



## CELTIC ENERGY LIMITED

### NANT HELEN COMPLEMENTARY RESTORATION EARTHWORKS

ENVIRONMENTAL STATEMENT  
NON-TECHNICAL SUMMARY  
MAY 2020

ARUP





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# 1 What is the Nant Helen Complementary Restoration Earthworks?

Celtic Energy Ltd currently operate Nant Helen open cast coal mine which covers the western end of the project site. The company will cease extraction operations in 2021 at which point they will be required to restore the land in accordance with regulatory requirements and agreements that are in place with Powys County Council (PCC).

The restoration scheme will form the basis for this project known as 'Nant Helen Complementary Restoration Earthworks' which combined with the restoration scheme would create a flexible and adaptable area of land that could be used for a variety of uses including agriculture, nature conservation, leisure, tourism and industrial, research and development/business uses. The site boundary is shown in Figure 1.

The planning application is being made by Celtic Energy Ltd. As the site crosses the local authority boundary between Powys and Neath Port Talbot, the application is being submitted to both Local Authorities who will be working together to determine it.

The Environmental Statement (ES) is submitted to accompany the planning application. It describes the environmental effects of the proposed project, assessed in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. This document is the Non-Technical Summary (NTS) of the ES, providing an overview of the proposals and summarising the assessment outcomes.

**Figure 1: Project boundaries**

## 2 What is being proposed?

The proposed project is to include earthworks and drainage works associated with the revised landform which covers an area of approximately 179 hectares and is located within the Dulais Valley. Nearby settlements include Onllwyn, Seven Sisters, Ystradgynlais, Caehopkin, Abercrave and Coelbren. The earthworks include a combination of cutting and embankments to create the loop form illustrated in Figure 2.

The earthworks have been designed to create a bridleway/footpath for walking, cycling and horse riding. The Brecon Beacons National Park (BBNP) is located immediately north of the site and the proposal is intended to possibly help reduce visitor pressure on the National Park by providing alternative areas of interest for these types of activities.

The possible industrial uses include the Welsh Government's proposed rail testing, research and development and storage facility, called the Global Centre of Rail Excellence (GCRE). The planning application for GCRE could be submitted later this year, following a final round of rail industry appraisal/evaluation.

The required profile for the GCRE would already have been created by the Nant Helen Complementary Restoration Earthworks, thereby avoiding the need for further extensive earthmoving.

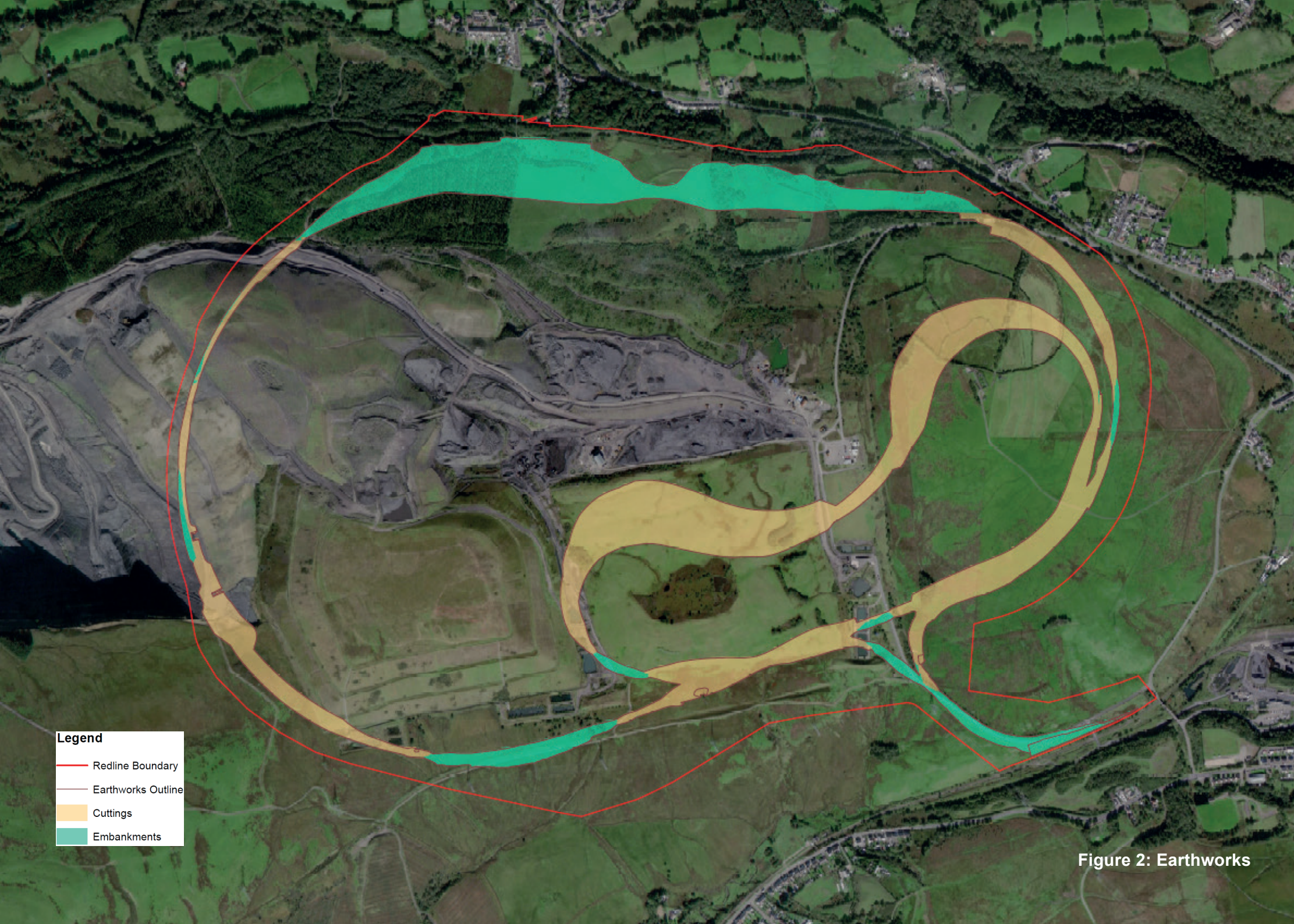


Figure 2: Earthworks

### 3 How have the plans evolved?

The proposed earthworks reconcile parcels of land that comprise the present day and wider past extent of coaling operations at Nant Helen Surface Mine. To all intents and purposes this includes land associated with the site's western extent that will be restored at the end of current coaling operations; and land associated with the site's eastern extent that has already been restored.

Coaling operations on the eastern and western extents of the site were subject to separate planning permissions, and therefore separate red line boundaries. Subsequently, a planning application which takes in the entire extent of land subject to coaling operations over the history of Nant Helen Surface Mine has been identified as the most efficient way to deliver the proposed earthworks, which would reconcile land that has been restored in the past with land that will be restored in the future.

In this context specifically, the proposed earthworks have been developed to complement the forthcoming revised strategy for restoring land on the western extent of the site. The combined restoration and earthworks plans are shown in Figure 3.

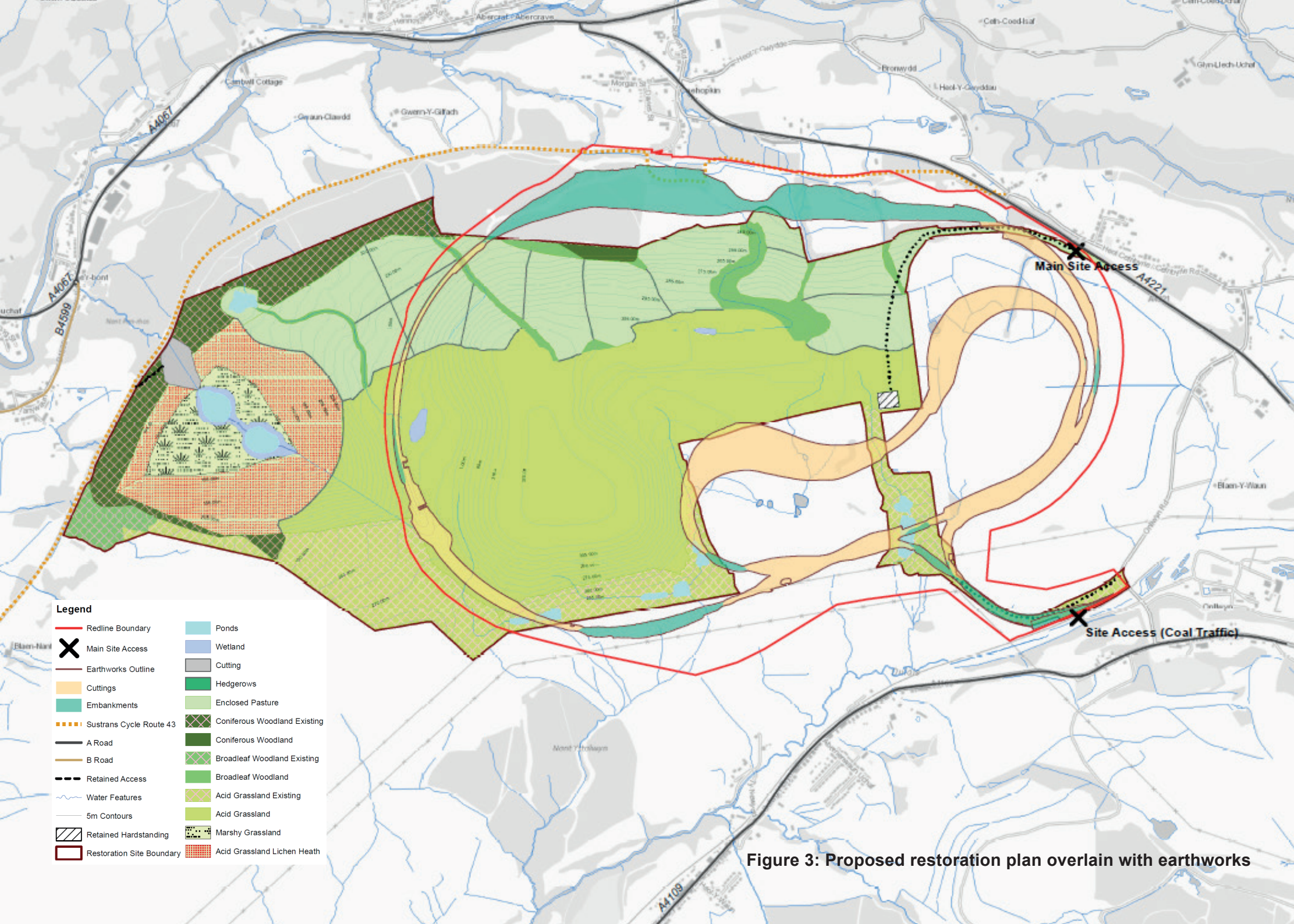


Figure 3: Proposed restoration plan overlain with earthworks

# 4 How would the Restoration Earthworks be undertaken?

The Nant Helen earthworks involves a combination of cutting and embankments to create the loop forms illustrated in Figure 2. The materials would all originate from within the existing Celtic Energy Nant Helen open cast mining site boundary and involves the following volumes of material:

- Cut - 3,255,000m³ (this also includes an allowance for attenuation pond construction); and
- Fill – 1,765,000m³

The works would be completed over a period of 73 weeks (17 months) and would include the following activities:

| Activity                 | Description                                                                                                                                                                           | Week    |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Site preparation         | Ecological preparation works, vegetation clearance on the southern embankment, protection of services on the site, fencing and temporary drainage works along the southern embankment | 1 - 10  |
| Creation of cuttings     | The western cuttings would be done first, followed by cut and fill to the southern section                                                                                            | 2 - 21  |
| Temporary drainage works | Temporary drainage works for the duration of construction would be implemented on the eastern section                                                                                 | 22 - 35 |
| Excavation               | Excavation of cutting for the inner earthworks loop                                                                                                                                   | 38 - 67 |
| Embankments              | Construction of east northern embankment followed by the west northern embankment                                                                                                     | 39 - 67 |
| Drainage works           | Creation of the permanent drainage works required for the site                                                                                                                        | 60 - 69 |
| Soiling and seeding      | Soiling and seeding across the site for stabilisation and landscaping on different sections as they gent finished sequentially                                                        | 41 - 73 |

## Working hours

In general, works would be carried out over 16 hours a day which reflects the existing site operation times for the opencast mine.

Reduced working hours would be implemented for works related to the Northern Embankment because of the close proximity of this area of the site to residential receptors which are likely to be more sensitive to noise. Works on the Northern Embankment would be restricted to 10 hours a day (between 8am-6pm).

## Construction plant movements

Depending on which area of the site was being worked the restoration earthworks would result in a range of plant being used which would include a variety of excavators, bulldozers, dumptrucks, rollers and motor graders.



The environmental impact assessment (EIA) is a statutory requirement to enable an understanding of likely significant effects and to use the process to identify options for preventing, reducing and monitoring these effects where appropriate. The assessment also identifies and proposes enhancement for positive effects where this is possible. It is standard practice to split the assessment into construction effects and on-completion effects (i.e. once the development has been completed).

- Public Rights of Way (PRoW)/Common land
- Noise and vibration
- Hydrology and flooding
- Ground conditions
- Biodiversity
- Cultural heritage
- Landscape and visual assessment
- Cumulative effects

## Public Rights of Way (PRoW)

During construction there would be no change to the existing PRoW across the site.

On completion of the earthworks, the resulting impacts will depend on what the land form is ultimately used for. For example, impacts will be very different should the earthworks be used for the GCRE project than if the earthworks were used as a recreational resource. As it is not yet known what the final use will be an assumption is made that on completion of the earthworks (and restoration of the site), the PRoW will be restored as closely as possible to the routes as shown on the definite map.

This will not be possible in all instances due to the new cuttings and embankments created by the earthworks, therefore some deviations will need to be agreed with Powys County Council. PRoW which would be most affected include Footpath 49 and Footpath 7.

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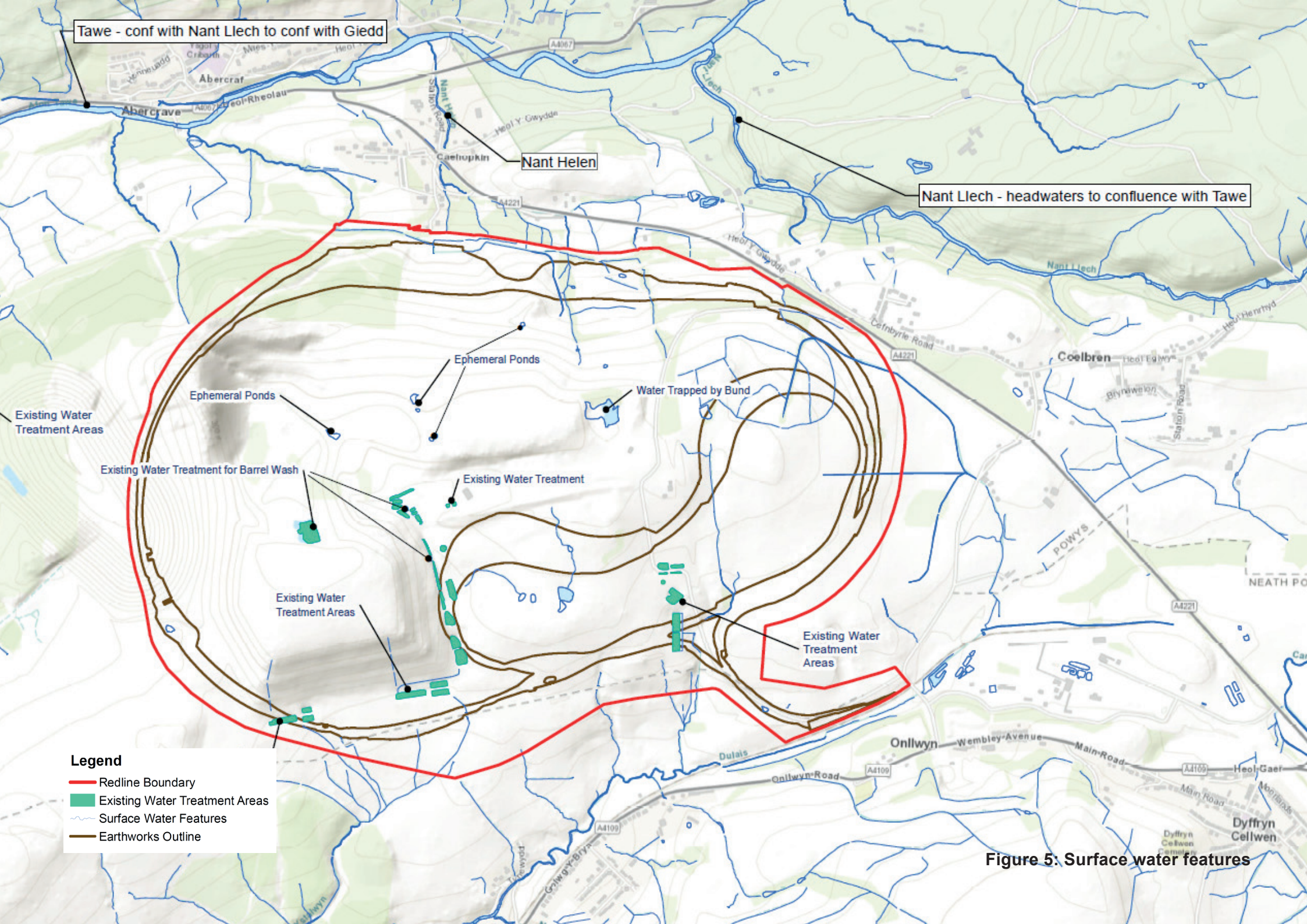


Figure 5: Surface water features

## Common land

Mynydd-y-Drum common covers much of the site and wider locality and is registered common land with several registered commoners with grazing rights. Some of these commoners have signed legal agreements with Celtic Energy for the temporary suspension of grazing rights for the duration Nant Helen Surface Mine's coaling operation. These rights are due to be restored on completion of the restoration scheme.

During the earthworks the Common Land rights will continue to be suspended under the same legal agreements that are in place for the mining works. As the earthworks will be carried out prior to the completion of the restoration when rights will be restored, there will be no additional impacts on Common Land than those currently experienced.

A Common Land Strategy is currently being developed by Powys County Council and Neath Port Talbot County Borough Council. This will set out the proposed approach for managing any changes that will arise as a result of changed access to the common on completion of the earthworks. Details of this strategy are currently being developed; there will be consultation with affected Commoners and at this stage it is not known what the impacts of this will be. However, as a formal legal process must be followed, an assumption is made that all Commoners will be appropriately and fairly dealt with in accordance with good practice and regulation.

## Water Environment

The assessment on the water environment considers effects related to surface water quality, hydromorphology, ground water quality and flood risk.

The study area includes the River Tawe, the River Dulais and the Nant Llech, along with their associated tributaries. The site itself is drained by a network of artificial ditches and ponds, some of which provide treatment of the mine water. No areas of the site are at risk of flooding.

The groundwater beneath the site is likely to be controlled by remnants of historical mining activities such as shafts or adits. When mining activities and the associated dewatering stops, the groundwater regime is likely to restore to pre-dewatering state. Groundwater levels will therefore increase to those currently present and potentially flood the void present in the western site area. During construction, potential effects upon watercourses and groundwater will be mitigated by measures set out in the Construction Environmental Management Plan. The engineering design of the works has considered potential effects upon the hydromorphology of watercourses through the sensitive design of culverts, outfalls and watercourse realignments. Where ponds are being lost, ponds with similar habitat characteristics will be provided elsewhere on the site as mitigation.

## Ground Conditions

The site has been subject to extensive surface and sub-surface coal mining activities over the past century and therefore, most features identified are related to coal mining. The existing site has been extensively worked through opencast coal mining operations since c.1946 with opencast activities still ongoing within the Nant Helen Extension site. Several historical collieries have been identified along the northern and southern boundaries of the site. Additionally, various rail tracks and tramways are shown to have crossed through and run along the boundaries of the site.

Due to the history of extensive coal mining activities it is necessary to implement mitigation measures which are set out within the Construction Environmental Management Plan such that human health and environmental risks are reduced to and controlled at levels which do not represent a risk.

Should mineworking treatment be required as part of the proposed works, then the design of the treatment and its extent will be undertaken as part of the engineering design. This may introduce further risks depending on the proposed treatment, but at that stage appropriate mitigation would be applied as necessary.

On completion of the earthworks, ground conditions are likely to have improved from current.

Biodiversity

There are three Special Areas of Conservation (SACs) within 15km of the Project (Coedydd Nedd a Mellte, Cwm Cadlan, and Blaen Cynon). As a result of the proximity of these sites, an Assessment on European Sites (AEIS) was undertaken and a Statement to Inform an Appropriate Assessment (SIAA) prepared.

Twelve Sites of Special Scientific Interest (SSSIs) within 5km of the Project; with Nant llech and Gors Llwyn being the closest. Five Non-statutory Designated Sites (SINCs: Gorsllwyn Meadows, Aberhenwaun Uchaf, Onllwyn Coal Washery, Dyffryn Cellwen and Land behind Marigold Place) occur within 1 km of the Project. The only potential impacts are to the Nant llech, and therefore mitigation will be incorporated into the Project during construction to address this.

The mosaic of upland habitats occurs within, and adjacent to the site. Those of nature conservation value include fen-mire, heathland, marshy grassland, acid grassland, open water, broadleaved woodland and watercourses. Surveys have found these habitats to support notable invertebrates including good populations of dingy skipper, breeding birds, good populations of common reptiles, badgers, low numbers of foraging bats and otter, and mammals such as polecat. The acid grassland and heathland are rich in fungi, lichen and bryophytes. A number of invasive species have also been recorded within the site.

During site clearance and construction, mitigation will be required to protect habitats and species. To protect habitats, an Ecological Protection Plan will be produced detailing measures to protect habitats during clearance and construction such as the use of fencing and appropriate buffers from sensitive habitats adjacent. It will also detail the treatment of habitats which will be translocated into other areas, for retention and future enhancement through sympathetic management. New habitats will also be created in areas of the site which will be disturbed by the works, or are of low nature conservation value, and will therefore be enhanced by habitat creation. All newly created/translocated or retained habitat will be subject to long term management measures to maintain and enhance their condition for nature conservation, including notable species where they are associated with these habitats.

Specific mitigation for species during construction will comprise:

- The provision of an Ecological Clerk of Works to advise on ecological mitigation;
- Pre-construction surveys for bats, badger, otter and nesting birds;
- Obtaining protected species licences from NRW, where these are required;
- Implementation of a reptile mitigation strategy including the relocating of reptiles away from the works area, and sensitive vegetation clearance under ecological supervision;
- Implementation of a sensitive lighting scheme (avoiding illumination of habitats for bat, otter and badger);
- Implementation of a sensitive vehicle traffic plan (limiting traffic to agreed low limits);
- Construction pollution and sediment control measures; and
- Implementation of an Invasive Species Management Plan.

Management and monitoring of the Site will be required post construction, to ensure the re-establishment and enhancement of habitats and populations of notable species, which are currently present within the Site.

No impacts are anticipated on completion. The impacts during construction on identified ecological receptors are not considered significant, providing mitigation measures are incorporated into the design, and implemented during construction.

Cultural Heritage

The site has been significantly affected by the large-scale opencast mining that has taken place within it which means that the archaeological and historical background of the site is well understood due to the extensive archaeological work that was carried out prior to the mining activities being granted permission. The remaining areas of the site have had a mixture of past land uses, including extensive post-medieval and early 20th century mining and quarrying.

The site can broadly be divided into the following areas:

- a. An area where 20th century opencast mining has taken place;
- b. The upland landscape of Mynydd y Drum, which extends into the area south of Nant Helen opencast mine, crossed by a 19th century tramroad; and
- c. An area in the north of the site where intensive 19th century extraction is known to have taken place but which has not subsequently been mined.

Archaeological potential remains in the areas of the site which have not been disturbed to date by mining activities (i.e. areas b. and c. as listed above). Although the assessment does not consider archaeological effects to be significant all effects on archaeological remains require mitigation and a programme of archaeological work should be carried out prior to construction to ensure the preservation by record of any remains present.

The heritage assessment identified 113 heritage assets within and in proximity to the site. This included one Scheduled Monument located within the site; 35 non-designated heritage assets within the site; 39 designated heritage assets and 38 non-designated heritage assets located beyond the site. Additionally, eight historic landscape areas were identified within or in proximity to the site.

Out of these heritage assets, only 12 of those within the site will potentially be affected. This is because many of the recorded sites of archaeological remains or features identified from historic maps have already been removed by open cast mining.

The Scheduled Monument is the earthwork remains of a 6.44km tramroad that runs from Ystradgynlais across Mynydd y Drum towards where the Onllwyn Washery is today. It is a nationally important earthwork dating to the 1830s. It was built using a hybrid of horse-drawn and steam-driven technology, making it a historically significant feat of engineering and it was a part of the Brecon Forest Tramroad which was a vitally important route for the movement of raw materials for the flourishing iron trade in the area. The proposed earthworks would cross and partially bury the Scheduled Monument near its eastern end, permanently burying 450m section of it (which represents 7% of the monuments length). Three drainage pipes would be installed across the Scheduled Monument where the embankment crosses it. Trenches, c2.1m in width and 15m in length, would be cut into the surface of the Scheduled Monument prior to its burial. Where needed, the drainage cuttings would penetrate the monument laterally without severing it completely, thereby preserving the contiguous nature of its linear route Although the Scheduled Monument would remain largely intact beneath the new embankment, and the drainage cuttings would only penetrate it laterally without severing it completely), the crossing will result in a significant adverse effect.

The crossing of the Tramroad at Ystradgynlais would require Scheduled Monument consent to be approved by Cadw and it is likely to be required that all works are carried out under archaeological monitoring to ensure that no additional physical damage is done to the Scheduled Monument during construction.



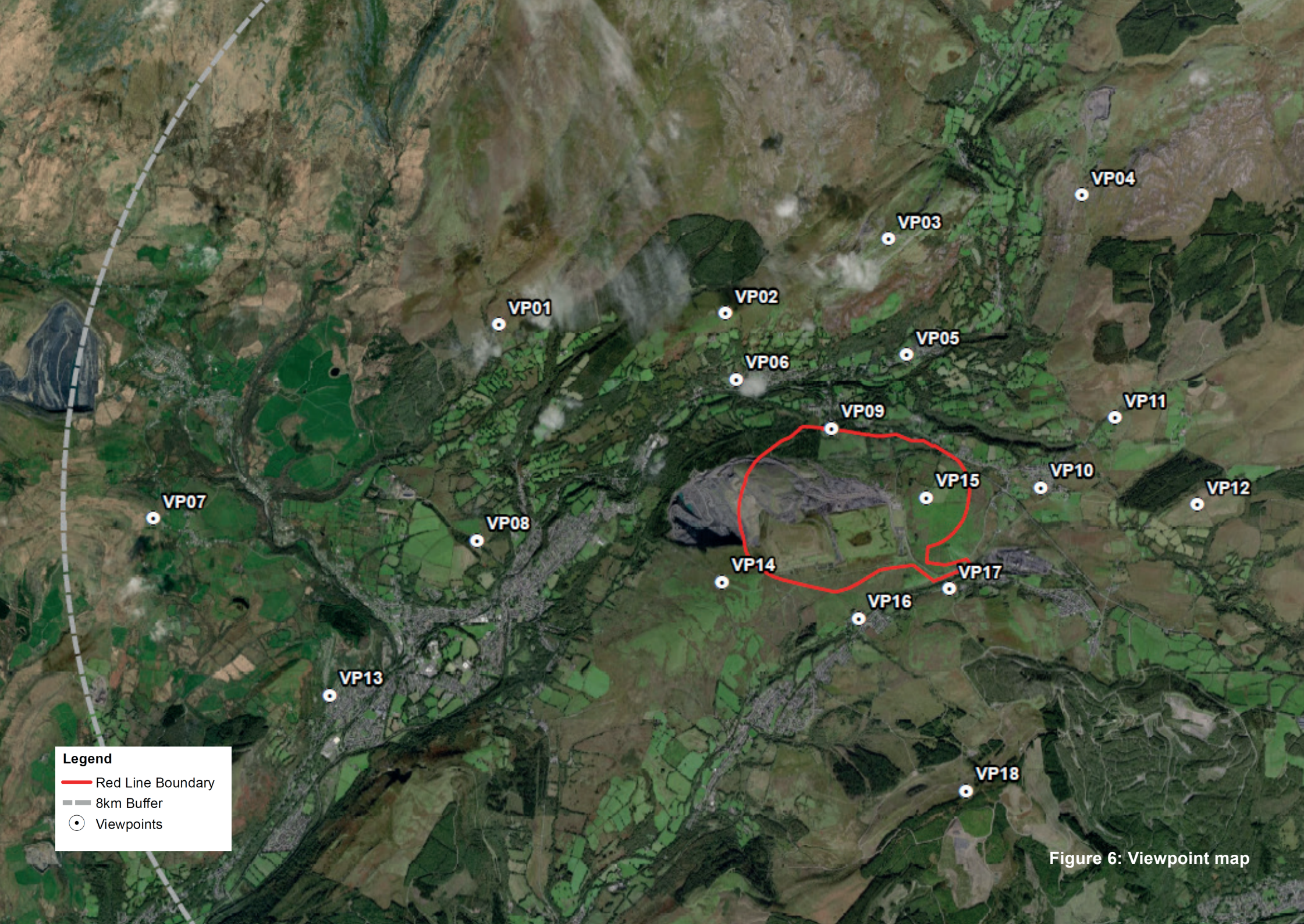


Figure 6: Viewpoint map

Landscape and Visual

Effects on landscape and visual receptors are closely related but separately assessed. Landscape assessment looks at the characteristics of the landscape and the overall character of the landscape, whilst the visual assessment looks at how the proposals may affect views and the visual amenity of people. The Landscape and Visual Impact Assessment (LVIA) looked at effects during the construction phase and upon completion of the Nant Helen Earthworks.

Landscape effects

During construction, it was assessed that there would be significant landscape effects for one of the 20 landscape character areas (LCA) identified within the study area of the LVIA; the Nant Helen Reclaimed Uplands LCA which would be affected through changes made to key features of this LCA such as the Tramroad at Ystradgynlais.

On completion no landscape effects have been identified.

Visual effects

Viewpoints for the assessment were selected in consultation with the Local Authority and are shown in Figure 6. These 18 viewpoints (VPs) were the result of desktop studies and site survey work to identify receptors likely to be affected. Visual receptors include, but are not limited to, recreational users of footpaths and inhabitants of residential properties.

Significant visual effects during construction were identified for a number of receptors listed in Table 1. All of these are adverse effects.

On completion of the earthworks, the assessment identifies a reduced number of viewpoints which would experience significant adverse effects. These are identified in Table 2.

All of these are adverse effects with the exception of VP1 (on completion) which would experience beneficial effects.

Table 1: Significant visual effects during construction

| Receptor                                        | VP affected               |
|-------------------------------------------------|---------------------------|
| Recreational receptors within the National Park | VP1, VP2, VP3, VP4, VP11  |
| General recreational receptors                  | VP9, VP14, VP18           |
| Residential receptors                           | VP5, VP6, VP9, VP10, VP16 |
| Cemetery visitors                               | VP17                      |

Table 2: Significant visual effects on completion of earthworks

| Receptor                                        | VP affected        |
|-------------------------------------------------|--------------------|
| Recreational receptors within the National Park | VP1, VP2, VP3, VP4 |
| General recreational receptors                  | VP9, VP15, VP18    |
| Residential receptors                           | VP5, VP9           |

## Noise and Vibration

A noise and vibration assessment has been prepared which looked at how the construction phase would affect people and buildings near to the site. The predicted noise levels without mitigation at most identified receptors would not result in significant effects. Without mitigation in place, construction noise impacts would occur at dwellings in the south of Caehopkin, adjacent to the quarry site. Mitigation in the form of a 5m screen on the perimeter of the site would control noise levels from soil stripping and embankment construction to these dwellings and prevent a significant effect.



## Cumulative effects

Cumulative effects are those that arise as a result of additive impacts from more than one project (under construction or reasonably foreseeable projects), combining together to have an effect on a receptor that may be larger than if the effect were considered separately. Broadly, reasonably foreseeable projects are those that are known to the planning system or are already consented (but not yet built).

Two developments were considered in relation to cumulative effects:

**Nant Helen Restoration Earthworks (committed development)** - As the restoration is committed, the baseline for this assessment is, in most cases, the restored site.

Consequently, the assessment for the Nant Helen Complementary Restoration Earthworks has already included consideration of the restoration works in the assessment. No further assessment is required to identify cumulative effects.

**Global Centre of Rail Excellence (GCRE) (likely development)** - at this stage, there is only an outline design and the development of the proposal and its assessment is ongoing.

It is therefore considered appropriate to avoid making any assumptions within this assessment in regard to cumulative effects. The project team fully anticipates engaging with any assessment that comes forward for GCRE, should that project progress.



## 6 More information

You may inspect copies of the proposed application; the plans; and other supporting documents online at [www.coal.com/community-consultation/nanthelen](http://www.coal.com/community-consultation/nanthelen) and computer facilities are available to view this information online at the following locations:

**Dove Workshop Roman Road, Banwen, Neath Port Talbot, SA10 9LW**  
Monday – Friday 8:30am to 4:30pm

**Ystradgynlais Library, Temperance Street, Ystradgynlais, Powys, SA9 1JJ**  
Monday 10:00am to 6:00pm, Tuesday 10:00am to 5:00pm, Wednesday 10:00am to 1:00pm, Thursday 10:00am to 5:00pm, Friday 10:00am to 4:00pm and Saturday 10:00am to 12:30pm

Anyone who wishes to make representations about this proposed development must write to the applicant/agent at:

Email: [nanthelen-earthworks@grasshopperconsult.co.uk](mailto:nanthelen-earthworks@grasshopperconsult.co.uk)

By post: write to Freepost GRASSHOPPER CONSULT (no stamp or further address required)

Complete the online feedback form:  
[www.coal.com/community-consultation/nanthelen](http://www.coal.com/community-consultation/nanthelen)

