PENYRENGLYN LANDSLIDE RISK MANAGEMENT WORKS

Project Environmental Report

Project no. 4021526

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Contents

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Crynodeb gweithredol

Cyflwyniad a disgrifiad o'r prosiect

Mae Adroddiad Amgylcheddol y prosiect hwn wedi'i baratoi i ddogfennu'r asesiad amgylcheddol ar gyfer gwaith arfaethedig i reoli perygl tirlithriadau ar safle hen domen sborion Glofa Ynysfeio, a elwir hefyd yn domen Penyrenglyn.

Mae'r prosiect ar ochr ddwyreiniol Cwm Rhondda Fawr, yn union i'r gogledd o Benyrenglyn, wedi'i leoli rhwng pentref Treherbert i'r gorllewin a thref Treorci i'r dwyrain. Cyfeirnod Grid Cenedlaethol SS 94874 98109 (y cod post agosaf yw CF42 5HA) yw canolbwynt y safle ac mae'n cwmpasu tua 11.6 hectar. Mae'r safle'n cynnwys llethrau'r cwm lle gosodwyd sborion glo, a rhan o lwyfandir wrth y gwaelod a grëwyd pan gaewyd y pwll glo. Yn dilyn cau'r pwll glo, plannwyd planhigfa gonifferau ar y llethrau, a gafodd ei chwympo yng ngaeaf 2023/24. Mae band o goetir gwlyb llydanddail ar y llethrau isaf gyda chwrs dŵr yn llifo drwyddo, uwchben ffos ddraenio a llwybr mynediad. Mae'r llwyfandir yn cynnwys clytwaith o laswelltir, prysgwydd a thir moel sy'n cael ei groesi gan lwybrau anffurfiol.

Diben y prosiect yw gosod mesurau draenio i leihau ymdreiddiad i ddeunydd y domen glo, gan leihau'r tebygolrwydd bod deunydd yn llithro a lliniaru'r risg i iechyd a diogelwch y cyhoedd yn y dyfodol. Mae'r gwaith draenio ar y llethrau'n cynnwys: ail-leoli un cwlfer o dan ffordd y goedwig, gosod draeniau hidlo ar hyd llwybrau coedwig wedi'u hailraddio, cyfres o ffosydd draenio anathraidd a draeniau graean ar draws y llethrau, tair rhaeadr o gerrig bloc ar lethrau mwy serth i gludo dŵr rhwng draeniau a chyrsiau dŵr presennol, cyfres o ddraeniau is-wyneb llorweddol i mewn i'r deunydd sborion, prysgoedio a chlirio rhwystrau llifoedd ar hyd y cwrs dŵr a draeniau presennol, a chwlfertau a draenio traws-sianel ar draws llwybrau coedwigaeth. Wrth waelod y llethrau bydd tanc storio tanddaearol wedi'i gysylltu â chwrs dŵr cyfagos yn gwanhau'r llif i atal mwy o berygl o lifogydd ar hyd cyrsiau dŵr i lawr yr afon. Mae dyluniad y draenio yn cynnwys draeniau hidlo wedi'u llenwi â graean i ddal gwaddod a ffosydd â llystyfiant i arafu cyflymder y llif, gan ganiatáu i waddod a metelau trwm setlo. Bydd y mesurau hyn yn lleihau cronni gwaddod a llygredd cysylltiedig yn y cwrs dŵr presennol, y ffos wrth droed y llethrau a chyrsiau dŵr i lawr yr afon.

Risgiau, mesurau lliniaru a manteision amgylcheddol posibl

Daeth barn sgrinio asesiad o'r effaith amgylcheddol gan Gyngor Bwrdeistref Sirol Rhondda Cynon Taf i'r casgliad nad oes angen asesiad o'r effaith amgylcheddol statudol na chynhyrchu datganiad amgylcheddol o ystyried nad oedd effeithiau amgylcheddol sylweddol yn debygol o godi.

Er na fydd effeithiau sylweddol yn deillio o'r prosiect, mae risgiau amgylcheddol gweddilliol y mae angen eu hystyried a'u rheoli. Yn ôl ymarfer cwmpasu amgylcheddol gan CNC, pennwyd bod y risg bosibl i'r pynciau amgylcheddol canlynol yn "uchel", ac felly cafodd y pynciau hyn eu cynnwys ar gyfer asesiad pellach i gefnogi datblygu dyluniadau a cheisiadau cydsyniad, ac i helpu i gyflawni manteision lluosog: bioamrywiaeth a chadwraeth byd natur, pridd (adeiladu), dŵr, treftadaeth ddiwylliannol, a thirwedd a gweledol.

Bydd y rhan fwyaf o'r asedau draenio yn cael eu gosod ar lethrau'r cwm, sydd wedi'u datgoedwigo'n ddiweddar, o fewn Safle o Bwysigrwydd er Cadwraeth Natur Mynydd Ystradffernol. Mae'r ardal hon bellach yn cynnwys clytwaith cynefin ar ddeunydd sborion glo wrth i lystyfiant ailsefydlu'n naturiol, ac roedd troellwyr mawr yn nythu yno yn 2024. Bydd gosod yr asedau draenio yn achosi aflonyddwch i'r cynefinoedd presennol mewn ardaloedd gwaith dros dro a rhai newidiadau mewn cynefinoedd o ganlyniad i'r adeileddau draenio parhaol. Bydd hwn yn newid niwtral yng nghyd-destun clytwaith cynefin lle mae cael amrywiaeth o gilfachau cynefin yn cyfrannu at gyflwr a gwydnwch y cynefin, a gall aflonyddwch cyfnodol helpu i gynnal clytwaith. Y nod yw clirio llystyfiant a thocion y tu allan i dymor nythu adar, dan oruchwyliaeth ecolegol i wirio am ymlusgiaid ac amffibiaid. Os nad yw hyn yn bosibl, a bod angen clirio llystyfiant yn ystod prif dymor nythu adar (mis Mawrth i fis Awst), yna cynhelir gwiriadau ar adar sy'n nythu cyn clirio llystyfiant. Os canfyddir nythod sy'n cael eu defnyddio, yna bydd ardaloedd dan waharddiad addas yn cael eu sefydlu yn unol â chyngor ecolegydd cymwys. Y rheolaeth hirdymor ar gyfer y cynefinoedd hyn er mwyn darparu budd net i fioamrywiaeth fydd caniatáu adfywio naturiol ond gyda rhywfaint o reolaeth. Mae'n debyg y bydd y cynefinoedd yn trawsnewid yn gymuned ddiffaith dal, yna'n glytwaith o brysgwydd, ac yn y tymor hwy yn dod yn gynefinoedd prysgwydd yn bennaf gydag ardaloedd o goed hunanhadu. Bydd aildyfiant conifferau yn cael ei fonitro a'i symud a bydd llystyfiant o barthau tua 2.4 metr o led ar y naill ochr a'r llall i'r llwybr coedwigaeth a'r ffordd yn cael ei dorri bob yn ail flwyddyn i gynnal brêc rhag tân a darparu amrywiaeth o ran yr adeiledd llystyfol. Fel rhan o waith cynnal a chadw cyfnodol ar asedau draenio, bydd llystyfiant yn cael ei dorri'n ôl ar hyd ac o amgylch yr asedau pan fo angen, gan gynnwys llwyni a choed sy'n adfywio, gan newid yr ardaloedd hyn yn ôl i adeiledd cynefin mwy agored fel rhan o'r clytwaith.

Bydd colled o tua 0.13 hectar o goetir gwlyb (cynefin pwysig iawn) o ganlyniad i ôl troed parhaol asedau newydd. Bydd coetir cydbwyso yn cael ei blannu mewn ardal lle mae'r coed wedi'u cwympo'n ddiweddar, sy'n ymestyn i'r dwyrain o'r band coetir presennol. Bydd prysgoedio'r coetir ar hyd y cwrs dŵr presennol a theneuo rhywogaethau helyg yn darparu amrywiaeth o ran adeiledd ac oedran ac yn agor y canopi er budd fflora'r ddaear, cyrsiau dŵr a ffosydd draenio. Bydd clymog Japan a chrib-y-ceiliog yn cael eu tynnu o'r nodweddion coetir a phrennau marw a grëir.

Mae ymyl dwyreiniol safle'r prosiect yn cynnwys rhan o Blanhigfa ar Safle Coetir Hynafol, y mae'r llwybr coedwigaeth presennol yn mynd drwyddi. Cliriwyd yr ardal hon ar yr un pryd â gweddill y blanhigfa o fewn safle'r prosiect. Mae gwaith o fewn ffin y Blanhigfa ar Safle Coetir Hynafol wedi'i gyfyngu i osod draeniad croes ar draws y trac presennol a chynnal y brêc rhag tân a'r ardal o amrywiaeth adeileddol llystyfol ar hyd y trac coedwigaeth; ni fydd unrhyw effeithiau andwyol ar y Blanhigfa ar Safle Coetir Hynafol.

Bydd effaith uniongyrchol ar hyd at 3,750m^2 o gynefin clytwaith agored ar dir a ddatblygwyd o'r blaen (cynefin pwysig iawn) ar y llwyfandir o ganlyniad i osod y tanc tanddaearol a'r all-lif. Glaswelltir niwtral wedi'i led-wella yn bennaf yw'r ardal yr effeithir arni, gydag ardaloedd o dir moel a helyg deilgrwn a phrysgwydd gwasgaredig. Bydd yr uwchbridd yn cael ei stripio a'i bentyrru, a'i ddefnyddio i adfer yr ardal waith. Bydd yr ardal sydd wedi'i hadfer yn cael ei ffensio i ganiatáu aildyfiant naturiol. Bydd hyn i bob pwrpas yn ailosod olyniaeth y cynefin clytwaith agored ar y tir a ddatblygwyd o'r blaen. Ni chynigir unrhyw blannu na hau er mwyn osgoi cyflwyno rhywogaethau / amrywolion rhywogaethau nad ydynt yn frodorol i'r ardal.

Mae potensial am gynnydd tymor byr o ran halogion mewn dŵr wyneb ac felly cyrsiau dŵr trwy ddraenio cychwynnol dŵr is-wyneb drwy'r draeniau is-wyneb. Mae potensial hefyd i waddodion symud o ganlyniad i bridd yn cael ei aflonyddu ac i ollyngiadau damweiniol yn ystod y gwaith adeiladu fynd i mewn i gyrsiau dŵr. Bydd cynllun rheoli ansawdd dŵr a silt yn cael ei ddatblygu, ei gymeradwyo gan CNC, a'i weithredu yn ystod ac ar ôl y gwaith adeiladu. Bydd hyn yn cynnwys monitro dŵr wyneb, gan gynnwys profion sylfaenol ar ddyfroedd wyneb am ddangosyddion ansawdd allweddol cyn i'r gwaith ddechrau ac yn rheolaidd yn ystod y gwaith.

Ni fydd gosod a chynnal a chadw'r asedau draenio yn effeithio ar heneb gofrestredig systemau cludo inclein, sydd wedi'u lleoli 100 metr i'r gogledd o safle'r prosiect, na'r gwrthgloddiau sy'n weddill o'r hen lwybr tramffordd a arferai redeg i lawr y llethrau yn safle'r prosiect.

Ni nododd yr arfarniad tirwedd a gweledol unrhyw risgiau posibl o weithrediad y prosiect arfaethedig i ardal gymeriad y dirwedd leol, y cymeriad hanesyddol, nac i nodweddion allweddol Ardal Tirwedd Arbennig Cwm Orci gyfagos. Mae'n debygol y bydd y rhaeadrau carreg floc newydd yn weladwy o rai golygfannau ac efallai y bydd eu natur onglog yn ymddangos allan o le. Fodd bynnag, bydd y rhan fwyaf o'r elfennau draenio newydd yn cael eu hamsugno gan y dirwedd ac ni fyddant yn amlwg yn ystod y gweithrediad, yn enwedig wrth i lystyfiant ailsefydlu.

Executive summary

Introduction and Project Description

This Project Environment Report has been prepared to document the environmental assessment for proposed landslide risk management works at the former Ynysfeio Colliery spoil tip, also referred to as Penyrenglyn tip.

The project is on the eastern side of the Rhondda Fawr Valley, directly north of Penyrenglyn, situated between the village of Treherbert to the west and the town of Treorchy to the east. The site is centred at National Grid reference SS 94874 98109 (nearest postcode CF42 5HA) and covers approximately 12.6ha. The site comprises valley slopes on which coil spoil had been placed, and part of a raised plateau at the base created during mine closure. Following mine closure the slopes had been planted as conifer plantation which was felled in winter 2023/24. There is a band of broadleaved wet woodland on the lower slopes with a watercourse flowing through it, above a drainage ditch and access track. The plateau comprises a mosaic of grassland, scrub and bare ground crossed by informal paths.

The purpose of the project is to install drainage measures to reduce infiltration into the coal tip material, reducing the likelihood of material slips and mitigating future risk to public health and safety. The drainage works on the slopes comprise: repositioning one culvert beneath the forest road; filter drains along forestry tracks with track surface improvements; a series of impermeable drainage ditches and gravel drains across the slopes; three blockstone cascades on steeper slopes to convey water between drains and existing watercourses; a series of horizontal sub-surface drains into the spoil material; coppicing and clearance of flow obstructions along the existing watercourse and drains; and culverts and cross channel drainage across forestry tracks. At the base of the slopes a below ground storage tank connected to a nearby watercourse will provide flow attenuation to prevent increased flood risk along downstream watercourses. The drainage design includes gravel filled filter drains to trap sediment and vegetated ditches to slow flow velocity allowing sediment and heavy metals to settle. These measures will reduce sediment and associated pollution loading in the existing watercourse, the ditch at the toe of the slopes and downstream watercourses.

Potential Environmental Risks, Mitigation and Benefits

An Environmental Impact Assessment (EIA) screening opinion from Rhondda Cynon Taf County Borough Council concluded that statutory EIA and production of an Environmental Statement is not required given significant environmental impacts were not likely to arise.

Whilst significant impacts will not arise from the project, there are residual environmental risks needing to be considered and managed. An environmental scoping exercise by NRW deemed potential risk to the following environmental topics as being “High”, and therefore these topics were scoped in for further assessment to support design development and consent applications, and to help achieve multiple benefits: Biodiversity and Nature Conservation; Soil (construction); Water; Cultural Heritage; and Landscape and Visual.

Most of drainage assets will be installed on the recently deforested valley slopes, within the Mynydd Ystradffernol site of importance for nature conservation (SINC). This area now

comprises a habitat mosaic on coal spoil material as vegetation is naturally reestablishing, and nightjar were nesting there in 2024. Installing the drainage assets will cause disturbance of the existing habitats in temporary working areas and some changes in habitats from the permanent drainage structures. This will be a neutral change in the context of a habitat mosaic where having variety of habitat niches contributes to the condition and resilience of the habitat, and periodic disturbance can help maintain a mosaic. The aim is to carry out vegetation and brash clearance outside the nesting bird season, under ecological supervision to check for reptiles and amphibians. If this is not possible, and vegetation clearance is needed during the main bird breeding season (March to August inclusive), then nesting bird checks will be carried out before vegetation is cleared. If active nests are found, then suitable exclusion zones will be established as advised by a suitably qualified ecologist. The long term management for these habitats to provide a Net Benefit for Biodiversity will be to allow natural regeneration but with some management. The habitats will likely transition into a tall ruderal community, then a scrub mosaic, and in the longer term become scrub dominated with areas of self-seeded trees. Conifer regrowth will be monitored and removed and vegetation from an approximately 2.4m wide zone either side of the forestry track and road will be cut every other year to maintain a fire break and provide vegetative structural diversity. As part of periodic drainage asset maintenance, vegetation will be cut back along and around the assets when needed, including regenerating shrubs and trees, resetting these areas back to a more open habitat structure as part of the mosaic.

There will be a loss of approximately 0.13ha of the wet woodland (a Habitat of Principal Importance; HPI) to the permanent footprint of new assets. Compensation woodland planting will be provided in a recently felled area that extends east from the existing woodland band. Coppicing of the woodland along the existing watercourse and thinning of willow species will provide structure and age diversity and open out the canopy to benefit ground flora, watercourses and drainage ditches. Japanese knotweed and montbretia will be removed from the woodland and deadwood features created.

The eastern extent of the project site includes part of a Plantation on Ancient Woodland Site (PAWS), which the existing forestry track passes through. This area was cleared at the same time as the rest of the plantation within the project site. Works in the PAWS boundary are limited to installing cross drainage across the existing track and maintaining the fire break and area of vegetative structural diversity along the forestry track; there will be no adverse effects on the PAWS.

There will be a direct effect on up to 3,750m^2 of Open Mosaic Habitat on Previously Developed Land (OMHPDL) habitat (an HPI) on the plateau from installing the below ground tank and outflow. The area affected is predominantly semi-improved neutral grassland with areas of bare ground and scattered goat willow and scrub. The topsoil will be stripped, stockpiled and used to reinstate the working area. The reinstated area will be kept fenced off to allow natural regeneration to establish. This will in effect reset the succession of the OHMPDL. No planting or seeding is proposed to avoid introducing species / species variants that are not local to the area.

There is potential for a short-term increase in contaminants in surface water and therefore watercourses through the initial draining of sub-surface water via the sub-surface drains. There is also potential for mobilised sediments from soil disturbance and accidental spills during construction to enter watercourses. A water quality and silt control plan will be

developed, approved by NRW and implemented during and after construction. This will include monitoring of surface water, including baseline testing of surface waters for key quality indicators prior to works commencing and regularly during works.

Installing and maintaining the drainage assets will not affect the Incline Haulage Systems Scheduled Monument located 100m north of the project site, or the remaining earthworks from the former tramway route that used to run down the slopes in the project site.

The Landscape and Visual Appraisal did not identify any potential risks from the operation of the proposed project to the local landscape character area, historic character, or to the key features of the adjacent Cwm Orci Special Landscape Area. The new blockstone cascades are likely to be visible from some viewpoints and their angular nature may appear out of place, however most of the new drainage elements will be absorbed by the landscape and not noticeable during operation, especially as vegetation reestablishes.

1. Introduction

1.1 Background

This Project Environmental Report has been produced for proposed landslide risk management works at the former Ynysfeio Colliery spoil tip, also referred to as Penyrenglyn tip, hereafter referred as the 'project'. The purpose of the project is to install positive drainage measures into slopes to reduce infiltration into the coal tip material, reducing the likelihood of material slips and mitigating future risk to public health and safety.

The project site (the 'site') is situated adjacent the village of Penyrenglyn, situated between Treherbert to the west and Treorchy to the east, along the eastern side of the Rhondda Fawr Valley (Figure 1-1). The site is centred at National Grid reference SS 94874 98109 (nearest postcode CF42 5HA) and covers approximately 12.6ha. The site comprises valley slopes on which coil spoil had been placed, and part of a raised plateau at the base of the slopes which was created during mine closure. There is a track along the northern edge of the plateau accessed from the west from Herbert Street. Following mine closure the slopes had been planted as conifer plantation which was felled in winter 2023/24. There is a retained band of broadleaved woodland on the lower slopes.

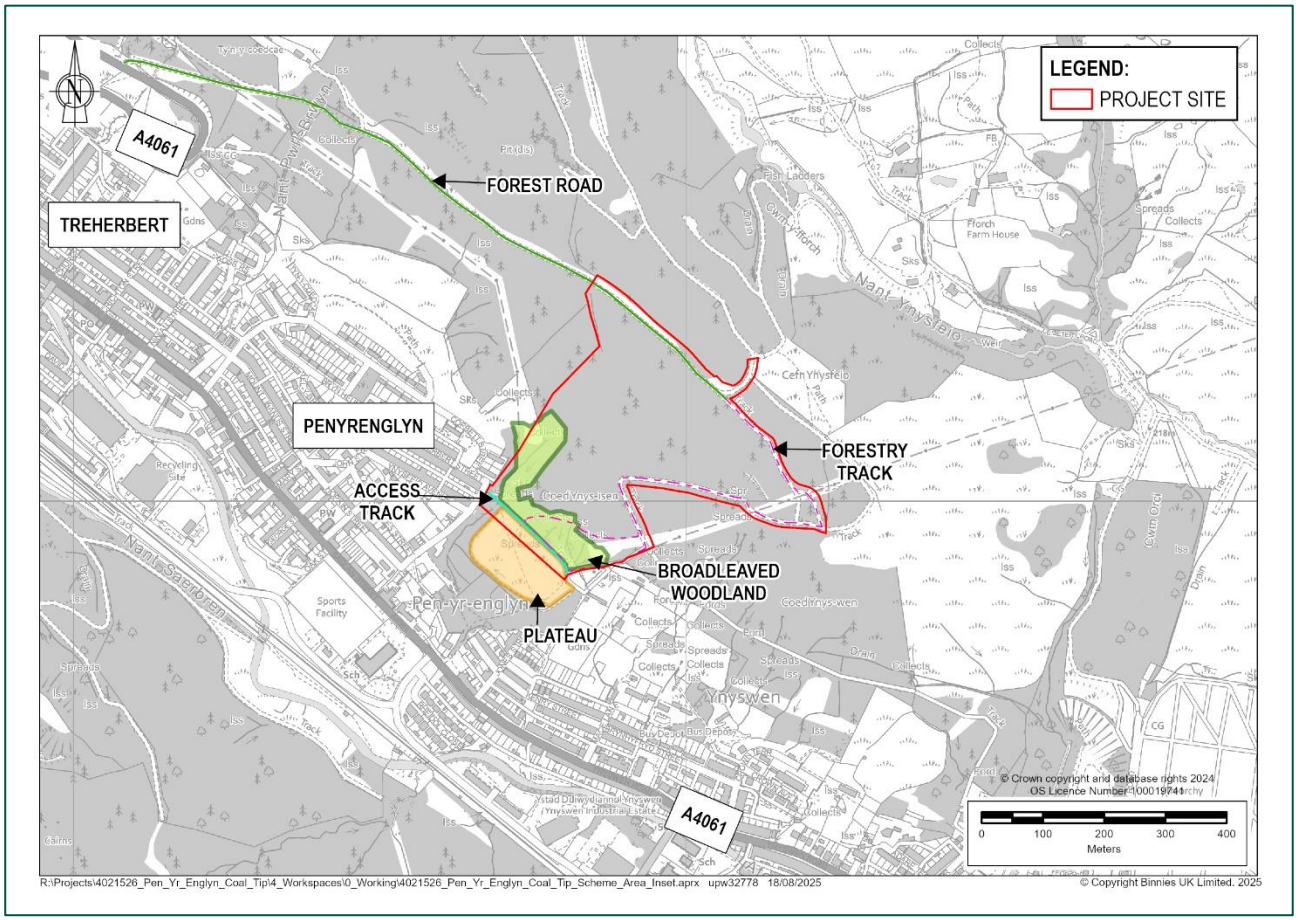

Figure 1-1: Site Location Plan

The purpose of this Project Environmental Report is to: set out the baseline environmental conditions; document environmental risks associated with the project and how the assessment of these risks has informed design. The report also sets out the measures necessary to mitigate any residual project environmental risk and records opportunities and benefits associated with the project.

At the project's outline design stage an Environmental Constraints and Opportunities Record (ECOR) was produced for the project (Natural Resources Wales, 2023). The ECOR documented the project's environmental screening and scoping. The screening concluded that statutory Environmental Impact Assessment (EIA) and production of an Environmental Statement in accordance with The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 is not required given the project does not have potential for significant environmental impacts. This was confirmed by an EIA screening opinion from Rhondda Cynon Taf County Borough Council (Rhondda Cynon Taf County Borough Council, 2023a).

Whilst significant impacts are not likely to arise from the project, there are residual environmental risks associated with the project which need to be considered and managed. Assessment of these risks is in accordance with Natural Resources Wales's good practice procedures. The scoping exercise has deemed potential risk to the following environmental topics as being "High", and therefore these topics have been scoped in for further assessment and consideration within this Project Environmental Report:

- Biodiversity and nature conservation
- Soil (construction)
- Water
- Cultural Heritage
- Landscape and visual.

The remaining topics (population and human health, soil (operation), climate, land, air, material assets, cumulative) were scoped out on the basis there are not perceived to be "High" environmental risk upon these topics arising from the project. For topics scoped out, any risks (i.e. "Medium" or "Low" risk) upon these topics can be mitigated through industry best practice and appropriate standard mitigation measures as identified within the ECOR. These mitigation measures have been brought forward and recorded within the Project's Environmental Action Plan (Appendix D).

No potential for effects on international or national designated sites were identified and so these are not discussed further in this report.

The ECOR stated that a review of the potential for cumulative effects during detailed design should be carried out. The Rhondda Cynon Taf County Borough Council Planning Portal was reviewed in July 2025 for potential major planning applications within a radius of 1km of the scheme that may need to be considered in the design and assessment process. None were identified as having been submitted since the ECOR was completed. The planning decision for five bungalows proposed on the site of the former primary school (land between 3 and 7 Charles Street, 23/0637/FUL) is still pending. The final decision for that proposal may be relevant when developing the construction and traffic management plan for the project.

Following the completion of the ECOR, the design of the proposed project has progressed, and the understanding of the baseline environment has been updated. Although the design for the project has been altered compared to the design reported in the ECOR, the proposed project is considered to be materially comparable; therefore, it is appropriate to continue with the topics scoped in and out from the outline design stage. It should be noted that the forest coupe which was present on the hillside was felled over winter 2023/24 to comply with a statutory plant health notice and in accordance with NRW's Forest Resource Plan to harvest the area.

1.2 Critical Success Factors and Project objectives

Critical Success Factors (CSFs) are outcomes that are crucial (not desirable) to the successful delivery of the project. Whilst Investment Objectives identify aspirational outcomes.

The critical success factors for the project that are relevant to the environment are:

- Reduce risk of slip.
- Principles of Sustainable Management of Natural Resources (SMNR) are implemented – specifically Preventative Action, Long Term, Adaptive Management.
- Well-Being of Future Generations Act goals are met - specifically Cohesive Communities, Resilient Wales.
- NRW Wellbeing Objectives are met - specifically Communities are resilient to climate change.
- Secure relevant consents and permissions, including Planning Approval and SAB Consent.
- Proposed site run-off rates replicate the current day scenario so not to add to flows in the downstream network.
- Fits with the study area's constraints, with manageable effects elsewhere.

The investment objectives are:

- Reduce the risk of instability at the site by means of physical interventions.
- Deliver works that enable hand back / management of the site to the area team, this will include ongoing maintenance under business as usual operations.
- Design a scheme that enhances the landscape of the site.
- Design a scheme that enhances the site's cultural heritage.

1.3 Project description

Proposed drainage assets

The project is illustrated on the Environmental Masterplan in Appendix C.

The works to construct and operate the drainage system are detailed in the Drainage Strategy Report (doc ref. 4021526-BUK-ZZ-00-RP-FR-00001) and General Arrangement Plan (doc ref. 4021526-BUK-ZZ-00-DR-C-00010) and comprise:

- Repositioning one culvert beneath the forest road at the top (north) of the slopes to better manage natural catchment flows on the eastern side of the project site.
- Installation of 81 subsurface drains (perforated pipes installed into the slope, each with a stone headwall) each with a maximum length of 25m.
- New 3m wide, 95m long stoned access track to provide access to subsurface drain headwalls.
- Installation of three new blockstone cascades totalling 320m in length (115m, 100m and 105m.
- Installation of three new impermeable drainage ditches totalling 190m in length (80m, 80m and 30m) connecting to the new blockstone cascades.
- Installation of six impermeable gravel (lateral) drains totalling 280m in length (60m, 55m, 45m, 50m, 35m, 35m) connecting into new blockstone cascades and existing watercourse.
- Regrading 420m of forestry track and provision of a bund of 0.3m height on the downslope side of the forestry track; the bund will clearly demarcate the forestry track edge on the steep slopes.
- Installation of 445m of filter drains adjacent to forestry tracks, including silt traps along the drains. Filter drains will be sub-surface, topsoiled and seeded.
- Installation of one culvert to connect an impermeable ditch, the top of the southeastern blockstone cascade and forestry track filter drain.
- Installation of a 270m^3 below ground water storage tank to control discharge from the filter drains to downstream watercourses.
- Installation of a below ground pipeline, concrete-bag headwall and apron to connect the below ground water storage tank to an existing watercourse.
- Installation of three cross channels along the middle section existing forestry track to promote natural catchment flow on the eastern side of the project site where it is not on coal tip material and to reduce track erosion.
- Installation of three culverts beneath the lower section of existing forestry track: one culvert to connect the forestry track filter drain with an existing drainage ditch; two culverts to allow some water collected by the forestry track filter drain to be released to flow overland into existing woodland on the lower slopes.
- Coppicing a 6m wide corridor along the existing watercourse through woodland and removal of flow obstructions.
- Replacement of one culvert which conveys the existing watercourse beneath the plateau access track.
- Installation of one culvert to connect the new forestry track filter drain with the eastern end of the existing drainage ditch

- Thinning of vegetation and removal of silt and flow obstructions from existing drainage watercourse (ditches) at the toe of the slopes.
- Installation of a vehicle gate across the forestry track to prevent unwanted access and associated antisocial behaviour; pedestrian access will be maintained.
- Clearance of brash and cutting back vegetation from an approximately 2.4m wide area either side of the forestry track to create a fire break.

Construction Access

The primary access to the site will be via the forest road at the top of the site, where the main construction compound will be sited, access to which is provided off the A4061 Rhigos Road from north of Treherbert.

The secondary access to the site will be via Herbert Street onto the access track along the north edge of the plateau. This will be accessed via residential roads from the A4061 where it passes through Penyrenglyn.

Most bulk materials and machinery will be delivered initially to the main compound before being moved to where they are needed.

Most construction machinery will move between the main compound and working areas using exiting forestry tracks. However, the forestry tracks are not suitable for moving bulk materials around the site. Therefore, for works to install the below ground tank, construction machinery, material deliveries and material excavated and that is not being retained will be moved via the Herbert Street entrance.

Access to working areas on the slopes that are not along, or easily accessed from, the existing forestry tracks will be determined by a detailed Construction Method Statement, including a materials movement and lifting plan, traffic management and public access management. It is expected that a spider excavator that is specialised for working on very steep slopes will need to be used for some assets, which will require anchor points and safety cables for it to work safely and securely on the steep slopes.

Plate 1-1: View across the plateau from the access from Herbert Street, including the temporary working area for below ground tank installation

Construction compounds and working areas

The proposed temporary construction compounds comprise:

- A main compound adjacent to the forest road at the top of the site, in the area previously used as a compound for the winter 2023/24 forestry works. This compound will be approximately 30m x 30m. In addition, it will be necessary to ensure that a turning area for HGVs is kept free from obstructions.
- Provision of a welfare unit on the plateau within a temporary working area south of the access track.

The following temporary working areas will be needed:

- Up to a 25m wide and 150m long working area on the plateau along and south of the access track to install the below ground tank, pipeline and outfall. This will require clearing stands of scrub vegetation that are encroaching onto the plateau grassland.
- Approximately 5m wide linear area on the upslope side of the existing forestry track to install the forestry track filter drain and the below ground pipes and headwalls. The exact width will vary depending on the existing topography.
- Approximately 6m wide linear areas to install the impermeable ditches and gravel lateral drains on the slopes.
- Up to 10m wide linear areas to install the blockstone cascades.
- Approximately 5m wide linear areas to install below ground drains and headwalls where they cannot be accessed from existing tracks.

The exact areas needed to be used will be determined by the detailed Construction Method Statement. Where necessary to create additional space for machinery 'swings' and materials movement for works in the existing woodland, adjacent trees will be coppiced or pruned.

Access routes will be needed to get to the construction areas; those will be determined through developing a detailed access and materials movement plan as part of the Construction Method Statement. Existing forestry tracks will be used wherever possible, but other access routes and areas will also be needed given the cascade locations and site topography.

Waste generation and material reuse

The primary source of waste will be arisings from excavations for the below ground tank, approximately 400 m^3. That material will be removed from site, but with all topsoil retained for reinstatement. Arisings from excavations for the blockstone cascades, impermeable ditches and gravel filter drains will be reused within the project where it is safe to do so without increasing slippage risk, e.g. to create the low bunds on the downslope side of the forestry track, and as back-fill and localised reprofiling around new assets. Material that cannot be reused will be removed from site.

Construction machinery and vehicle movements

The anticipated machinery to be used is set out below, but the final details will be set out in a detailed Construction Method Statement.

The anticipated plant to be used on site comprises:

- Construction plant is anticipated to comprise tracked dumpers (as opposed to wheeled plant), excavators, rollers, and a spider-excavator that is specialised for working on very steep slopes.
- The drilled-horizontal drains are expected to be installed by the use of an excavator-mounted drill attachment, which can also be attached to the spider-excavator for difficult access areas.
- Material will be moved from the main construction compound to working areas using suitable vehicles depending on the load and working area, e.g. suitably sized wheeled vehicles where access along residential streets to Herbert Street is needed, or suitable off road vehicles for moving along forestry tracks.
- A mobile crane will be needed to move the sections of the below ground tank into position, and a temporary crane pad using suitable stone material will need to be installed for this.

Operational management

The operation and maintenance plan for the proposed drainage assets are set out in the Drainage Strategy Report (Binnies UK Ltd, 2025a). The drainage system is designed to operate passively. In terms of regular maintenance this passive drainage system will require regular visual inspections of assets, with removal of blockages, debris and

overgrown vegetation (e.g. from the filter drains along the forestry track and around sub-surface drain headwalls) and small-scale repairs where needed. The existing forest road, forestry tracks and the new stoned access track will be used, with assets not on these routes accessed by operatives cutting back vegetation to create a path. Inspections needing access beyond existing tracks, and inspections needing vegetation to be cut back, will not take place during bird nesting season. If this is not possible, e.g. due to safety, then nesting bird checks will be carried out before vegetation is cleared. If active nests are found, then suitable exclusion zones will be established as advised by a suitably qualified ecologist (SQE).

When identified as being needed, larger scale repairs, including maintenance of blockstone cascades, ditches and filter drains on the steeper slopes, will be carried out as a standalone planned activities and could require specialist equipment. Access for such works would need to be planned carefully and would require larger areas of the vegetation on the hillside to be cut back.

Cutting vegetation within the approximately 2.4m wide fire break zones will be done using attachments to vehicles using the forestry track, or on foot using hand tools where necessary in localised areas. Removal of conifer regrowth saplings across the site will be done on foot where saplings cannot be reached from forestry tracks, with operatives cutting back vegetation to create a path as needed. Cutting of the fire break and removal of conifer regrowth saplings will be planned for outside the bird nesting season. If this is not possible, then nesting bird checks will be carried out before vegetation is cleared. If active nests are found, then suitable exclusion zones will be established as advised by a suitably qualified ecologist (SQE).

Programme

Subject to receipt of all necessary consents, the aspiration is to start drainage installation works in April 2026 and completed before 2027. Working over the summer provides the safest working conditions for working on the steep slopes comprising coal spoil material. The aim is to carry out all vegetation clearance in advance of the main works, outside of the main bird breeding season.

1.4 Consenting requirements

The consents required for the project comprise:

- Planning permission.
- Sustainable Drainage Systems (SuDS) Approving Body (SAB) Approval.
- Ordinary Watercourse Consent under Section 23 of the Land Drainage Act (1991).

There is a potential requirement for a development licence from Natural Resources Wales for bats, depending on the findings of bat surveys that are being completed over summer 2025.

2. How has the environmental assessment influenced design

The environmental assessment process identified the following key issues that the project design needed to respond to:

- The need to avoid increased flood risk along downstream watercourses because of installing a positive drainage system, and a desire to avoid adding more culverts to existing modified watercourses as part of the drainage design. Opportunities to improve the condition of existing watercourses and drains by cutting back the overhanging canopy and dense bank-side vegetation, and removing silt build-up and debris, were noted during baseline ecology surveys.

- The need to avoid permanent loss of or detriment to the wet woodland HPI on the lower slopes and avoid spread of existing INNS within the woodland; opportunities to improve structural diversity and open out the canopy were noted during baseline ecology surveys.

- The need to avoid permanent loss of or detriment to the Open Mosaic Habitat on Previously Developed Land (OMHPDL) (HPI) on the plateau.

- The need to avoid permanent loss of or detriment to the lowland acidic grassland HPI on the plateau (part of the OMHPDL).

- The need to avoid detriment to the area of a Plantation on Ancient Woodland Site (PAWS) and the area of the Mynydd Ystradffernol Site of Importance for Nature Conservation (SINC) within the project site, both on the area of recently felled plantation; nightjars were also nested in the area of recently felled plantation in 2024.

- The presence of remaining earthworks within the project site from the former tramway route from the Incline Haulage Systems Scheduled Monument.

- The need to not permanently affect existing pedestrian access and amenity use of the site: there are informal paths across the plateau (RTCCBC owned land), and the area of recently felled plantation in the project site is within Dedicated Forest under Section 16 of the Countryside and Rights of Way Act (CRoW) 2000), providing for public access on foot.

- The prevalence of wildfire in the South Wales Valleys, where the landscape is highly susceptible to wildfire due to its vegetation typologies providing fuel, which poses a risk to habitats and human health when in proximity to people and property.

In accordance with the stepwise approach, the following design decisions were made to avoid risks:

- Drainage design used iterative modelling to ensure that flows from the new slope drainage system into the existing drainage network will not cause an increased flood risk along downstream watercourses, taking into account the predicted effects

of climate change. The design process examined whether the new slope drainage could provide sufficient storage and flow attenuation; this was found not to be possible and so a below ground storage tank has been included to receive flows from, the new positive drainage and control outflows into the existing network.

- The need for new culverts on existing watercourses has been avoided. Open cross-track channels have been specified in the northeast reaches of the forest track to maintain natural catchment flow. Culverts below the lower reach of the forest track have been specified to maintain continuity of flow across the lower slopes and into the wet woodland area.

- The locations of the below ground tank, outfall pipeline and headwall avoid the area of lowland acidic grassland HPI on the plateau.

- No drainage assets are proposed in the PAWS with the exception of the cross drains within the footprint of the existing forestry track.

- New drainage assets have been located to avoid the route, and earthwork remains of the former incline haulage tramway.

- The new drainage assets will not affect access to the existing tracks by foot; pedestrian access will be provided for at the new vehicle gate.

The following design decision were made to minimise, mitigate and compensate for risks:

- Permanent loss of some areas of the wet woodland to the footprint of new drainage assets is not avoidable, although drainage channels have been sited outside of the wet woodland where possible to minimise loss. Where feasible, trees will be coppiced or pruned to provide temporary access and allowed to regrow: this is a suitable response in a willow-dominated woodland. Compensation planting will be provided within a 1,900m^2 area of cleared plantation south of the existing forestry track and extending east from the existing wet woodland to the edge of the PAWS. This will provide habitat connectivity.

- The existing stands of Japanese knotweed and montbretia that are within the new asset footprint and construction working areas in the wet woodland will be removed.

- As described above, the need for an attenuation tank as flow attenuation feature at the base of the slopes as part of the drainage site is not avoidable. The tank will be sited underground, partially beneath the existing plateau access track but a working area on the plateau in the OMHPDL habitat is unavoidable. The working area will be reinstated by replacing stripped and temporarily stored topsoil and allowing it to naturally revegetate. This in effect resets the ecological succession on one part the plateau and will allow species in the project site to naturally recolonise the newly exposed substrate.

- Damage to the habitat mosaic on coal spoil in the area of recently felled woodland within the SINC, to retain the habitat mosaic on coal spoil as a stepping stone between other similar habitats in the area, has been minimised through:

- Designing drainage to be sub-surface or vegetated where possible, to minimise loss or fragmentation.
- Locating drainage elements adjacent to existing infrastructure and utilising existing drainage and topographic features wherever possible. This includes gaining the most benefit possible from forest road and forest track drainage, connecting the cascade on the west of the site into an existing watercourse/ drain feature, and connecting track drainage into an existing watercourse/drain on the east of the site.
- Siting replacement woodland planting away from the habitats on coal spoil.

3. Potential environmental risk

As set out within the Environmental Constraints and Opportunities Record (ECOR), the scoping exercise has deemed potential risk to the following environmental topics as being "High": Biodiversity and nature conservation, Soil (construction), Water, Cultural Heritage, and Landscape and visual. For each of these topics, the baseline, potential risks and mitigation are summarised. Industry good practice will be adhered to as standard and not discussed independently in the mitigation sections below. This includes employing a Suitably Qualified Ecologist and Qualified Arborist to supervise works during relevant elements of construction.

An Environmental Action Plan (EAP) (Appendix D) includes actions for all mitigation measures outlined within this section of the PER, including industry good practice. The EAP also includes actions for any mitigation that were highlighted for scoped out topics within the Scoping Report. The EAP includes an Environmental Constraints and Opportunities Plan (ECOP) which illustrates the key constraints and summarises the key mitigation measures that will be implemented.

3.1 Biodiversity and nature conservation

Baseline

A Preliminary Ecological Appraisal (PEA) was undertaken in 2022 (ARUP, 2022a). In 2023 a 'recommendations on ecological design' report was prepared (Olds, 2023) which included a site walkover and invertebrate sampling on the recently deforested slopes. Further baseline ecological surveys were undertaken in 2024, comprising:

- Habitat condition, floristic and INNS surveys
- Bat Ground Level Tree Assessment surveys (GLTA)
- Nightjar surveys
- Tree survey
- Terrestrial invertebrate survey of the plateau
- Dormouse habitat suitability assessment
- A fungi survey of the plateau was carried out, but a report has not been provided.

The surveys covered a larger area than the project site as defined by the planning application boundary and included the whole of the plateau.

The following ecological receptors are within the project site:

- Mynydd Ystradffernol SINC
- PAWS
- Wet woodland HPI
- Lowland acidic grassland HPI
- OMHPDL HPI
- Other habitats comprising: bare ground; bracken – continuous; coniferous woodland - recently felled / habitat mosaic on coal spoil; dry ditch; neutral grassland - semi-improved; other tall herb and fern – ruderal; running water; and scrub – dense continuous.
- Notable plant species, comprising ivy leaved bellflower
- Trees and structures with potential to support roosting bats
- Breeding nightjar (species of principal importance under Section 7 of the Environment (Wales) Act 2016
- Reptiles - slow worm observed in 2023
- Invertebrate species of importance.

Southern marsh orchid were found on the plateau but outside the project site. Waxcap and other fungi within acidic grassland were also observed on the plateau but outside of the project site: other grassland has potential to support a range of grassland fungi.

Stands of Japanese knotweed and montbretia (INNS) listed under Schedule 9 of the Wildlife and Countryside Act 1981) were identified within the wet woodland in the project site. Buddleia is also present within dense scrub; whilst not listed, it is known as an invasive plant, and it is particularly problematic in South Wales. Rhododendron, cotoneaster and montbretia are also present in areas the plateau edges and adjacent residential property but outside of the project site.

Habitats within and connected to the project site have potential to support badger, birds, fish, riparian mammals, other reptiles and amphibians, western European hedgehog and other mammals such as polecat.

Full information on survey results, potential risks and mitigation is available within the Ecological Report (Binnies UK Ltd, 2025b).

Plate 2-1: Ivy leaved bellflower growing on edge of water run off channel from hillside

Plate 2-2: Fungi from acidic grassland south of the project site

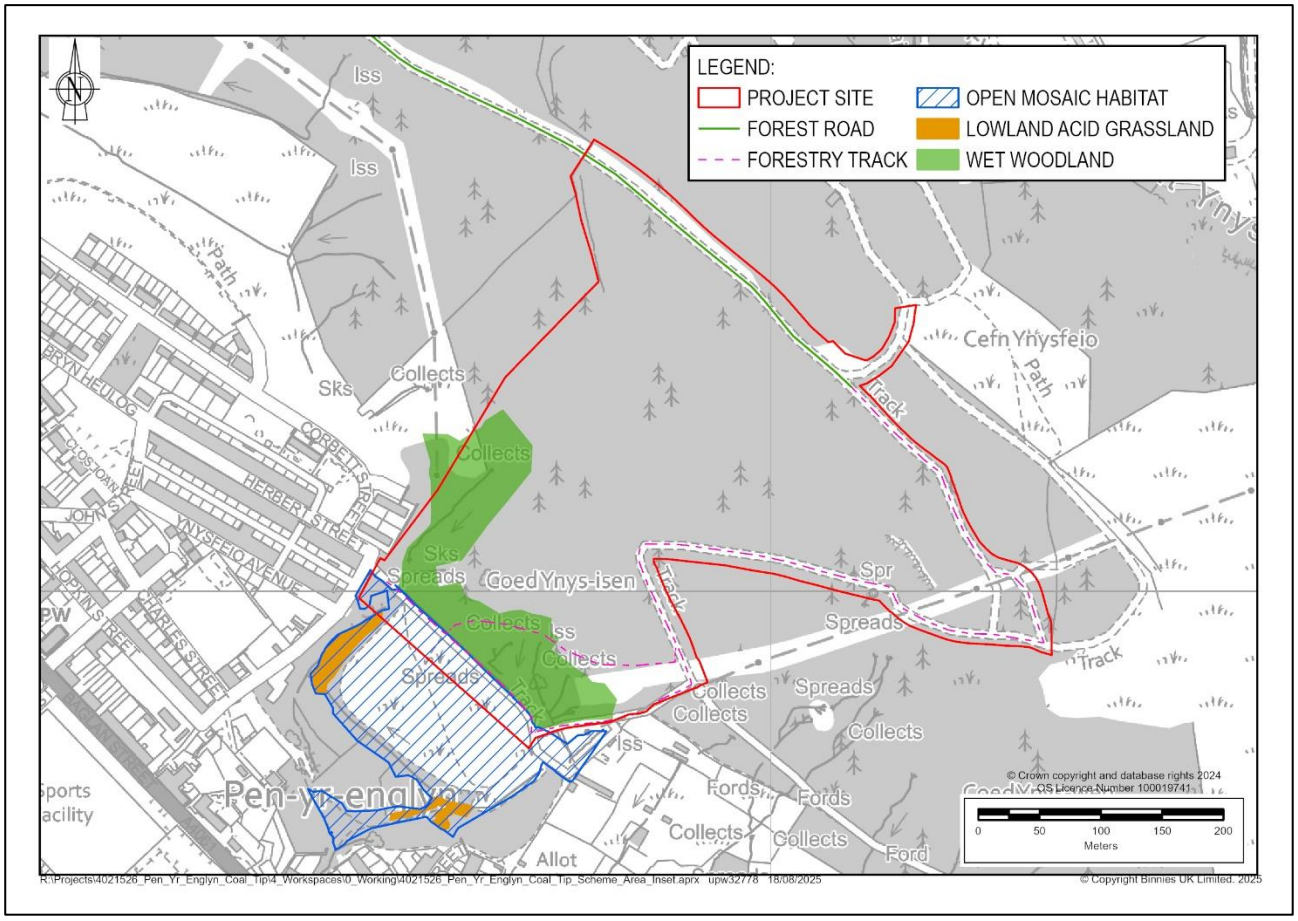

Figure 3-1: Locations of Habitats of Principal Importance

Potential risks and mitigation

Mynydd Ystradffernol SINC and PAWS

The area of recently felled conifer woodland within the site is within the Mynydd Ystradffernol SINC. The small part of the SINC that is within the site does not contain the habitats for which the SINC is designated, but now comprises an ecotone on coal spoil material. This habitat is not a feature of the SINC designation. Localised changes to the ecotone habitat from installing and maintaining the proposed drainage assets will not affect the extent or condition of the ecotone or SINC.

There is an area of PAWS within the site and the SINC. This area was also felled in 2023/24 and is being left to regenerate naturally as per NRW preference for PAWS sites. The only works within the PAWS boundary are to install cross-drains on an existing section of forestry track: this will not affect habitats within the PAWS.

Indirect construction impacts such as inadvertent spread of pollution or INNS are possible and could affect SINC and PAWS designations.

No mitigation beyond industry good practice to minimise working areas and prevent the spread of INNS will be required.

Habitats of Principal Importance

The below ground tank and outflow pipeline are close to an area of lowland acidic grassland HPI (within the OMHPDL) and this habitat has potential to be affected by temporary working areas. A Suitably Qualified Ecologist will demarcate the Lowland acidic grassland when the construction working area is set up and establish a fenced exclusion zone.

There will be a direct effect on up to 3,750m^2 of the OMHPDL habitat on the plateau from works to install the below ground tank and outflow. The area affected is predominantly where there are larger areas of bare ground near the entrance form Herbert Street, and the grassland where scattered goat willow and scrub was more frequent, and the sward height taller, more tussocky and less diverse than other areas of the plateau, in the 2024 survey. Some this area will be excavated, and some disturbed through being used for machinery movement, material storage and welfare unit; the final temporary working areas will be established by a Construction Method Statement. The topsoil / top layers of coal spoil material will be stripped from the excavation and machinery movement areas and stockpiled adjacent the plateau access track. The backfilled excavations and disturbed areas will then be reinstated using the stockpiled topsoil. The reinstated area will be kept fenced off to allow natural regeneration to establish. No planting or seeding is proposed to avoid introducing species that are not local to the area and commercial variants of wildflowers and grasses which can become dominant.

There will be a loss of approximately 0.13ha of the wet woodland to the permanent footprint of new assets. Compensation woodland planting will be provided in a recently felled area that extends east from the existing woodland band, south of a forestry track (but outside of the PAWS area).

As well as areas of permanent loss, coppicing and facilitation pruning, e.g. crown lifting, will be needed for access along the existing watercourse and to install drainage assets.

However, the woodland is dominated by willow species with alder, birch, sycamore and hawthorn also present (RSK ADAS Ltd, 2025). This type of woodland regrows quickly and benefits from woodland management; as such coppicing and pruning are not an environmental risk. A tree protection plan will be implemented for the duration of the works.

Other Habitats and Notable plant species

The running water habitat will primarily benefit from the proposed project through thinning of the vegetation canopy; however, there is the potential for sediment release and damage to boggy areas adjacent to the channel from the works.

The areas where ivy leaved bellflower were found will not be impacted by the permanent works, but there is a risk that these species could be trampled by construction personnel.

No other mitigation beyond industry good practice for pre-works checks to demarcate sensitive locations, to minimise working areas, prevent the release of silt and other pollution and to follow biosecurity measures will be required.

Invasive Non-Native Species

There is a Japanese knotweed stand adjacent the route of the new stoned access track, a second stand of Japanese knotweed within the wet woodland but outside the drainage assets footprint, and a stand of montbretia adjacent the route of the forestry track that will be upgraded and have a filter drain installed. These stands will be removed during construction as part of an invasive species management plan. Measures will be put in place to prevent their inadvertent spread prior to and during removal, including exclusion zones and track matting where necessary.

As part of delivering the project other stands of Japanese knotweed and montbretia within the wet woodland will be treated with the aim to remove them in order to provide a net benefit from the project: a specification for the methods for each stand (e.g. mechanical, mechanical plus treatment) will be developed prior to works commencing.

Bats

A ground level tree assessment (GLTA) for roosting bats of trees that could be affected by the drainage works identified 12 trees with potential to be used by individual bats (PRF-I) and 3 trees with potential to be used by multiple bats (PRF-M). Two rock filled gabion baskets with low suitability for roosting are also present along the watercourse. The site provides suitable foraging and commuting habitat, particularly within the wet woodland area and along linear watercourse features. The GLTA identified a further 18 trees with PRF-I and two trees with PRF-M within the project site but which will not be affected by the drainage works. For locations of all trees with potential for roosting bats see the Ecology Report (Binnies, 2025b).

There is potential to disturb roosting bats during the access clearance and main construction works, and the loss of trees from the woodland may result in a slight reduction in woodland and woodland edge foraging habitat. Coppicing of trees within the wet woodland as habitat enhancement must avoid trees identified as having potential roosting features for bats.

Additional surveys are being carried out during summer 2025 of the trees and structures with bat roost potential which could be affected. The surveys will inform the final mitigation requirements for these features, including whether a development licence is needed.

Birds

There is potential for disturbance to breeding, ground nesting birds during the construction phase of the works, and to birds nesting in the wet woodland. Notably, the deforested slops within the site supports nightjar, an Annex 1 species in the EU Birds Directive (Directive 2009/147/EC) and are listed as a species of principal importance under Section 7 of the Environment (Wales) Act 2016. Nightjar forage and lay eggs on the ground. There is potential for at least two nightjar territories to be impacted by construction works within the site both through disturbance, and the accidental destruction of active nests.

The aim is to carry out all vegetation and brash clearance in advance of the main works, outside of the main bird breeding season (which is March to August inclusive), and to start the main works in April. Starting the main construction works in April will mean that construction activity is likely to act as a deterrent to nightjar establishing nests within 200m of the working areas: the nightjar nesting season is May to August. If carrying out all clearance over winter (i.e. prior to March) and starting works in April is not feasible, and vegetation clearance is needed during the main bird breeding season, then nesting bird checks will be carried out before vegetation is cleared. If active nests are found, then suitable exclusion zones will be established as advised by a SQE, and the detailed works programme adjusted if needed, until young have fledged. The extent of exclusion zones and amendments to working practices will depend on the species, nest location, the type of works being carried and levels of disturbance impact. If deemed necessary by the SQE, then some works may need to be carried out under an ecological watching brief.

Invertebrates

Works on the plateau to install the below ground tank and outflow will result in the temporary loss of up to 3,750m^2 of habitat, mainly comprising semi-improved grassland with areas of bare ground and scrub, within the ‘open habitat’ biotype for invertebrates. Temporary loss of suitable habitat could affect invertebrate populations in the short term, but the temporary nature and localised scale of the losses are not likely to not affect invertebrate populations in the medium and long term.

The loss of some areas of woodland in the site could have localised impacts on woodland invertebrate communities, although the resultant more open areas with exposed ground may benefit some species groups.

The measures to mitigate for effects on lowland acidic grassland, OMHPDL, neutral semi-improved grassland and wet woodland also apply to invertebrates.

Reptiles and amphibians

The site includes habitats suitable for reptiles and amphibians and slow worm have been observed. The project will not result in material changes to habitat availability or suitability, but individuals could be harmed during construction works.

Carrying out vegetation clearance over winter in advance of the main works, outside of the main bird breeding season (March to August inclusive), will mean that there is an increased risk to reptiles and amphibians as if encountered in winter they are likely to be torpid or in hibernation. Where loss of reptile habitats is unavoidable all vegetation clearance works will be carried out under the supervision of a suitably experienced ecologist. Habitat removal will be undertaken sensitively, and where safe to do so a two-phase cut and ecologist inspections to be used. Suitable hibernation features (e.g. log piles and brash) will be removed by hand or by hand tools.

3.2 Soil

Baseline

A Geotechnical Desk Study (Binnies UK Ltd, 2025f) and Ground Investigation Report (Binnies UK Ltd, 2025g) have been prepared which interprets the results of the ground investigation works undertaken by Terra Tech Ltd (Terra Tech Ltd, 2024), and provides an update to the previous geo-environmental desk study undertaken in 2022 (ARUP, 2022b).

Geo-environmental

The site has a significant history of mining and deposition of colliery spoil deposits, which could act as a source of contamination. The preliminary conceptual site model identified three potential receptors of contamination:

- Humans including construction workers, site users and adjacent residential buildings.
- Rhondda River; and
- Superficial (Glacial Till) and bedrock (Coal Measures) aquifers – which are potentially a source of base flow to the River Rhondda.

The potential pathways identified comprised:

- Oral, dermal or dust inhalation to human receptors.
- Infiltration of meteoric water through the spoil tip, and then pathways through surface or groundwater to the Rhondda River, and to the aquifers themselves.

Laboratory testing was undertaken from 10 soil samples within 1.2m of the surface. No contaminants were identified that exceeded their assessment criteria for the public open space end use. No suspected Asbestos Containing Materials were identified during the ground investigation, and no asbestos fibres were detected.

Surface water samples collected during the investigation identified exceedances of copper and zinc against thresholds for freshwater.

Therefore, the risk of contamination source-pathway-receptor linkages is considered to be low, and the majority of material presents no unacceptable risks to human health end users or construction workers.

Initial waste acceptance criteria testing has identified that the materials are likely to be accepted at an inert waste facility (although any soils to be removed would need to be further tested).

Geotechnical

Geotechnically, risks to human health have been identified from slope stability. The tips at Penyrenglyn are well established and the material will have self-compacted over the years. There have been signs of movement in the past, particularly in the South East area. If such a movement was activated it is likely that any slip would be contained within the site.

Potential risks and mitigation

The potential risks relating to soils comprise:

- Due to the site's industrial history as a coal tip, soils on site are anticipated to be contaminated and should be treated as such. However, laboratory testing of soil samples has not identified any significant risk to human health. Therefore, the risk of contamination mobilisation from the proposed project to human health receptors is considered to be low and no further risk assessment or need for remediation has been identified.
- Exceedances of contaminants were identified in surface water samples, which may be derived from the spoil tip material. However, the proposed project aims to reduce water infiltration within the coal spoil material, with the new surface water drains designed to capture sediment, which should result in an improvement to the surface waters connecting to the River Rhondda in the long term. There may be a short term increase in contaminants through the initial draining of subsurface water, therefore monitoring is proposed.
- There is a risk of causing contamination during construction, for example during refuelling.
- There is a risk relating to materials movement. Based on the contamination present in the soils, initial testing has indicated that the soils are non-hazardous, and may also be accepted at an inert waste landfill (subject to meeting inert waste acceptance criteria and being free of any non-inert inclusions). However, the Statutory Plant Health Notice issued for Phytophthora ramorum means that soils on site may be treated as controlled waste. In addition, soils containing or potentially containing Japanese knotweed plants and rhizomes excavated from the site would be designated as controlled waste. In both cases, any such soils that need to be removed from site would need to be disposed of at a suitably licenced landfill.
- Soils within the site are prone to stability issues. There is a risk of disturbing the soils during the construction phase, especially those located on the hillside. This may be a hazard to construction personnel and vehicles working on the hillside. However, this risk is considered to be low due to the scale of excavation required and no specific mitigation has been identified.

In addition to implementing industry good practice, mitigation identified to manage the risks identified comprises:

- Monitoring of surface water, including baseline testing of surface waters for key quality indicators prior to works commencing and regularly during works.
- A Materials Management Plan will be produced to set out how excavated materials will be stored, reused and where necessary removed for off-site disposal. This will include a specification for how the excavated topsoil to be used for reinstating the below ground tank working area will be stored and managed.

3.3 Water

Baseline

Existing watercourses and drainage

The existing watercourses and drainage arrangement for the project site are described in the Drainage Strategy Report (Binnies, 2025b). Above the plateau, the project site is characterised by steeply sloping topography, with a central section protruding out more than the slopes on either side. The forest road at the top of the site has an open channel drain next to it with culverts passing flows underneath the track and down the slope. Sections of the forestry track that traverses down the site currently act as informal drainage channels and in some cases are channelling water towards the main coal spoil area.

There is an existing watercourse that flows through the west side the project site though the wet woodland, with water run off channels from the hillside and wet pools noted in the woodland edges west of the watercourse during 2024 ecology survey. There is a ditch at the base of the slope that runs almost the entire width of the plateau. The ditch and watercourse discharge to an existing drainage network at its west and east ends, which eventually outfall into the Afon Rhondda Fawr.

Water Framework Directive

The ‘Rhondda R - source to conf Afon Rhondda Fach’ WFD river waterbody (GB109057027200) (River Rhondda) was screened into the WFD assessment carried out for the outline design (ARUP, 2022c) due to a hydrological connection to the site. The river flows northwest to southeast along the Rhondda valley and is located approximately 400m to the southwest of the plateau. Objectives for the WFD river waterbody include:

- Good Overall status by 2039
- Good Ecological status by 2039
- Good Biological quality elements status by 2039
- Good Fish status by 2039

Within the scoping stage of the WFD assessment, all elements were scoped out and it was determined that further WFD assessment was not necessary, provided that the avoidance measures set out within the mitigation section below are implemented.

Flood Risk

Flood Zones 2 and 3 are present along the River Rhondda but do not extend onto the site. Running along the edges of the plateau there are areas at high risk of flooding due to surface water and small watercourses. As the plateau is at a significantly higher elevation than the River Rhondda this risk is likely to be due to run-off from the hillside.

Potential risks and mitigation

The risk identified comprises:

- There may be a short-term increase in contaminants in surface water and therefore watercourses through the initial draining of sub-surface water, therefore monitoring is proposed (as per Soil).
- Potential for contamination of the existing watercourses and drainage ditches during construction from mobilisation of sediments and accidental spills.
- Potential for contamination of River Rhondda WFD river waterbody during construction due to hydrological connectivity to the site.

Mitigation identified to manage the risks identified comprises:

- A water quality and silt control plan will be developed, approved by NRW and implemented during and after construction. This will include monitoring of surface water, including baseline testing of surface waters for key quality indicators prior to works commencing and regularly during works and for a defined post-works period.

3.4 Cultural heritage

Baseline

The Archaeological Desk-Based Assessment (Glamorgan-Gwent Archaeological Trust Ltd, 2022) identified the following heritage assets:

- The Incline Haulage Systems, Cefn Ynysfeio, Scheduled Monument is located 100m north of the site boundary (ID: GM508).
- The site boundary is located within the Rhondda registered historic landscape, which was defined principally for its industrial characteristics. The site is within the Rhondda Fawr: Enclosed Valley Sides ‘historic landscape character (HLCA 029). Most historical features of the character area were erased by the industrial history of the area.
- Non-designated heritage assets include PRN 4056m which relates to the incline haulage tramway, PRN 3856m (triangulation point), and NPRN 402664 Ynys-Feio Quarry.
- The site has limited archaeological potential due to the extent of post-medieval industrial activity, which is likely to have removed all previous archaeological remains. However, remains associated with these 18th and 19th century industries may survive as buried archaeological remains.

- The closest listed buildings are 780m south east of the site boundary and 750m to the west.
- The closest conservation area is approximately 2.6km north-west of the site boundary at Blaenrhondda.

An archaeological survey of the incline haulage tramway (PRN 4056m) was completed in May 2024 by Heneb: The Trust for Welsh Archaeology (Heneb, 2024). The survey found that the incline haulage tramway mound has experienced extensive truncation which in some cases is related to the existing access routes through the site. Colliery activity in the past has heavily disturbed the true extent of the tramway feature. The clarity of the feature has been further exacerbated by the bioturbation associated with the former woodland cover across the site. The survey concluded that the tramway earthwork features atop the colliery spoil tips are only visible towards the top of the slope (south of the NRW access road). There is also a slight flattened area between high points of the spoil tips that likely represent where the tramway was located, though there are no material remains of its exact location.

Potential risks and mitigation

The permanent works will not affect the Incline Haulage Systems Scheduled Monument, or the areas of remaining earthworks associated with the former tramway route. The ends of the impermeable ditches in the northern part of the project site will be adjacent the southern end of the remaining tramway earthworks but will not directly affect them. The outfalls for some below ground drains will be adjacent the former route of the tramway on the lower half of the slope, but in an area where there are no material remains of the tramway. In the pre-application consultation response (Rhondda Cynon Taf County Borough Council, 2023b) it was stated "Cadw notes the pre-app enquiry has been accompanied by an archaeological desk-based assessment produced by the Glamorgan-Gwent Archaeological Trust, which is considered to provide sufficient information on the impact of the proposed stabilisation scheme on the scheduled monument and its setting. This assessment should therefore be included with any planning application for this scheme." The archaeological desk-based assessment is provided with the planning application.

The introduction of drainage systems on the slopes below the Incline Haulage Systems Scheduled Monument will be a minor change to the setting. This change is considered to be a minimal risk as the drains will not be raised above the existing land surface and are more than 100m across the other side of a plateau from the Scheduled Monument at their closest point. Not restocking the plantation woodland will be beneficial by maintaining the link between the Scheduled Monument and its associated non-designated tramway earthworks and route.

The route of the incline haulage tramway has been recorded and there is not considered to be any outstanding risk from the permanent works.

The works are within the Rhondda registered historic landscape, however, given the type and minor scale of the works in the context of the wider historic landscape that is defined principally for its industrial characteristics the risks are minimal. In their response to the EIA Screening request CADW stated “The proposed works will not have a significant adverse impact on nearby historic assets” (in the EIA Screening Opinion, Rhondda Cynon

Taf County Borough Council, 2023) and did not request that an Assessment of the Significance of the Impact of Development on Historic Landscape (ASIDOHL) be carried out.

The Archaeological Desk Based Assessment identified beneficial changes to setting for the PRN 3856m Triangulation Point and NPRN 402664 Ynys-Feio Quarry, due to woodland clearance. No other setting impacts are anticipated from the proposed project.

There is the potential for artefacts associated with the former tramway route to be within the project working area and for unknown buried archaeology to be present.

Mitigation identified to manage the risks identified comprises:

- The retained tramway earthworks will be avoided during construction, including for access.
- For all other areas, a procedure to pause works and seek advice will be implemented if there is a find or potential buried archaeology. This was agreed to be a suitable risk management approach in consultation with Heneb.

3.5 Landscape and visual

Baseline

A Landscape and Visual Appraisal (LVA) (Binnies UK Ltd, 2025c) has been undertaken to inform the landscape baseline and highlight potential risks and required mitigation for the proposed project.

The LVA utilises both desk based and field survey techniques. A site visit was undertaken between 18th-22nd of April 2024 by a Binnies UK Ltd. Chartered Landscape Architect. Further details on the baseline landscape and visual conditions are detailed within the LVA report.

The landscape of the site and surrounding area is not protected through the national designations which indicate landscapes of highest value (the National Landscape or National Park designation), however parts of the landscape immediately surrounding the site are defined as Special Landscape Areas (SLAs) within the Rhondda Cynon Taf Local Development Plan, indicating that this landscape is locally valuable.

The LANDMAP historic landscape and geological landscape aspect area evaluations are high to outstanding, indicating that the site and surrounding land within the search area are of national to county importance for historic and geological value; the landscape habitats aspect area evaluation indicates a county to local importance for habitats; the visual and sensory aspect area indicates a local to low importance; and the cultural landscape services aspect area describes the site and surrounding area as having a moderate to weak sense of place. Overall, there is a range from low to outstanding evaluations for the five aspect areas.

The landscape does have a strong, coherent character, and the Cultural Landscape Services LANDMAP aspect for the St Gwynno area (in which the site falls) notes that the area has a recreational amenity value, indicated by picnic sites, trails and carparking. Whilst there are no public rights of way through the site, the forestry tracks are used by members of the public for walking, indicating that the site is locally valuable for recreation.

The following trends have been identified relating to the visibility of the site:

- The proposed project site is more visible from the opposite side of the valley from the site, in particular from high ground on hilltops or from upper slopes which face the site.
- The site is not visible, or only partially visible, from the north and east.
- There are views from within the valley bottom settlements of Treherbert, Penyrenglyn and Treorchy but these are intermittent and only a small proportion of the site is visible.

Plate 4-1: View of the site looking north-east from Penyrenglyn Project Centre on Corbett Street (April 2024).

Plate 4-2: View across the site looking north from a forestry track within the site boundary (April 2024).

Potential risks and mitigation

The LVA Report has not identified any potential risks from the operation of the proposed project to the local landscape character area, historic character, or to the key features for which the adjacent Cwm Orci SLA is designated.

Many of the new drainage elements will likely be absorbed by the landscape and not noticeable during operation, though the new blockstone cascades are likely to be visible, and their angular nature may appear out of place.

The design has reduced risks to landscape and visual by selection of materials to be consistent with those used within the surrounding landscape, where possible using vegetated or sub-surface drainage which will not be visible, by drainage features following the existing landform to avoid extensive earthworks, and by provision of compensatory wet woodland planting.

There is a potential risk associated with temporary impacts during construction from the introduction of construction activities, however for both landscape and visual receptors construction activities are only expected to be intermittently visible, or only affect a small part of a view or landscape character area. Therefore, the risk is considered to be low.

No further mitigation has been identified as required for landscape and visual.

4. Multiple benefits

Tabel 4-1 summarises the enhancements and multiple benefits the project will deliver. Further information on green infrastructure benefits and the achievement of Net Benefit for Biodiversity through the proposed project is set out in the Green Infrastructure Statement (Binnies UK Ltd, 2025d).

Benefit	Strategic Drivers
The drainage design includes gravel filled filter drains to trap sediment and vegetated ditches to slow flow velocity allowing sediment and heavy metals to settle. These measures will reduce sediment and associated nutrient and pollution loading in the existing watercourse, the ditch at the toe of the slopes and downstream watercourses, and the gravel also offers habitat variation.	The South Central Area Statement, Building Resilient Ecosystems: Freshwater Ecosystem Profile (Natural Resources Wales, 2021), states that whilst water quality has improved over the last 20 years, the main rivers, the Ogmore, Ely, Thaw and Taff still suffer from water quality issues caused by historical mining. NRW Wellbeing Objective to 2030: pollution is minimised. SMNR principle - Multiple benefits, Building resilience.
A fuel break (also referred to as fire break) will be created along the forestry track and forest road through the project site by removing all brash left over from forestry works from approximately 2.4m either side of the track and then keeping vegetation low within these zones by annual cutting as part of long term management.	Fuel breaks are identified by the Healthy Hillsides Demonstration Project evaluation report (NRW, 2024b) as one land management measure that can reduce the impact of wildfires across the South Wales Valleys and increase resilience of hillside mosaic habitats. The fire break has been developed in liaison with South Wales Fire and Rescue Service (SWFRS) NRW Wellbeing Objective to 2030: communities are resilient to climate change, SMNR principles - Building resilience, Collaboration and engagement, Long term.
A new vehicle access gate on the forestry track will also be installed on the NRW Forestry Estate boundary to reduce the risk of cars being driven up the track, being dumped and set fire to.	The new gate is proposed following liaison with SWFRS to address a known problem of deliberately started fires in the South Wales valleys. SMNR principle - Collaboration and engagement.
Headwalls for horizontal drainage pipes will be created from stone to create niches as new habitat for invertebrates such as solitary wasps and bees.	The site provides rich habitat for invertebrates; use of stone will further strengthen this. The project site offers a stepping stone between nearby SINC habitats for invertebrates. SMNR principles - Building resilience.
Conifer regrowth on the recently felled woodland will be monitored	The area of recently felled woodland is transitioning into a habitat that is starting to become characteristic of the South Central Valley

Benefit	Strategic Drivers
and saplings removed as part of long term management.	Hills ecosystem. Regrowth of conifer plantation species is not desirable as part the developing habitat mosaic and The South Central Area Statement, Building Resilient Ecosystems: The Valley Hills Ecosystem Profile (Natural Resources Wales, 2022a), notes that there are concerns about the spread of self-seeded conifers into areas of this ecosystem. NRW Wellbeing Objective to 2030: nature is recovering.
As part of drainage asset maintenance, vegetation will be cut back along and around the assets when needed, including regenerating shrubs and trees, resetting these areas back to a more open habitat structure as part of the mosaic. As part of asset maintenance works vegetation will be cut back from larger areas than needed for just drainage maintenance.	To maintain a mosaic habitat on the hillside, characteristic of the South Central Valley Hills ecosystem. Managing succession on some areas of the site linked to asset maintenance was discussed with Rhonda Cynon Taf County Borough Council (RCTCBC) ecologists as a suitable approach. NRW Wellbeing Objective to 2030: nature is recovering. SMNR principles - Collaboration and engagement, Long term.
All existing stands of Japanese knotweed that are within the wet woodland will be removed, even where not in construction working areas.	Spread of INNS is noted as a threat to woodlands in the South Central Area Statement, Building Resilient Ecosystems: Woodlands Ecosystem Profile (Natural Resources Wales, 2022b). NRW Wellbeing Objective to 2030: nature is recovering.
One third of the willow trees in existing wet woodland HPI will be coppiced as part of the works to allow space for natural regeneration, improving structural and age diversity and providing light to aid establishment of ground flora.	The South Central Area Statement, Building Resilient Ecosystems: Woodland Ecosystem Profile notes that proactive changes to woodland, for example, increasing species and structural diversity are needed to ensure adaptation to climate change happens without loss of ecosystem services provision. Opening up the canopy to allow space for natural regeneration, rather than interplanting, is favoured in line with recommendations in the RCTCBC Tree and Woodland Strategy 2022-2032 (Rhondda Cynon Taf County Borough Council, 2022). NRW Wellbeing Objective to 2030: nature is recovering. SMNR principle - Building resilience.

Benefit	Strategic Drivers
The compensation woodland will be of greater diversity than the woodland removed and will include locally native tree and shrub species to improve woodland structure and species diversity.	The South Central Area Statement, Building Resilient Ecosystems: Woodland Ecosystem Profile, notes that proactive changes to woodland, for example, increasing species and structural diversity are needed to ensure adaptation to climate change happens without loss of ecosystem services provision. NRW Wellbeing Objective to 2030: nature is recovering. SMNR principle - Building resilience.
Deadwood from removed or coppiced trees will be placed within the existing wet woodland and compensation woodland planting to enhance woodland habitat conditions.	The South Central Area Statement, Building Resilient Ecosystems: Woodland Ecosystem Profile, identifies that deadwood is a vital component of a properly functioning forest ecosystem. NRW Wellbeing Objective to 2030: nature is recovering.

Appendices

A - Consultation record

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
NRW Env Team South Central Biodiversity Officer, Cwm Taf and Bridgend Environment Team	27.10.2023 Outline Business Case (OBC)	**Water** - Although there are no formal waterbodies on site, all freshwater surface waterbodies (excluding foul) are covered by the Water Framework Directive (WFD) and are therefore protected from pollution, modification and abstraction. This application should consider measures to protect, and where possible, improve them to the extent needed to achieve the objectives for water bodies to which they are directly or indirectly connected. The current proposal for the concrete cascades and lined channels provide little to no ecological value. It would be useful to see the WFD screening assessment and if any other options that lessen the need for hard engineering and can mimic natural processes have been considered. It is also mentioned that there will be the installation of a culvert on the site, a Resilient Wales, one of the seven well-being goals outlined in the Well-being of Future Generations (Wales) Act 2015, is defined as "A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change." For this reason, a clear-span bridge or bottomless arch culvert would be the preferred option if possible. If this is not feasible, we would suggest that an assessment be carried out to outline why a different type of culvert was chosen over the other methods. **Other** - There seems to be a bit of a mismatch between aim for little management of the site and a need to deliver for biodiversity. The aim of the remediation is stated as: • Planting of the tip site with appropriate species of tree that stabilise the tip material, require little management and enhance the historic working arrangements of the site.	The project commissioned a site walk over survey by a local NRW ecologist who has historic knowledge of the site, to produce a document outlining potential enhancement to the lower portion of the site. Document outstanding. We also engaged a colliery spoil and entomology specialist to recommend ecological enhancements across the full site area. The information gathered will be incorporated into the detail design. We will be reviewing water chemistry and potential impacts during the next phase of the project. The project will struggle to avoid hard engineering due to site steepness and the need for water management. Construction material is still not confirmed, block stone cascades are a strong candidate due to the site topography, though on a carbon cost front, they are comparable to precast concrete structures. The requirement for any culverts within our design and delivery will be established in the next phase, avoiding where possible. Currently there are planned culverts at the base of the slope connecting to the existing drainage channel, the project will push for this to be open channel if it is possible. We do not plan to remove existing culverts (green dots, RCT ownership). WFD assessment was forwarded on 27.10.2023 – no further feedback.	<u>Ecology</u> The report by Liam Olds has been reviewed and used to inform design development and assessment. Further ecology surveys were also completed to support the project as set out in the Ecology Report for Planning and this PER. <u>Water</u> A WFD Screening Assessment (ARUP, 2022c) has been undertaken for the proposed project. Opening up the canopy along the watercourse that runs through the west of the site, and thinning of vegetation along watercourses at the base of the slopes, will encourage natural regeneration of flora along the watercourses. Gravel and vegetated drains have been included in the design to reduce run-off velocity and capture sediment/pollutants. Formal civil engineering structures have been minimised but remain a necessity in some areas. Cascades are required due to the steepness of the site, and the need to manage flow velocities to avoid damage to the new drainage network. No new culverts are proposed on existing watercourses, but culverts are required as part of connecting elements of the new drainage system. These include two culverts across the lower reach of forest track, from the new filter drain, to preserve water connectivity to the wet woodland via the drainage network. There are three unenclosed cross-channels on the north east section part of the forest track to maintain natural catchment flow. <u>Other</u>

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		Yet opportunities and challenges table says: • There is potential for the project to deliver against the objectives through sensitive design and delivering biodiversity enhancements for key designated habitats of importance and delivering biodiversity net gain within the site boundary. Specific species/habitats that could benefit from the site will be identified following the post-felling updated. • The project must ensure effective protection of important habitats and associated species and should seek to deliver wider ecological benefits where feasible. The project provides an opportunity to reduce the impact INNS species are having on native wildlife, which would also provide benefits to local landscape character. • Long-term maintenance will be integral to ensuring the continued success of the site and maintain maximum diversity potential and long-term resilience of core habitats and species. The concern is that improving biodiversity isn't just about planting trees and there are opportunities here to actively create other priority habitats that would ultimately require management.		Planting within the site is required to compensate for the loss of areas of woodland. The compensation planting will be to the east of the retained broadleaved (wet) woodland to provide habitat connectivity. Trees will not be planted on the coal spoil tip (hillside) to encourage the transition into hillside mosaic habitat on coal spoil. Ecological enhancements and green infrastructure have been developed to provide a net benefit for biodiversity without a reliance on tree planting. Long term maintenance of the site, drainage infrastructure and enhancements has been discussed and agreed with the relevant NRW functions and RCTCBC. This is recoded in the Green Infrastructure Statement INNS management necessary to facilitate the works will be undertaken. This includes the removal of stands of Japanese knotweed and Montbretia in the broadleaved woodland.
NRW Environment Officer (Cwm Taf and Bridgend)	23.10.2023 OBC	The documents provided cover a lot of detail and there isn't a great deal for me personally to add from a pollution prevention perspective apart from possibly including a water management plan during the construction phase due to the hydrological connection from the site location to the Afon Rhondda. The documents show that the designed drainage for the tip will connect to RCTCBC surface water drainage and discharge to the Afan Rhondda via outfalls currently in place, therefore any run off and mobilisation of suspended solids or silt caused during the construction phase has the potential to impact water quality. We would recommend including a detailed water management plan to include daily (sometimes more during heavy rainfall) checks on any pollution mitigation used on site and checks on the Afan Rhondda at the outfall locations. If water quality is effected, this should be reported to NRW through the Incident	Water management plan to be included	Measures to protect the water environment are identified in the EAP. Best practice pollution prevention measures will be in place during construction and various elements within the design will prevent pollution during the operation phase.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		Communication Centre on 0300 065 3000, and any mitigation used onsite assessed for suitability. I've included the below link as a guide for best practice when working in or near water. gpp-5-works-and-maintenance-in-or-near-water.pdf (netregs.org.uk)		
NRW Geoscience	26.10.2023 OBC	I have no comments regarding the ECOR. However, from the engineering aspect, as the scheme's outline design is developed, I would suggest particular attention is made to investigating the need for an effective form of groundwater drainage. The executive summary does include the need for a deep cut-off filter drain to prevent groundwater build-up. Such drainage is also mentioned in the Table 2, Option 3 summary. The shallow trenches proposed in the outline design will help in diverting surface water and preventing infiltration but having visited the steeper upper section of the tip soon after to 2020 storm events I was able to see how this part of the tip is vulnerable to groundwater build-up. From the site visit it could be seen that storm water had been restricted from draining due to the reduced permeability of the tip material and had built up pressure to an extent that a significant amount material was blown out, possibly from an existing seepage pathway (see attached photos). This section of the tip is at the top boundary of the watershed and would not expect to receive significant amounts of surface water and there was not any evidence it was receiving water washing off the forestry road above it. Thoughts at the time were that there may have been an input of groundwater from the underlying sandstone. The lack of ground investigation information may mean there would need to be a period of monitoring groundwater levels to confirm the need for and safely design deeper drainage but this could form a later stage of construction works and not delay the surface water drainage works after the proposed felling.	Material drainage - commentary on this element is included within the design strategy report which won't have been in the shared information. It states the requirement for material drainage remains open pending ground investigation information. The project hopes to mobilise a GI early next year. The consultant was hoping to avoid material drainage as there will be an ongoing maintenance requirement to prevent blocking. If, following GI, it is concluded it's required to ensure stability, it will be included in detail design plans. Detail design to consider low tech solutions like Plati-Drain, which claim to have very limited maintenance requirements.	Following ground investigation works in 2024, sub surface drainage has been developed and incorporated into the design to prevent ground water build up within the spoil tip. The drainage strategy for the scheme focusses on diverting surface flows away from the tip to prevent groundwater build up and associated stability risks.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
NRW Specialist Advisor: Terrestrial Habitats and Species Terrestrial Ecosystems Group	05.10.2023 OBC	It's good to see my Lower Plant survey mentioned in the ECOR. The site isn't particularly important for any bryophyte or lichens, so I don't think they need to be considered too much further in whatever is planned for the site. However, the flushed grassland below the afforested slope is (as I noted) very nice, with lime-rich patches and a good range of plants: it is therefore very good to see that this area looks to be completely undisturbed on the ECOP map. I hope that will continue to be the case.	Comments noted and will be considered throughout detail design.	The overarching ecological objective for the design is to minimise effects to these habitats. Where disturbance is not avoidable to install the below ground tank adjacent the access track and the entrance from Herbert Street, the proposal is to allow natural regeneration to in effect provide a reset of the succession on previously reprofiled coal spoil material. The areas of acidic grassland will not be affected and the areas in the centre of the plateau where marsh orchids and marsh speedwell were found in 2024 surveys will not be affected.
NRW People & Places South Wales Central	27.10.2023 OBC	I think we are missing some key things in this report and welcome future discussion to provide local knowledge and wider context. I think this is a critical point to make sure we approach tip reclamation in a truly ecologically sensitive way, there are likely to be many tips to be reclaimed in the next few years and I think more upfront discussion is needed to scope the works. I feel an opportunity has been missed to discuss this in detail prior to this report being written and the objectives being set. There are some gaps in understanding of the site and the strategic directions in development in the area, which could have been considered through earlier discussion. Page 13 - NRW Southwest Wales Area Statement – I am assuming this should read South Central Area Statement? If not whilst the forest management may be undertaken from SW this is a SWC area and the SWC AS should be considered. However, there is no mention of key themes within the SWC AS which highlight the need for ecological resilience and working with water, stressing the issues associated with the industrial legacy. The SWC AS have a series of ecosystem profiles which would be essential reading for this assessment. The Valleys, Freshwater and Woodlands Ecosystem Profiles detail the pressures and opportunities to build ecological resilience across these ecosystems. The Valleys Ecosystem profile specifically highlights the pressures and impacts to this bespoke ecosystem. These are peer reviewed reports which should be considered in this assessment. Healthy Hillsides Report, Climate Change Risk Assessment (CCRA) Evidence Report	Geomorphologist will be included early in the detail design stage. A Landscape Management Plan is a detail design deliverable. The water chapter was scoped into the assessment to evidence how water quality was being addressed and allow for enhancement. The project team has engaged with the Healthy Hillsides Project and has met with Richard Wistow to ensure that information is shared. Consultation with South Wales Fire and Rescue Service is planned for detail design.	Noted that "attempting to design a scheme thinking that long term maintenance should not be required is not appropriate". Elements requiring long term maintenance have been discussed within NRW and with RCTCBC as appropriate to ensure that any long-term management/maintenance commitments can be met. Grazing is not considered to be viable for the proposed project due to the difficulties with fencing the area. An Environmental Masterplan and Green Infrastructure statement have been produced and provide further information on tree planting and natural regeneration. Fire Risk It is noted that one of the highest risks of wildfire comes at the establishment of new tree planting: reestablishing trees across the site is not proposed, with tree planting limited to small areas connecting to the existing wet woodland to provide the compensation for losses from the wet woodland as required by PPW12. South Wales Fire and Rescue Service (SWFRS) were consulted on 9th May 2025 when they attended a site visit. At the meeting and follow-up correspondence SWFRS provided advice on measures to reduce risk of fires being started intentionally (remove brash from alongside forest tracks; prevent vehicle access to tracks)

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		for Wales Summary, The Forest Research Wildfire in Wales. There are unrealistic objectives about future maintenance and the need for maintained open spaces for biodiversity enhancement. The reality is that any interventions will need long term maintenance and attempting to design a scheme thinking that long term maintenance should not be required is not appropriate. Open habitats will always need management – this can be achieved in a sustainable low-cost way, but this needs to be considered at this point to ensure this is possible – not considering the reality of management will not produce an accurate assessment. As an option grazing as a long-term sustainable management option should be considered here. The valleys ecosystem profile and the RCT NRAP highlight tree planting as a primary pressure on coal spoil and ffridd habitats. This does not extend to natural regeneration, though if open habitats are wished to be maintained long term management will be required. I support the objective to have natural regeneration, however would like more detail on "encouragement" what does this entail? With regards to tree planting to stabilise the land, trees will have to be maintained in the short and long term – this is not considered in this assessment. The Central Valleys Resilient Ecological Network (REN) is a connected ecological network linking coal spoil and ffridd habitats across the Valleys, this is in development at present, but is being informed by a large multi-disciplinary partnership – the impact of tip reclamation has been highlighted as a key pressure on this landscape, requiring appropriate mitigation. WFD is only considered from a water quality perspective - whilst I appreciate that interventions are required for safety perspectives and there are potential water quality improvements to be made through a drainage system, there is no consideration of the ecological aspects of water in physical form. Water is not discussed at any point as an ecosystem, habitat or ecological feature or the potential for it to be. This goes against the SWC		and to keep vegetation cut back either side of the tracks to provide low fuel zones and maintain the tracks as fire breaks. These have been incorporated into the design and management plan.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		AS and SMNR. The proposed cascades and open culverts are the same as the original reclamation schemes where there were no consideration of environmental impacts, this is extremely disappointing that we have not progressed to incorporate a more ecologically sensitive solution, particularly given our remit, bioengineering advancements, legislative requirements and the nature emergency. There is the potential and opportunity here to design a drainage system which both protects the stability of the tip and also creates a naturalised, ecologically beneficial system, in the spirit of WFD and our commitments to SMNR. Discussion with local officers would have highlighted this as an important objective. Discussion with a local Biodiversity Officer, Geomorphologist would support this. The report says that the scheme does not meet the threshold to have an impact on WFD – I would like to see this assessment. Whilst I could appreciate that this may not meet the threshold, does that mean we should not be exemplar in carrying out our activities to the betterment of the environment? The climate change assessment does not consider the significant pressure of Wildfire in the South Wales Valleys. There is plenty of National and local evidence about the impact of wildfires, with a project just been completed in the South-Central Area highlighting the need for consideration of wildfire in planning, projects and daily land management requirements in the South Wales Valleys. Healthy Hillsides Report. There is an established link with wildfires and landslips from across the world and this has not been considered here. Wildfire is highlighted in the lower Rhondda FRP as a local objective – but this has not been considered – as a neighbouring plan this should be considered. The Rhondda Valleys has one of the highest occurrences of wildfire in the UK, this is documented through the Healthy Hillsides Project and evidenced through the wildfire data produced by the Fire and Rescue Services. The problem of wildfire is also highlighted in the Climate Change Risk Assessment (CCRA) Evidence Report for Wales Summary, wildfire is a significant concern to		

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		terrestrial species and habitats, and agricultural and forestry production with climate change predictions. It recommends that a set of plans and actions be created for habitat (or fuel) management within Wales over the next 5 years to address climate threats which includes wildfire. The Forest Research Wildfire in Wales review commissioned by the Forestry Commission Wales highlighted the wildfire challenge in Wales, being 8 times more likely to have wildfire incidents than any other UK country. It should be noted that one of the highest risks of wildfire comes at the establishment of new tree planting and fire breaks, prolonged management is required to mitigate the risk. Here is a link to a letter written by the SWFRS which highlight the established connections with wildfire and landslips and the imperative to better consider wildfire mitigation in tip remediation. I urge that as a climate change adaptation and building resilience incorporating wildfire mitigation into the scheme design is essential, particularly in the crucial periods to establish trees. There is a SWC Wildfire Strategy in development to support on the ground mitigation and prevention on the WGWE. I am happy to talk through any of these comments and work with the project to ensure the appropriate environmental constraints and opportunities are considered in developing a reclamation scheme for Penyrenglyn.		
NRW Health & Wellbeing	25.10.2023 OBC	Separate response provided, including a Health Screening Advice Note (HSAN).		The purpose of the project is to reduce the likelihood of material slips and mitigating future risk to public health and safety. A Coal Mining Risk Assessment (The Mining Remediation Authority, 2025) has been carried out and used to inform the design. The consultation response notes “that anti-social behaviour, specifically arson, can be an issue in the local woodland(s),” and the HSAN suggests the potential for the project to have a positive impact on anti-social behaviour and fire incidents. The project responds to this by the inclusion of low fuel zones / fire breaks along the access road and a new vehicle gate under NRW control to prevent vehicle access, proposed in

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
				consultation with the South Wales Fire and Rescue Service. In terms of providing better access to and encourage use of natural green space and ambient green space, the area of recently felled plantation in the project site is already within Dedicated Forest under Section 16 of the Countryside and Rights of Way Act (CRoW) 2000), providing for public access on foot. The project has been designed to maintain existing level of public access, with the resurfaced sections of existing forestry track providing locally improved conditions.
NRW Geomorphology South	20.10.2023 OBC	In regards to WFD, these small watercourses that are within the site boundary are as correctly summarised not formal water bodies, with the closest being GB10905702720. However, under WFD these are still legally protected from pollution, modification and abstraction. Where a new activity or project is planned then it should still consider measures to protect. And where possible improve them to the extent needed to achieve the objectives for the water body to which they are connected. The current challenges/objectives/priorities for 'Water' outlined in Table 1. "Baseline, challenges and Opportunities" sets out that the detailed design should focus on delivering water quality improvements and also management of INNS to contribute to WFD objectives. Currently, there are not opportunities to address the modification of these small watercourses. There are opportunities at the design stage to consider approaches that reduce the physical modification of the watercourse as this a significant contributor to waterbodies not achieving good status or good ecological potential. The use of concrete canvas/pre-cast concrete cascade within the design will provide little to no ecological value. The hydraulically smooth surface provides no variation to flow conditions and does not allow for river energy dissipation, delivering water at high velocities to any receiving	Comments noted and will be addressed at detail design and in the Project Environmental Report (PER). The water chapter was scoped into the assessment to evidence how water quality was being addressed and allow for enhancement. Drainage strategy drawing sent on 20.10.23 - no further feedback received. The requirement for any culverts within our design and delivery will be established in the next phase, avoiding where possible. Currently there are planned culverts at the base of the slope connecting to the existing drainage channel, the project will push for this to be open channel if it is possible. We do not plan to remove existing culverts (green dots, RCT ownership).	Formal civil engineering structures have been minimised but remain a necessity in some areas. Cascades are required due to the steepness of the site, and the need to manage flow velocities to avoid damage to the new drainage network. No new culverts are proposed on existing watercourses, but culverts are required as part of connecting elements of the new drainage system. These include two culverts across the lower reach of forest track, from the new filter drain, to preserve water connectivity to the wet woodland via the drainage network. There are three unenclosed cross-channels on the northeast section part of the forest track to maintain natural catchment flow. Works to existing watercourses in the project site are not proposed other than opening them out by reducing overhanging vegetation and by removing silty and other obstructions to flow capacity. Reducing existing physical modifications is not viable. Best practice pollution prevention measures will be in place to ensure that all waterbodies within and downstream of the works are protected from potential pollution and modification. These measures are listed within the EAP and will be included in the Contractor's CEMP. None of waterbodies present within the proposed project are classified as main rivers and therefore, any

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		watercourse (although I note that attenuation ponds are within the design to reduce this). Concrete canvas has been utilised in similar drainage projects most notably on metal mine remediation sites and has been seen that in certain locations to have failed prematurely. As such, other options that look to encourage dissipation of river energy and include flow variability should be considered. Notes on current outline design - Is a clearer version of the design available, the features, key and any text is difficult to read/make out on the version that has been sent? - Has clay capping been considered within the design options and a restored watercourse overlain, this type of solution provided multiple benefits and can often significantly enhance the ecological value of the current baseline watercourse. - Additionally, the design utilises culverts. Have opportunities to have open channels been considered? Is there potential to use a bottomless structure so that a natural bed can be retained?		works affecting these waterbodies will be undertaken with ordinary watercourse consent. Measures to prevent or minimise the mobilisation of sediment during the works will include the use of track pads, silt mats, silt fencing as appropriate.
NRW WFD co-ordinator	13.10.2023 OBC	1. Page 13 ‘Environmental Baseline’ We have also reviewed various strategic level evidence bases including NRW Southwest Wales Area Statement. I presume you mean South Central Area Statement? 2. From a WFD perspective you mention The River Rhondda (WFD waterbody, GB109057027200) in the baseline table page 19 but you do not mention the ground water body GB40902G201900 SE Valleys Carboniferous Coal Measures. You do have groundwater vulnerability in the soils section of the same table and you do already recognise “*A further challenge will be protection of groundwater resources during investigation and construction to ensure no pathways for contamination are inadvertently created”*. My point is only that WFD covers ground as well as surface waters. 3. Good to see potential WFD benefits to both surface and groundwater as stated. The proposed	References made to the Area Statement in the ECOR will be reviewed and detail design will ensure consideration of the SC AS. Comments noted and will be considered throughout detail design, addressed in the relevant section of the Project Environmental Report (PER) and shared as requested.	1. Noted: South Central Area Statement referred to in the PER: ECOR has not been updated. 2. The subsurface drains will 'control' groundwater levels by lowering them, reducing saturation and improving stability. The proposed design is to reduce infiltration by constructing surface water drainage assets and therefore there is no risk of the creation of new pathways. 3. The design would provide this benefit: see Drainage Strategy Report. 4. The drainage strategy has been designed to move water away from the spoil tip to prevent the build-up of ground water which leads to instability. As this need to be done to ensure public safety, the effectiveness of the drainage has been prioritised. Both new

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		design would also benefit to reduce erosion by diverting surface water flowing on the side of the valley and away from the soils and mine spoil. This will reduce sediment run off and reduce pollution and contamination. 4. While I recognise these are new artificial drainage channels, not modifications to existing streams and they need to serve a purpose, I would encourage you to go with the most ecologically beneficial designs i.e if at all practical consider the potential for these channels to hold water and/or be ecologically beneficial as opposed to barren conduits, straight down the hillside, simply to move water away as fast as possible. There is no mention of the channels themselves in table 5 - potential environmental enhancements (note the text section 4.3 refers to it as table 6 but is labelled table 5) 5. Section 3.3 says that the preferred option is: Design and construct positive drainage works (including lower pond to attenuate flows) with the goal of reducing porewater pressure within site soils and also says (bottom p25) The cascades would discharge into existing watercourses to the east, west and south of the site, maintaining the existing flow destinations as far as possible. The proposed cascade features would be used to bring the flow down the slope toward a collection channel, from which flow would be directed to a detention basin or a combination of microstorage features. Approximately 1200 cubic metres of water would be required to attenuate flow to greenfield run off rates, to allow settlement prior to discharging into the nearby culvert systems, and to provide ecological enhancement opportunities. However, on figure 4 ‘Outline proposal for drainage network’ I can see no mention of pond or basin or any storage features? 6. Table 3 water section – says WFD Screening Assessment concludes no likely significant effects, seemingly based on No works are required within, or in the immediate vicinity of, the River Rhondda. Significant indirect effects are not anticipated as the proposals only result in a minor change in drainage volume from hillslope area. Lower down same section it also says Final design		and replacement drainage channels have been designed to have minimal impacts upon existing habitats. Gravel and vegetated drains have been implemented where feasible to reduce run-off velocity and capture sediment/pollutants. The drainage for the site has been designed to retain drainage into areas such as the wet woodland to prevent long term change to the habitat. 5. A below ground storage tank is proposed to attenuate flows. 6. See Drainage Strategy Report. 7. Noted. 8. Water quality and silt control plan for construction will be developed prior to works starting.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		will need to ensure that the rate, volume, destination, and quality of runoff is not impacted by the drainage design. This will ensure that the receiving watercourse(s) are not negatively impacted. That would also be required to ensure no impact on WFD status. 7. Good to see inclusion of ref to best practice pollution prevention & biosecurity (table 3 / water / mitigation). 8. I would be interested to see the appropriate water quality mitigation within Project Environmental Report. (Future work)		
NRW Development & Flood Risk	06.10.2023 OBC	From a flood risk perspective, it appears to have been covered at a high level in the ECOR document (attached) which I'd expect to be the case. Referring to the extract of Table 1 (page 16) below it does indicate that the design process will consider the potential to increase flooding on site and further downstream and not to increase flooding elsewhere which is welcomed. I'm sure that Rhondda Cynon Taf CBC as the Lead Local Flood Authority (LLFA) will have an integral input to this project in terms of local impacts to flood risk and the ordinary watercourses and culverts downstream before they ultimately discharge into the River Rhondda (main river). I do not envisage any requirements for a Flood Risk Activity Permit(s) unless there is a proposed new outfall or other works within the River Rhondda Fawr corridor which may require a FRAP Natural Resources Wales / Flood risk activity permits. Ordinary Watercourse Consent (OWC) may also be required from the LLFA for those watercourses which are not main river in the site and immediate area. I've copied in our Callum Robins for awareness only, who recently started in the team as our DFR advisor covering this area.	The need for Ordinary Watercourse Consent will be confirmed with RCT. Further consultation with Callum Robins.	None of the waterbodies present within the proposed project are classified as main rivers; therefore, any works affecting these waterbodies will be undertaken with Ordinary Watercourse Consent. Refer to the drainage strategy (Binnies UK Ltd, 2025a) which sets out that the proposed project is not anticipated to impact runoff rates. Ordinary Watercourse Consent will be needed for the new outfall from the below ground storage tank to the new outfall to the existing watercourse to the west of the plateau.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
NRW Specialist Advisor: Terrestrial Ecosystems and Species	05.10.2023 OBC	That's great that Sam has done a survey of non-vascular (lower) plants and Lichens. Can I ask if other taxa were looked at in such detail and in my case vascular plants. Coal tips can be reservoirs of quite restricted species (e.g Deptford pink, small cudweed etc.). I note in one of the tables in the ECOR it mentions something like 'good for invertebrates' so I assume some kind of baseline was done for them. Was this part of the extended phase 1? Maybe vascular plant interest was covered there? Sam – 'My visit was in February so too early for vascular plants. The lower grassland is nice and damp/calcareous so might hold a few interesting species, but most of the site is afforested and I don't think there would be much botanical interest there at all.' From Sams knowledge of the site I would only be interested in the lower bit of grassland. Is there any bare spoil? That's where the more interesting vascular plants usually hang out. I'm intrigued that the non-vascular's were looked at this early stage and … I presume there was an inclination that there might be something interesting there or that the extended phase 1 just didn't do them? Then did they do the vascular plants? I'm obviously aware that some coal spoil tips can have a lot of diversity and have looked at a fair few in the past but I don't think this one. Sam - 'There were late 20th century records of two Red List lichens from the area. I pointed out they were pioneer species so unlikely to remain, and confirmed that on my site visit – i.e. they don't need to be taken into account when plans are being drawn up because they are long gone. I would guess that the lack of notable plant records meant there was no need to involve you'.	A site walk-over survey by a local NRW ecologist who has historic knowledge of the site has been completed. A document outlining potential enhancement to the lower portion of the site has not yet been received due to illness. The project has also engaged a colliery spoil and entomology specialist to recommend ecological enhancements across the full site area. The information gathered will be incorporated into the detail design.	Refer to the Ecology Report that supports the planning application (Binnies UK Ltd, 2025b) which sets out all ecology surveys completed and the impacts and mitigation of the proposed project.

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
Rhondda Cynon Taf County Borough Council (RCTCBC) Ecologist	09.10.2023 OBC	Thanks for consulting me on this. Key local biodiversity would be; 1. Explore the potential to allow as much open ground habitat (acid and marshy grassland/heath mosaic) as possible to establish on the site. 2. Try, as much as possible, to allow the native seedbank to expresses itself in the restoration, including both open ground and scrub/woodland establishment. 3. Don't use wildflower seed. 4. If any 'biodiversity' tree planting is proposed use only local 'Rhondda' native species and avoid using artificially species rich mixes. 5. Prioritise post restoration land management as the key deliverer of biodiversity, control of Himalayan balsam, undesirable scrub and conifer regeneration, grass fire prevention, and measures to reduce anti-social behaviour. Explore potential for a Health Hillsides style conservation grazing program. 6. Identify an appropriate monitoring program to assist the long-term restoration/management. I hope this is helpful.	A site walk over survey by a local NRW ecologist who has historic knowledge of the site has been completed. A document outlining potential enhancement to the lower portion of the site has not yet been received due to illness. The project has also engaged a colliery spoil and entomology specialist to recommend ecological enhancements across the full site area. The information gathered will be incorporated into the detail design. A Landscape Management Plan is a detailed design deliverable. A monitoring programme will be included. The project team has engaged with the Healthy Hillsides Project	The 'secured' site mitigation, reinstatement and Net Benefit for Biodiversity measures are set out in the Ecology Report that supports the planning application, the Green Infrastructure Statement and Environmental Masterplan as appropriate. RCTCBC ecologist was consulted on 5th March 2025 via a telephone meeting. Key points: Project team confirmed that NRW plan to let the slopes naturally regenerate with no restocking, but with monitoring and removal of conifer regrowth. RW happy with this approach and suggested that monitoring and control of invasive species such as Buddleia and Himalayan balsam would also be needed. RCTCBC ecologist advised that because it is an early successional habitat, the principle of disturbing OMHPDL [on the plateau] to enable the required drainage scheme would not in itself be ecologically unacceptable: the important factor is ensuring species and habitat impacts, and pollution issues, are properly considered, and that the design and delivery of works provides a sympathetic biodiversity reinstatement. RCTCBC ecologist advised that if seeding is needed to stabilise exposed soil, then a 'low diversity' fescue/bent grass mix with no wildflowers, sown at the lowest sowing rate needed for the required 'greening', has been previously accepted on other stabilisation schemes. RCTCBC ecologist advised there is a lot of willow / alder / birch/oak woodland in Rhondda Cynon Taf, and that it regenerates naturally and spreads very quickly. Also advised that woodlands need management to maintain open areas and encourage ground flora, and to provide tree age / structural diversity. In some areas, cutting back woodland (whether coppicing or some tree removal) as part of delivering the scheme could therefore be viewed as woodland management and not as loss. A further consultation with RCTCBC ecologist was carried out on 02/07/2025. Agreed that regularly managing other regrowth across the

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
				whole deforested slope area, and trying to achieve a target for a maximum percentage of tree or shrub cover, is very challenging and unrealistic given the slope steepness and difficulty of using machinery. An appropriate approach would be to carry out vegetation control in coordination with asset maintenance, when vegetation will need to be cut back and a larger area of vegetation can be controlled than just the asset footprint and immediate surroundings. A planting plan for the compensatory woodland will be prepared as part of detailed design.
CADW Scheduled Monuments	20.10.2023 OBC	Thank you for the email below. This is a consultation on the Environmental Constraints and Opportunities Record (ECOR) for the Penyrenglyn Tip Remediation. Scheduled Monuments GM508 Incline Haulage Systems, Cefn Ynysfeio, Treherbert Registered Historic Landscape HLW (MGI) 5 The Rhondda Scheduled monument GM508 Incline Haulage Systems, Cefn Ynysfeio, Treherbert is located some 100m to the northeast of the application area with the associated incline haulage tramway, which was powered by the engines located inside the scheduled monuments being inside the area. As the incline haulage tramway is directly associated with the scheduled monument it should be regarded as being of at least Regional importance. The cultural heritage sections of the ECOR has been informed by a desk-based archaeological assessment prepared by the Glamorgan-Gwent Archaeological Trust. This work has correctly identified the archaeological resource and its importance and recommended that the scheduled monument should be protected by a temporary fence during the construction works and that a linear corridor should be formed on the line of the incline haulage tramway to show its route and improve the setting of the scheduled monument. Both of these recommendations have been	The Project has engaged GGAT to undertake a WSI, survey and photographic survey of the tramway prior to works commencing. HIA is included in the scope. RCTCC has confirmed that the Project does not require an EIA.	Heneb (previously GGAT) were engaged to undertake and archaeological survey focussing on the incline haulage tramway route on the hillside (Heneb, 2024). This concluded that “the tramway earthwork features atop the colliery spoil tips are only visibly towards the top of the slope (south of the NRW access road). There is a slight flattened area between high points of the spoil tips that likely represent where the tramway was located, though there are no material remains of its exact location.” The project design avoids the area of the extant tramway earthworks at the top of the site. Works along the remainder of the former route down the slope are limited to installing horizontal (below ground) drains and works along an existing forestry track that crosses the former route. The design ensures that the feature remains undisturbed in situ. The report by Heneb does not recommend any further surveys as being needed. A further meeting was held with Heneb on 23/01/2025 to discuss the findings of the Archaeological Survey Report. It was agreed that a procedure to pause works and seek advice if buried archaeology is found would be suitable risk management for areas outside the extant tramway earthworks. After the meeting

Consultee	Date of consultation / project stage	Summary of response	Action taken at outline design	Actions taken at design for planning and SAB applications
		included in the ECOR. The ECOR proposes further documents and actions need to be carried out as follows:- • Heritage Impact Assessment • Consultation with Cadw regarding detailed design and status of tramway • Written Scheme of Investigation (WSI) and Archaeological Watching Brief (TBC) by HIA. The first two proposals are appropriate; however, the desk-based archaeological assessment recommends that the incline haulage tramway should be recorded prior to works commencing and this will need to be included in the WSI. It is also noted that if an environmental impact assessment is required for the project that the impact of the proposal on the registered The Rhondda landscape of special historic interest will need to be assessed. If this was to occur than it is proposed to carry out this assessment using the ASIDOHL2 methodology. If this assessment is required, that Cadw should be consulted in regard to the Historic Landscape Character Areas that should be considered in the assessment.		Heneb provided coordinates for their tramway survey data points for use on project mapping.
RCTCBC Senior Planning Officer	23/10/2024 Design for planning and SAB applications	Coal Mining Risk Assessment (CMRA) – When asked about the need for a CRMA, the Senior Planning Officer referred to the pre-application consultation with The Coal Authority which stated "*Under the Coal Industry Act 1994 any intrusive activities, including initial site investigation boreholes, and/or any subsequent treatment of coal mine workings/coal mine entries for ground stability purposes require the prior written permission of the Coal Authority, since such activities can have serious public health and safety implications. Failure to obtain permission will result in trespass, with the potential for court action.".* It was advised that not submitting a CMRA along with the planning submission may lead to objection from the Coal Authority. The Senior Planning Officer was asked whether it would be suitable to provide details on access arrangements and anticipated trips within existing supporting documents rather than within a	Not Applicable.	A CMRA has been undertaken to support the planning application (The Mining Remediation Authority, 2025). See also the record of consultation with The Mining Remediation Authority in May 2025.. Details on access arrangements and anticipated trips have been provided within the Planning Statement (Binnies UK Ltd, 2025e).

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		standalone transport statement. Part of the reasoning behind this was that many of the vehicle movements were associated with the previously completed felling operation and therefore, a transport statement would not be required. It was stated that a Construction Traffic Management Plan (CTMP) was anticipated to be required through a planning condition, which would manage impacts resulting from construction traffic. The Senior Planning Officer consulted with the Highways Principal Engineer and confirmed that as long as the supporting documents contain the relevant detail (extent of the works, proposed access routes to and from the site, the number of trips generated by the development, arrangements for traffic management etc), it would not be necessary to produce a standalone transport statement.		
The Mining Remediation Authority	22/05/2025 Design for planning and SAB applications	Following completion of a Coal mining Risk Assessment (CMRA), further consultation with the Mining Remediation Authority was carried out at a meeting on 22 May 2025 to discuss a risk management approach that is proposed by NRW to carrying out works in areas of potential shallow mine workings.	Not Applicable.	At the meeting there was general agreement on the current proposals, with a focus on managing safety risks during construction through practical mitigation measures applied on site to accommodate the negligible risk of surface subsidence/collapse associated with shallow workings or unrecorded mine entries.
RCTCBC Tip Safety Department	25/07/2025, 10:00 Design for planning and SAB applications	Site meeting with NRW and RCTCBC presence on 25/07/2025 to discuss scheme proposals and how the drainage measures proposed will spread over both NRW and RCTCBC owned land. An RCTCBC Corporate Estates Department representative was due to attend but was unfortunately unable to do so. RCTCBC Tip Safety Department stressed the importance of maintenance of the drainage system throughout the design life of the scheme, with a particular focus on the sub-surface drainage elements.	Not Applicable.	Maintenance and operation of drainage assets to be covered within drainage strategy documentation.
Sustainable Drainage Approval Body., Rhondda Cynon Taf	15/08/2025 Design for planning and SAB applications	Virtual meeting with NRW, Binnies UK and RCT SAB presence to discuss the current design proposals and confirm information needed for the final application.	Not Applicable.	No design changes from meeting; full details requested to be included within final application.

B - List of supporting environmental technical reports

Supporting technical reports

ARUP. (2022a). *Pen-yr-Englyn Tip Remediation OBC, Prelimimary Ecological Appraisal (PEA).* Version 1.0, September 2022: Doc Ref 290018_ARP_00_00_RP_NX_0001.

ARUP. (2022b). *NRW2 Pen-yr-Englyn Stabilisation Scheme, Pen-yr-Englyn Desk Study.* 290018-ARP-XX-XX-RP-CE-0001.

ARUP. (2022c). *Pen yr Englyn Tip Remediation WFD Screening Assessment.* 290018-ARP-00-00-RP-NX-0003_WFD_Assessment_Ver1.

Binnies UK Ltd. (2025a). *Penyrenglyn Landslide Risk Management, Drainage Strategy Report.*

Binnies UK Ltd. (2025b). *Penyrenglyn Landslide Risk Management, Ecology Report for Planning.*

Binnies UK Ltd. (2025c). *Penyrenglyn Landslide Risk Management, Landscape and Visual Appraisal.*

Binnies UK Ltd. (2025d). *Penyrenglyn Landslide Risk Management, Green Infrastructure Statement.*

Binnies UK Ltd. (2025e). Penyrenglyn Landslide Risk Management, Planning Statement.

Binnies UK Ltd. (2025f). *Pen Yr-Englyn Geotechnical Desk Study.* P03: August 2025.

Binnies UK Ltd. (2025g). *Pen Yr-Englyn Interpretive Ground Investigation Report.* P01: August 2025.

Glamorgan-Gwent Archaeological Trust Ltd. (2022). *Archaeological Desk-based Assessment.*

Heneb. (2024). *Incline Haulage Tramway, Rhondda Cynon Taff, Archaeological Survey.* Heneb, Trust for Welsh Archaeology.

Natural Resources Wales. (2021). *South Central Area Statement. Building Resilient Ecosystems: Freshwater Ecosystem Profile.* (version 4.0).

Natural Resources Wales. (2022a). *South Central Area Statement. Building Resilient Ecosystems: The Valley Hills Ecosystem Profile.* (version 4.0).

Natural Resources Wales. (2022b). *South Central Area Statement. Building Resilient Ecosystems: Woodlands Ecosystem Profile.* (version 6.0).

Natural Resources Wales. (2023). *Pen-yr-Englyn Tip Remediation OBC, Environmental Constraints and Opportunities Record [ECOR].* Rev 5.0: Doc Ref 290018-ARP-00-00-RP-TX-0001.

NRW. (2024b). *Healthy Hillsides Project Report. Wildfire Wise Wales: A Community Based Approach.*

Olds, L. (2023). *Pen-yr-englyn Tip Remediation – recommendations on ecological design.* A report for Natural Resources Wales, December 2023.

Rhondda Cynon Taf County Borough Council. (2022). *Tree and woodland strategy 2022-2032.* https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/Trees/Relateddocs/TreeStrategyadoptedatCabinetSubCommitteeDec2022.pdf.

Rhondda Cynon Taf County Borough Council. (2023a). *Pen-Yr-Englyn Tip Renediation, EIA Screening Opinion.* Ref 23/1213/35: 30.11.2023.

Rhondda Cynon Taf County Borough Council. (2023b). *RCTCBC Pre-application advice. 23/05/2023: Email from RCTCBC Senior Planning Officer to Arup Group Ltd.*

RSK ADAS Ltd. (2025). *Arboricultural Impact Assessment Pen yr Englyn .* ADAS Reference: 1052590: Rev B, August 2025.

Terra Tech Ltd. (2024). *Pen-yr-englyn Ground Investigation Report.*

The Mining Remediation Authority. (2025). *Coal Mining Risk Assessment for Development at Land at Treherbert, Treorchy, CF42 5HA.* Report ref: 71009813318001.

Publicly available resources

LANDMAP – the Welsh landscape baseline https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en

Rhondda Cynnon Taf County Borough Council. (2024). *Planning Applications*. Retrieved from rctcbc.gov.uk: https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/PlanningApplications/PlanningApplications.aspx

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C - Environmental Masterplan

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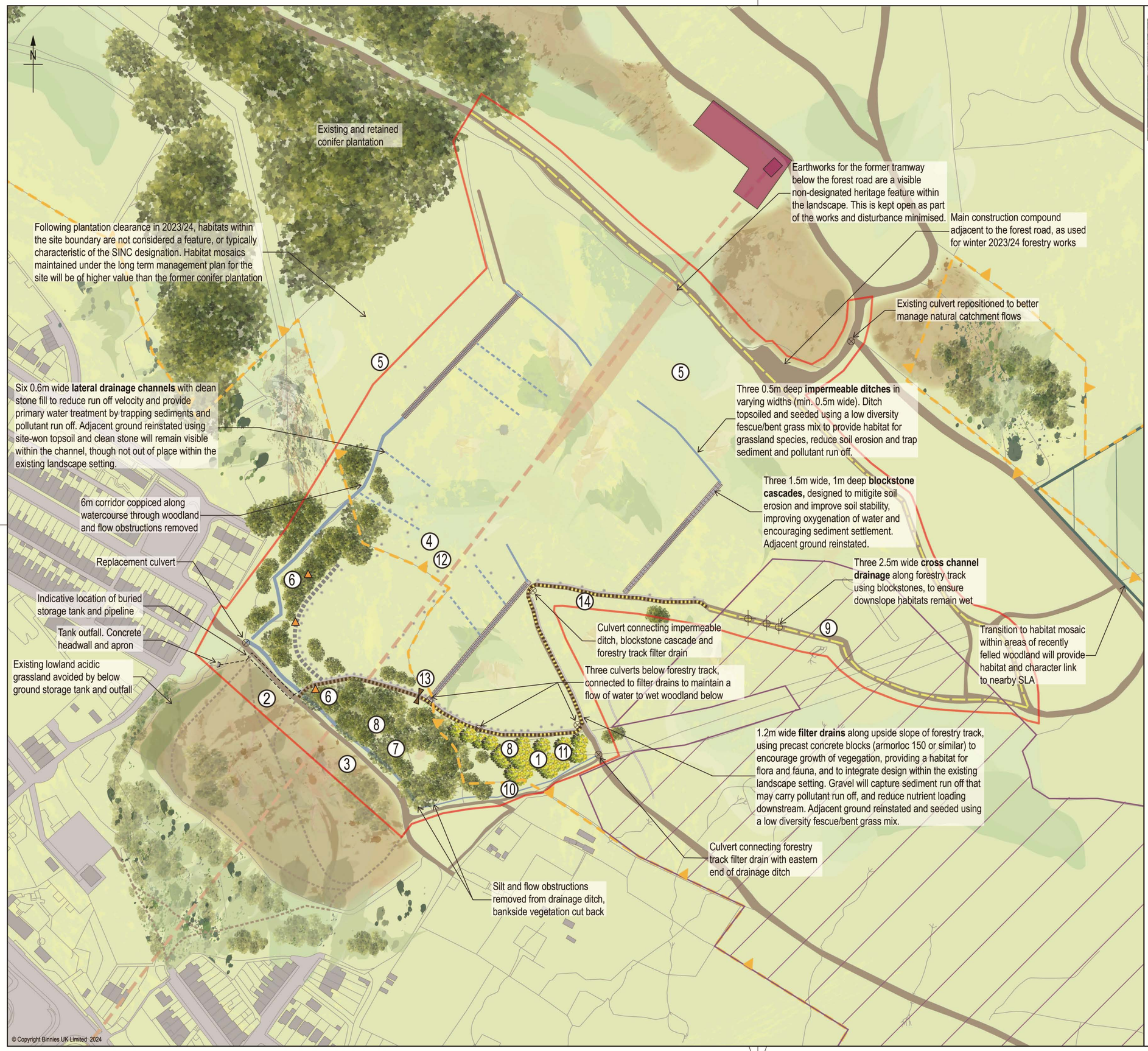

Location Plan

Proposed Mitigation and Enhancement Description

Embedded Mitigation

1. Wet woodland planting using species native to Rhondda Cynon Taf, to achieve compensation planting at a scale, design and species mix reflective of the area lost from the wet woodland
2. Crane and excavation area for installing below ground storage tank reinstated to neutral semi-improved grassland
3. Temporary working area including welfare unit and material storage reinstated to neutral semi-improved grassland following the works.
4. Natural stone headwalls used for drains which minimise visual intrusion and are sympathetic to the landscape setting

Enhancements in Green Infrastructure Statement

5. On-going monitoring and management of established and transitioning vegetation communities on coal spoil to maintain a habitat mosaic. Conifer regrowth removed. As part of drainage asset maintenance to prevent vegetation encroaching into the assets, vegetation will be cut back along and around the assets when needed, resetting these areas back to a more open habitat structure as part of the mosaic
6. Remove existing Invasive Non-Native Species (stands of Japanese knotweed and Montbretia). Monitor and control any regrowth
7. Coppice one third of willow trees within existing wet woodland south of forestry track during construction to create structural and age diversity
8. Create deadwood habitat features in retained and new woodland using branches and trunks of coppiced and felled trees
9. Remove brash from an approximately 2.4m wide strip either side of the forest track during construction. Cut back vegetation within this zone on one side of the track each year (each side cut back every two years) to maintain fire break and vegetative diversity
10. Prune overhanging canopy during construction to encourage regeneration of vegetation within the dry ditch, and clearing of rubble
11. Replacement wet woodland planting will be of higher species diversity than the woodland removed, and provide improved habitat for faunal species such as foraging birds, mammals, invertebrates and bats
12. Natural stone headwalls will provide microhabitats: their open aspect will be maintained as part of asset inspection and maintenance
13. Gate installed on forestry track to prevent unwanted vehicle access and associated antisocial behaviour; pedestrian access maintained
14. Levelling and surfacing of tracks will improve access for recreational users following the works

Additional Resources

- Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013
- Green Infrastructure Statement: 4021526-BUK-ZZ-00-RP-EN-00009
- General Arrangement: 4021526-BUK-ZZ-00-DR-C-00010
- Drainage Features, Track and Road Details: 4021526-BUK-ZZ-00-DR-C-00011
- Arboricultural Impact Assessment (ADAS, 2025) for works to trees

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

Legend

- Application boundary
- Mitigation and Enhancement ID

Proposed Drainage Works

- Headwall for horizontal sub-surface drain
- Impermeable ditch
- Gravel (lateral) drainage
- Blockstone cascade
- Cross channel drainage location
- Filter drain
- Culvert location
- Resurfaced forestry track
- Stone surface track to access subsurface drain outfalls
- Below ground tank and pipeline

Landscape

- Retained wet woodland
- Proposed wet woodland planting
- Existing forestry road/track
- Existing informal paths
- Brash removed and vegetation managed approximately 2.4m either side of access track
- Vehicle gate
- Invasive Non-Native Species (INNS) Management

Statutory and Non-statutory Designations

- Incline Haulage Systems Scheduled Monument
- Indicative route of former tramway
- Mynydd Ystradffernol Site of Importance for Nature Conservation (SINC)
- Cwm Orci Special Landscape Area (SLA)
- Plantation on Ancient Woodland Site (PAWS)

10m 0m 10m 30m 50m 70m 90m 100m
Scale 1:1250

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTER

CONSTRUCTION :

Not applicable

MAINTENANCE, CLEANING AND OPERATION :

Not applicable

DECOMMISSIONING OR DEMOLITION :

Not applicable

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P01	HJR	HAR	AB	AH	06/12/2024	For client review, comment, and/or acceptance
P02	HJR	HAR	AB	AH	30/06/2025	For client review and acceptance
P03	HJR	HAR	AB	AH	22/08/2025	For client review and acceptance

Designed by: Date:

Status S5 Suitable for Review and Acceptance

Client: Cyfoeth Naturiol Cymru Natural Resources Wales

Client Drawing No. | Revision

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Project: PENYRENGLYN LANDSLIDE RISK MANAGEMENT

Drawing title: ENVIRONMENTAL MASTERPLAN SHEET 1 OF 1

Drawing scale: 1:1250 Sheet size: A1

Drawing no. 4021526-BUK-ZZ-00-DR-EN-00015 | Revision P03

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D - Environmental Action Plan

Natural Resources Wales

Penyrenglyn Landslide Risk Management

Environmental Action Plan

Template Document Version 2: Date 25.7.2023

Project name	Penyrenglyn Landslide Risk Management
Project code	4021526
Area	Rhondda Fawr valley – South Wales
Date	August 2025
Version number	1
Author	Myles Harding (Binnies UK Ltd)

Revision history

Revision date	Summary of changes	Author	Version number

EAP Approvals

Name	Signature	Title	Date	Version
				1

Distribution

Name	Title	Date	Version

Purpose

This Environmental Action Plan (EAP) summarises the actions required to implement the environmental mitigation for the Penyrenglyn Landslide Risk Management project. It sets out specific objectives and actions defining the way in which environmental risks should be minimised. It also details roles and responsibilities of those involved in the proposal.

These actions form part of the contract documentation and must be adhered to.

Roles

Each action in the table below has **one** named person who is responsible for ensuring that the action is implemented. It is ultimately the contractor's responsibility for ensuring the EAP commitments, which may include planning conditions, are delivered.

The Environmental Assessment Team (EAT) are responsible for agreeing any changes to the EAP and for signing off or agreeing to the signing off of the actions.

The Contractor and Project Manager are responsible for advising EAT on any changes to method statements or the planned construction work as these may result in changes to the EAP or additional consultation with statutory consultees. EAT will assess the significance of these changes and determine the appropriate course of action.

The Contractor is also responsible for implementing good environmental practice on site, in line with their own EMS, the Natural Resources Wales Next Generation Framework Environment Health and Safety Policy document, and with legislation. Typical issues include:

- any working hour restrictions
- dust suppression measures
- traffic management
- site waste management
- materials management
- vehicle maintenance and management
- pollution prevention and control (including storage, refuelling and incident response)
- response procedures e.g. services strike, contaminated land
- securing and delineation of working areas including signage

Environmental Audits

It is not anticipated that any audits will be undertaken during the working period.

Environmental Incident Reporting system

Procedure

1. STOP
   Before you report the incident, stop the work
2. CONTAIN
   Where safe to do so, carry out any local site pollution prevention or emergency incident measures
3. NOTIFY

Report the incident to the (24 hour) NRW incident hotline 0300 065 3000, stating that it is an NRW caused incident and giving full details of the incident, including location and contact details. Also request, and note, the incident number.

4. REPORT
   Report the incident (including the incident number) to the EMS team (EMS.team@cyfoethnaturiolcymru.gov.uk)

All environmental incidents must be reported at the earliest opportunity to the ECC Project Manager, Site Supervisor, NRW Project Manager and NRW Environmental Project Manager. In addition, near misses must be reported via the hotline where there was/is the potential for a significant impact and where lessons can be learned.

Initial reports for such incidents and near misses must be followed by a written report using the contractor's in-house forms. This must include the following information:

- project/location
- date
- contractor
- details of what happened
- cause of incident
- lessons learned

This final and comprehensive investigation report is to be provided by the Contractor to the ECC Project Manager, NRW Project Manager and Safety, Health and Environment Manager within 14 days.

Summary Scope of Works

The project is on the eastern side of the Rhondda Fawr Valley, directly north of Penyrenglyn, situated between the village of Treherbert to the west and the town of Treorchy to the east. The project site comprises valley slopes on which coil spoil had been placed with a raised plateau at the base created during mine closure. Following mine closure the slopes had been planted as conifer plantation which was felled in winter 2023/24. There is a band of broadleaved wet woodland on the lower slopes above a drainage ditch and access track. The plateau comprises a mosaic of grassland, scrub and bare ground crossed by informal paths.

The purpose of the project is to install drainage measures to reduce infiltration into the coal tip material, reducing the likelihood of material slips and mitigating future risk to public health and safety. The drainage works on the slopes comprise: repositioning one culvert beneath the forest road; filter drains along regraded forest tracks; a series of impermeable drainage ditches and gravel drains across the slopes; three blockstone cascades on steeper slopes to convey water between drains and existing watercourses; and a series of horizontal below ground drains. At the base of the slopes a below ground storage tank connected to a nearby watercourse will provide flow attenuation to prevent increased flood risk to downstream watercourses.

The works to construct and operate the drainage system are detailed in the Drainage Strategy Report (doc ref. 4021526-BUK-ZZ-00-RP-FR-00001) and General Arrangement Plan (doc ref. 4021526-BUK-ZZ-00-DR-C-00010).

The project layout, key constraints and mitigation measures to be implemented during construction are illustrated on the Environmental Constraints and Opportunities Plan (ECOP) (doc no. 4021526-BUK-ZZ-00-DR-EN-00012) provided in Annex 1.

Relevant Contact Details

Project Sponsor	To be confirmed
Project Executive	Jared Gethin
NRW Project Manager	Jak Canham
NRW Environmental Advisor	Heilyn Willams
Engineering and Construction Contract Project Manager	To be confirmed.
NRW Environmental Clerk of Works (EnCoW)	To be confirmed.
Contractor Site Manager	To be confirmed.
Contractor Environmental Lead	To be confirmed.
Other Specialists	Consultant Environmental Lead – Andrew Burwood (Binnies) Ecological Clerk of Works (EcCoW) - To be appointed by NRW as required Arboricultural Clerk of Works (ArCoW) - To be appointed by NRW as required

Environmental Action Plan

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
Pre-construction						
A1	**Approvals -** Compliance with relevant regulations, consents and permits.	Obtain the following consents and permits prior to the start of works: • Planning Permission • SAB Approval • Ordinary Watercourse Consent • Bat Development Licence (if required; see clause)	NRW Project Manager			
A2	**Risk Reduction –** Prepare a Construction Environmental Management Plan (CEMP)	Prepare a CEMP to include a Construction Method Statement and Construction Phasing Plan. To be drafted in line with best practice guidance and include details on ecological seasonal restrictions.	Contractor			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A3	**Human Population – Permissive paths and forestry tracks –** Minimise impacts to recreational users	Prepare a public access plan as part of the CEMP to retain pedestrian access to the plateau outside of the construction area. The plateau access track and forestry tracks within the construction area will be closed to the public for the duration of the construction works. The plan should outline safe alternative access routes to facilities such as the nearby allotments.	Contractor			
A4	**Human Population – Permissive Paths and forestry tracks -** Minimise impacts to recreational users	Communicate information about the proposed works, including temporary closure of forestry tracks and temporary pedestrian access arrangements to the plateau, to users of the local area, advising when disruption is likely to occur. Erect signage in advance of the works.	Contractor			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A5	**Flora and Fauna –** To avoid harm or disturbance to breeding and ground nesting birds, including nightjar	Develop construction programme with the aim that all vegetation and brash clearance is undertaken outside of the main bird breeding season (March to August inclusive) with main works starting in April. Starting works in April will act as a deterrent to nightjar establishing nests when they arrive from May onwards If this timing is not possible, pre-clearance checks must be undertaken, see clause B6. As part of brash and vegetation clearance, where possible within the safety limitations of the site, all clear-felled woodland habitat and brash will be removed from working areas to establish unfavourable nesting habitat (bare ground). The removal of clear-felled habitat over winter is to deter nightjar from nesting in working areas.	Contractor	Ecology Report for Planning: 4021526-BUK-ZZ-00-RP-EN-00013 See clause B6 ECOP: Mitigation A		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A6	**Flora and Fauna –** To prevent damage to habitats – lowland acid grassland	Suitably Qualified Ecologist (SQE) to undertake pre-works survey to establish area of lowland acid grassland. Erect fencing to prevent access to the area of lowland acid grassland prior to the start of works as advised by SQE.	Contractor ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 ECOP Mitigation C		
A7	**Flora and Fauna –** To prevent damage to habitats – OMHPDL on plateau	Plan the temporary works for installing the below ground tank to minimise the footprint of working areas within Open Mosaic Habitat on Previously Developed Land (OMHPDL) on the plateau. The exact locations of the associated welfare unit and temporary material storage areas will be agreed with a SQE, avoiding notable plant species and using areas of lower biodiversity value, with fencing to avoid encroachment.	Contractor	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 ECOP Mitigation E		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A8	**Flora and Fauna –** Agree compensatory tree planting species mix	Agree species mix for compensatory tree planting. To be agreed prior to the works.	BUK	Green Infrastructure Statement: 4021526-BUK-ZZ-00-RP-EN-00009		
A9	**Flora and Fauna –** To prevent damage to trees	Implement any pre-construction measures of the 'Mitigation from Harm' section of the Arboricultural Impact Assessment to ensure the protection of retained woodland and trees e.g. protective fencing.	Contractor	Arboricultural Impact Assessment (RSK ADAS, 2025)		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A10	**Flora and Fauna –** To avoid harm or disturbance to protected or notable species (except birds)	Carry out pre-construction checks for signs of the following species: • Badger (up to 10 weeks prior to commencement) • Otter • Water vole • Dormouse • Hedgehog and other small mammals • Invasive Non-Native Species (INNS)	Contractor Ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A11	**Flora and Fauna –** To avoid harm or disturbance to protected or notable species	If presence of any of the species listed within clause A10 is found, these species should be re-located under advice from a SQE. This also applies to any priority habitats, protected or notable flora, lichens or fungi identified. If re-location is not possible, the works are to be supervised by the SQE to ensure there is no disturbance to species or unacceptable damage to habitats. If relocation or avoidance of disturbance is not possible, then a European Protected Species (EPS) or conservation licence will need to be obtained as appropriate, as advised by the SQE.	Contractor (Except licensing if needed – NRW PM to apply but Contractor to provide the ecologist to be named on the licence)	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 See clause A10		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A12	**Flora and Fauna –** To avoid harm or disturbance to bats.	Bat surveys to be undertaken to determine bat presence/absence of the following trees identified as having PRF-M: • Tree 3590 • Tree 3511 • Tree 3592 Surveys to be undertaken between May – September inclusive. If any bats are discovered during the surveys, owing to the strict legal protection afforded to bats and their roosts, a Development Licence from Natural Resources Wales may be required before works can continue.	NRW Project Manager	Ground Level Tree Assessment Technical Note: 4021526-BUK-ZZ-00-RP-EN-00010 Ground Level Tree Assessment: drawing 4021526-BUK-ZZ-00-DR-EN-00009	Surveys being completed over summer 2025	

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A13	**Flora and Fauna –** To avoid harm or disturbance to bats.	Low suitability structures 1 and 2 are to be inspected using an endoscope to determine the suitability of internal cavities (May – September). If the features are downgraded, no further surveys are required. If the features are deemed to be of low, moderate or high suitability, further dusk emergence surveys will be required as advised by a SQE.	NRW Project Manager	Ground Level Tree Assessment Technical Note: 4021526-BUK-ZZ-00-RP-EN-00010	Surveys being completed over summer 2025	
A14	**Flora and Fauna –** To avoid harm or disturbance to bats	SQE to prepare Bat Method Statement detailing how to carry out works to trees and structures to avoid harm to bats. To be produced following results of surveys in clauses A12 and A13.	Contractor ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 See also clauses A12 and A13		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A15	**Flora and Fauna –** To avoid harm or disturbance to nocturnal species	If task lighting is needed, e.g. for works during shorter days, prepare a Sensitive Lighting Plan for inclusion within the CEMP which details best practice measures for nighttime/dusk working. The plan should also consider effects on nearby residents.	Contractor	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A16	**Flora and Fauna – INNS** To avoid the spread of Invasive Non-Native Species (INNS)	Prepare an Invasive Species Management Plan (ISMP) including a Biosecurity Risk Assessment, and Biosecurity Management Plan (BMP). The ISMP will include methods for the removal of Japanese knotweed at TN13 and TN14 and montbretia at TN8, and measures to prevent spread during their treatment and construction works. The ISMP will need approval by NRW. The ISMP and BMP are to be included within the appendices of the CEMP and include best practice biosecurity measures: this could include exclusion zones and/or use of protective membranes and mats to avoid disturbance before stands are fully removed.	Contractor	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 For TN8, 13 and 14 see Phase 1 Habitat Survey Plan: drawing 4021526-BUK-ZZ-00-DR-EN-00008 ECOP Mitigation H		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A17	**Flora and Fauna –** To avoid harm or disturbance to reptiles and amphibians	Prepare a Precautionary Method of Working Statement (PMWS) for reptiles and amphibians for vegetation clearance and other works taking place within grassland, woodland and Open Mosaic Habitats on Previously Developed Land (OMHPDL). The PMWS shall be included within the appendices of the CEMP and detail sensitive methods of vegetation clearance (two stage cut and clearance of hibernacula by hand). Vegetation clearance should be supervised by a SQE, and other works may need supervision as advised by a SQE.	Contractor ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 Also refer to clause A5 about timing of vegetation clearance, which will need to be accounted for in the PMWS		
A18	**Soils, Geology, Water and Hydrology –** Adhere to best practice guidance	Prepare a Water Quality and Silt Management Plan which will be appended to the CEMP.	Contractor	ECOP Mitigation F		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
	and prevent pollution of the site and surrounding environment.	Plan for surface water monitoring to be undertaken during works. Undertake baseline testing before commencement of the works. Agree the set back distances of any exclusion fencing from the edge of watercourses with contractor's SQE.				
A19	**Traffic and Transport –** Avoid impacts to roads and access routes	Prepare a Traffic Management Plan (TMP) to limit impacts to local road networks during the works. The TMP will be appended to the CEMP.	Contractor	ECOP Mitigation B		
A20	**Traffic and Transport –** Avoid impacts to roads and access routes	Undertake a pre-construction audit of all access routes and prepare an access route reinstatement plan which include the gated access point for the plateau. The access route reinstatement plan will be appended to the CEMP.	Contractor			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
A21	**Land Use and Amenity -** To ensure adequate reinstatement of working areas following completion.	Undertake a photographic record of all working areas and access routes etc. prior to work starting in order to ensure that reinstatement is undertaken to the same or better standard following the work completion.	Contractor			
A22	**Materials and Waste –** Ensure contaminated material and material for re-use is properly stored, segregated or disposed of as appropriate.	Prepare a Materials Management Plan to set out how excavated materials will be stored, reused and where necessary removed for suitable off-site disposal. This will include a specification for how the excavated topsoil to be used for reinstating the below ground tank working area will be stored and managed. Excavated material from the recently deforested slopes which is not re-used on site must only be disposed of at a landfill site appropriate for	Contractor			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
		contaminated material, due to a Statutory Plant Health Notice (SPHN) relating to *Phytophthora ramorum.* Waste potentially containing INNS is classified as controlled waste and must be disposed of at a suitably licenced landfill.				
During construction						
B1	**Approvals -** Compliance with relevant regulations, consents and permits	Adhere to any consents or permits obtained for the works.	Contractor	See clause A1		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B2	**Risk Reduction –** Ensue awareness of and adherence to NRW Policy and site-specific constraints and mitigation	Display NRW Environment Policy, Environmental Constraints and Opportunities Plan (ECOP) and Environmental Masterplan on site.	Contractor	ECOP: doc no. 4021526-BUK-ZZ-00-DR-EN-00012 Environmental Masterplan: doc no. 4021526-BUK-ZZ-00-DR-EN-00015		
B3	**Risk Reduction –** Adhere to the Construction Environmental Management Plan (CEMP)	Adhere to the CEMP throughout the works.	Contractor	See clause A2		
B4	**Human Population – Permissive paths and forestry tracks** Minimise impacts to recreational users	Maintain pedestrian access to the plateau outside of the construction area, and alternative access routes to facilities such as the nearby allotments, in accordance with the public access plan.	Contractor	See clause A3		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B5	**Flora and Fauna –** To avoid harm or disturbance to protected or notable species during vegetation clearance	Any vegetation clearance to be supervised a SQE. If any species are found, the works must be stopped until the SQE can move the species to a safe place outside of the area of works (unless nesting birds – see clause B6). Alternatively, if the species cannot be moved, the area must be avoided.	Contractor ecologist	See also details in clause B6		
B6	**Flora and Fauna – Breeding Birds** Avoid impacts to breeding birds including nightjar	If vegetation clearance is required between March and August inclusive, pre-clearance checks must be undertaken by a SQE for nesting birds prior to clearance. If a nest is identified within or close to vegetation to be removed, then it must be left in-situ and protected from the works, with no further works in the area until the young birds have fledged from the nest. A	Contractor ecologist			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
		suitable buffer must be established to prevent disturbance and the length of time for birds to fledge is dependent upon the species identified. The size of the buffer will be determined by a SQE.				
B7	**Flora and Fauna –** To prevent damage to habitats – acid grassland	Maintain fencing to prevent access to the area of lowland acid grassland throughout the works.	Contractor	See clause A6 ECOP Mitigation C		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B8	**Flora and Fauna –** To prevent damage to habitats – OMHPDL on plateau	Where working within area of Open Mosaic Habitat on Previously Developed Land (OMHPDL) on the plateau, strip topsoil from the excavation areas and adjacent machinery working areas and store for replacement following works. Soil will be stored and managed in accordance with the Materials Management Plan. Once works in the area are complete, replace topsoil and allow vegetation to regenerate. Erect fencing around the area to prevent trampling establishing vegetation. No seed mixes are to be used in this area or for any areas of natural semi-improved grassland.	Contractor	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 ECOP Mitigation D See clause A22: Material Management Plan		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B9	**Flora and Fauna –** To prevent damage to trees	Implement the measures in the 'Mitigation from Harm' section of the Arboricultural Impact Assessment to ensure the protection of retained woodland and trees. Prune or coppice trees where possible rather than remove trees to facilitate drainage works. Trees to be pruned or coppiced to facilitate drainage works should be done so under the advice of an arborist. Keep a record of any trees removed to inform the final replanting requirements.	Contractor	Arboricultural Impact Assessment (RSK ADAS Ltd, 2025) ECOP Mitigation G		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B10	**Flora and Fauna –** To avoid harm or disturbance to badger	If an active sett has been identified during pre-construction checks, a SQE should establish appropriate working buffers specific to relevant development activities (typically 10-30m). Where this is not possible and development may lead to loss, damage or disturbance of an active sett, a development licence from NRW will be required to permit its closure.	Contractor Ecologist	See clauses A10 and A11		
B11	**Flora and Fauna – Badger, otter and water vole -** To avoid harm to badger, otter and water vole.	Any excavation due to be left open overnight shall be covered or left with a means of egress for badgers, otter and water vole (and other mammals) to prevent entrapment. Any open piping should also be capped to prevent entry.	Contractor			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B12	**Flora and Fauna –** To avoid harm or disturbance to bats	All work affecting trees with PRF-I bat roost features must be carried out under the supervision of a SQE and in line with the Bat Method Statement prepared under clause A14. All PRF-I features must be inspected by a SQE before works to a tree can begin. Coppicing of trees for the purpose of enhancing wet woodland habitat condition must avoid any trees identified as having roosting potential for bats (either PRF-I or PRF-M). Trees to be coppiced to be agreed with SQE.	Contractor Ecologist	Ground Level Tree Assessment Technical Note: 4021526-BUK-ZZ-00-RP-EN-00010 Ground Level Tree Assessment: drawing 4021526-BUK-ZZ-00-DR-EN-00009 See clause A14 ECOP Mitigation I		
B13	**Flora and Fauna –** To avoid harm or disturbance to bats	Following the conclusion of the bat surveys required by clause A12 and A13, agree any required compensation for loss of roosting habitat.	Contractor	See clauses A12, A13 and A14		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B14	**Flora and Fauna – Toolbox talks** Give toolbox talks to all site personnel prior to the start of works.	A toolbox talk must be given to all contractors working within the site in advance of vegetation clearance by a SQE prior to works, detailing the potential for protected species/habitat, INNS, riparian mammals, reptiles and amphibians within the site and the works area. A record of attendance to be kept on site, which contractors should sign to indicate they have understood the toolbox talk.	Contractor Ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013		
B15	**Flora and Fauna – INNS** To avoid the spread of INNS	Implement the Invasive Species Management Plan (ISMP) and Biosecurity Management Plan (BMP) to remove Japanese knotweed stands TN13 and TN14 and montbretia stand TN8, and to prevent spread during their treatment and construction works.	Contractor	See clause A16 ECOP Mitigation H		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B16	**Flora and Fauna –** To avoid harm or disturbance to reptiles and amphibians	Adhere to the Precautionary Method of Working Statement for reptiles and amphibians included within the CEMP throughout works.	Contractor	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 See clause A17		
B17	**Flora and Fauna – Dormouse -** To avoid harm to hazel dormouse	If vegetation clearance from within the woodland where there is bramble understory and dense scrub is required over the summer, then vegetation needing to be removed will be checked by a SQE.	Contractor ecologist	Ecology Report: 4021526-BUK-ZZ-00-RP-EN-00013 ECOP Mitigation A		
B18	**Soils, Geology, Water and Hydrology –** Adhere to best practice guidance and prevent pollution of the site and surrounding environment.	Implement the Water Quality and Silt Management Plan appended to the CEMP. Monitor surface water quality in line with the Water Quality and Silt Management Plan.	Contractor	See clause A18 ECOP Mitigation F		

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
B19	**Archaeology, Architecture and Cultural Heritage –** Avoid impacts to any known or unknown heritage features	Construction access to avoid the route and earthworks remains from the former tramway route from the Incline Haulage Systems Scheduled Monument. If any works unearth unknown buried heritage, works should be paused until the advice of an archaeological specialist can be sought and the *Client* environmental advisor is notified.	Contractor	ECOP Mitigation L		
B20	**Materials and Waste –** Ensure contaminated material and material for re-use is properly stored, segregated or disposed of as appropriate.	Comply with Materials Management Plan prepared under clause A22.	Contractor	See clause A22		

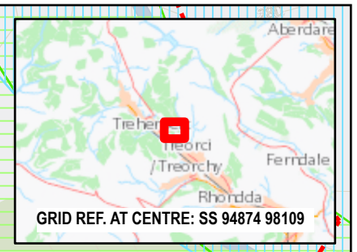
Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
Post-construction						
C1	**Human Population – Permissive paths and forestry tracks -** Minimise impacts to recreational users	Communicate with landowners and recreational users regarding the end of works.	NRW Project manager			
C2	**Flora and Fauna –** To monitor regeneration of OMHPDL land	Monitor regeneration of fenced areas of OMHPDL. If natural regeneration has not occurred, discuss next steps with Rhondda Cynon Taf County Borough Council ecologist.	NRW Project manager			

Ref no	Objective	Action (only allocate one action to each "Ref no")	Responsibility (action must only be allocated to one project role/person)	Reference to further information	Progress and Further Action	Sign off and date
C3	**Land Use and Amenity -** To ensure adequate reinstatement of working areas	All working areas including access routes to be subject to post-works condition inspection (including photographs) to ensure that reinstatement has been carried out to an acceptable level and, where required, to document that no works were undertaken in adjoining areas. Report to NRW, demonstrating the comparison below and after works to ensure suitable reinstatement. All temporary fencing shall be removed at the end of the works: fencing to protect habitats that are reestablishing on the plateau may need to be left in place after all other works have finished.	Contractor			

Annex 1 Environmental Constraints and Opportunities Plan (ECOP)

Mitigation

B) Pedestrian and allotment access management plan, part of Construction Environmental Management Plan.
C) Fence off lowland acid grassland HPI before start of works.
D) Strip and store topsoil from tank excavations and plateau working area, use topsoil to reinstate, allow natural revegetation; keep reinstated area fenced off until vegetation established
E) Temporary working area plan to minimise the working area footprint in the OMHPDL HPI.
F) Water quality and silt control plan for works along and adjacent to ditch and watercourse.
G) Tree Protection Plan for works in woodland (RSK ADAS Ltd, 2025).
H) Invasive species management plan and biosecurity risk assessment to remove stands of Japanese knotweed and montbretia and prevent spread during works.
I) All work to trees with PRF-I suitability carried out under supervision of a suitably qualified ecologist (SQE) and suitable method statement; SQE to inspect potential roost features before works.
J) Bat PRF-M and structures placeholder - pending survey findings
K) Develop and implement a detailed construction area access and materials movement plan.
L) Avoid retained tramway earthworks during construction.
M) Avoid Bat PRF-I and PRF-M trees when coppicing one third of willow trees; trees to be coppiced to be agreed with SQE.



GRID REF. AT CENTRE: SS 94874 98109

Mitigation

A) Carry out site vegetation and brash clearance outside the main nesting bird season (March to August inclusive). Clearance must be carried out under the supervision of a Suitably Qualified Ecologist due to the likely presence of reptiles and amphibians.
If this is not possible, and vegetation clearance is needed during the main bird breeding season, nesting bird checks will be carried out. If active nests are found, then suitable exclusion zones will be established as advised by a suitably qualified ecologist. The extent of exclusion zones will depend on the species and the type of works being carried out. If vegetation clearance is required over the summer from within the woodland where there is bramble understory and dense scrub, then checks for dormouse will also be carried out.

Mynydd Y stradffernol SINC
FOREST ROAD
Reposition Existing Culvert
Main Construction Compound
Cwm Orci Special Landscape Area
Outfall from below ground tank to watercourse
Ynysfeio Ave
Allotments
Allotments
Coed Ynys-isaf
Coed Ynys

SAFETY HEALTH AND ENVIRONMENT INFORMATION
IN ADDITION TO THE HAZARDS OR RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, THE FOLLOWING SIGNIFICANT RESIDUAL RISKS SHOULD BE NOTED. FURTHER DETAILS ARE INCLUDED IN THE CDM DESIGN RISK MANAGEMENT REGISTER
CONSTRUCTION
N/A
MAINTENANCE / CLEARING / OPERATION
N/A
DECOMMISSIONING / DEMOLITION
N/A

0 50 100 150 200 250
Metres
SCALE 1:2,500

Note: The limits, including the height and depths of the Works, shown in this drawing are not to be taken as limiting the obligations of the contractor under Contract.

LEGEND

- APPLICATION BOUNDARY
- NRW LAND OWNERSHIP BOUNDARY
- EXISITING TRACK
- EXISTING INFORMAL PATHS

NON-STATUTORY DESIGNATED SITES AND ANCIENT WOODLAND
- PLANTATION ON ANCIENT WOODLAND SITE (PAWS)
- SITES OF IMPORTANCE FOR NATURE CONSERVATION (SINC)

HABITATS OF PRINCIPAL IMPORTANCE (HPI) (2024 SURVEY)
- OPEN MOSAIC HABITAT ON PREVIOUSLY DEVELOPED LAND (OMHPDL)
- LOWLAND ACID GRASSLAND
- WET WOODLAND

HISTORIC ENVIRONMENT AND LANDSCAPE
- INCLINE HAULAGE SYSTEMS SCHEDULED MONUMENT
- VISIBLE HISTORIC TRAMWAY EARTHWORKS
- FLATTER AREAS ON SPOIL TIP CENTRELINE ON TRAMWAY ROUTE
- APPROXIMATE ROUTE OF HISTORIC TRAMWAY
- SPECIAL LANDSCAPE AREAS

WATERCOURSES AND DRAINAGE
- EXISTING DRAINAGE DITCH
- RUNNING WATER

BAT GROUND LEVEL TREE ASSESSMENT RESULTS (SUITABILITY) (2024 SURVEY)
- PRF-I (POTENTIAL FOR SINGLE BAT)
- PRF-M (POTENTIAL FOR MULTIPLE BATS)
- STRUCTURES WITH BAT POTENTIAL

INVASIVE NON-NATIVE SPECIES (2024 SURVEY)
- JAPANESE KNOTWEED
- MONTBRETIA

DRAINAGE WORKS
- STONED ACCESS TRACK
- DRAINAGE DITCH / GRAVEL FILTER DRAIN
- BLOCKSTONECASCASDE
- RESURFACED TRACK WITH FILTER DRAIN; SUBSURFACE DRAIN HEADWALLS ON NORTH SIDES
- BELOW GROUND TANK
- TRACK CROSS DRAIN / CROSS CULVERT
- SUBSURFACE DRAIN HEADWALL

Rev	Drawn	Chkd	Rvwd	Apprvd	Date	Description
P03	MU	HG	AB	AH	18/08/2025	FOR INFORMATION
P02	MU	HG	AB	AH	22/07/2025	FOR INFORMATION
P01	MU	AB	EN	AH	09/06/2025	FOR INFORMATION

Designed by: TW
Date: APRIL 2025

Client: Cyfoeth Naturiol Cymru Natural Resources Wales

Client Drawing No.
Revision

Binnies UK Limited
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Spring Lodge, 172 Chester Road, Helsby, Cheshire, WA6 0AR UK
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Project:
PENYRENGLYN LANDSLIDE RISK MANAGEMENT

Drawing title:
ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES PLAN

Drawing scale: 1:2,500
Sheet size: A3

Drawing no.: 4021526-BUK-ZZ-00-DR-EN-00012
Revision: P03

Print Version: Print Quality (300dpi @ A3)

R:\Projects\4021526_Pen_Yr_Englyn_Coal_Tip\4_Workspace\2_Issue\4021526-BUK-ZZ-00-DR-EN-00012_v4.xlsx upv32778 18/08/2025