 4 times the area of deciduous woodland than existed before mining operations commenced.
- To achieve a long-term benefit for bio-diversity.
- Contribute to long term conservational gain.
- Continue to assist Glan Lash Liaison Committee by contributing £5,000/year. This will continue for the production period of the extension and will yield £35,000 for distribution to local good causes.