

Preliminary Ecological Assessment



Project: Land at Nant Y Wenalt, Abernant

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1. Introduction

The client is seeking planning permission to create a residential development within the proposed development site boundary. The proposals have not yet been finalised but seek to create 260 residential units, garden space and vehicular access roads. The site is centred at approximately SO 0103303570 to the north of Abernant, Rhonda Cannon Taff.

The site currently consists of open neutral grassland split into fields, semi improved grassland, short perennial vegetation, tall ruderal vegetation, woodland, bare earth, two ponds, Nant Y Wenalt stream and scrub. This report will assess the potential of the land within the site boundary to support protected habitats and species and the implications that any future development proposals could have on them.

Prior to the involvement of Ecological Services Ltd within the project consultation was undertaken between the design team and Richard Wistow, Planning Ecologist for Rhondda Cynon Taff County Borough Council, regarding the scope of further ecological survey work at site. Survey work for Great Crested Newts, reptiles, breeding birds, monthly bat transect surveys, dormouse surveys, otter, invertebrate and grassland fungi were all undertaken in 2019 by WYG. Survey reports of the 2019 survey work have not been made available to Ecological Services at present, however the findings of the 2019 survey work were used to agree a reduced scope of updated survey work within the site boundary. Agreement to an updated ecological assessment, eDNA surveys for Great Crested Newt, grassland fungi surveys and three bat transect survey visits was given. However should the ecological assessment note a significant change in the habitats at site additional surveys may be required.

1.1 Site Description

The proposed development site is approximately 15.41ha. Abernant Road runs along the southern boundary of the site and Moss Place runs along the west. Residential properties line Abernant Road and are scattered along Moss Place. A narrow gravel track forms the western boundary. A tree lined footpath, thought to follow the route of an old railway line, runs along the northern edge of the site.

The main area of Abernant is located to the south of the development site, extending to the north east along Abernant Road. Open fields, woodland, hedgerows and tree lines are present to the north of the site. Aberdare is located approximately 800m to the south west of the proposed development site.

The River Cynon is located approximately 775m to the south of the proposed development site. A large expanse of woodland is located approximately 630m away to the north west and 815m away to the east of the site.

1.2 Survey Constraints

The optimal time period to carry out ground-based visual assessments of trees for bat roosting potential is between December to March inclusive, when broad-leaved trees are devoid of leaves and features are more readily visible. It should be noted that ground based assessments are inherently constrained and potential roosting features present upon the skyward facing surfaces of limbs and branches will most likely be missed.

The site visit was completed during June and within the optimal timeframe for undertaking broad habitat assessments.

1.3 Surveyor Experience

Aislinn Harris is a full member of Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 12 years experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2017). Aislinn is a licenced bat ecologist Great crested newt and dormouse ecologist with a wide variety of experience undertaking ecological surveys.

Vicky is an ecologist with at least ten years experience. She has worked in larger consultancies previously completing a wide range of flora and fauna surveys and completed professional training courses. Vicky is a licenced great crested newt (GCN) worker (NRW Licence S089684/1, S092646/1) and also holds a dormouse licence (NRW S092640/1).

Lee Gregory has been undertaking Ornithological surveys and species protection for 35 years, Lee is a fully trained A Permit Bird Ringer for the British Trust for Ornithology with several schedule 1 species permits, Lee has worked as Assistant Warden of Fair Isle and Dungeness Bird Observatories, Lee's ecological surveys cover a wide spectrum of taxa including; Botany, Mammals, Entomology, Reptiles and Amphibians.

1.4 Previous Ecological Survey Work

An Ecological Assessment of the proposed development site was undertaken by White Young Green in 2019. A site visit was completed on the 26th October 2018. Habitats found within the site boundary include broad leaved semi natural woodland, broad-leaved plantation woodland, dense scrub, scattered scrub, scattered trees, unimproved acid grassland, unimproved neutral grassland, marshy grassland, amenity grassland, bare ground, hardstanding, hedgerow, tall ruderal and short perennial vegetation. A pond and the Nant Y Wenalt stream were also found within the site boundary.

Development proposals were not available at the time of writing the WYG report. Based on broad development proposals the report makes a number of conclusions and recommendations. Full details can be found within the full report but a brief summary is provided below:

- The pond within the site boundary had excellent suitability for use by Great Crested Newts. eDNA surveys of suitable waterbodies for Great Crested Newts are recommended.
- The site has the potential to support reptile populations. Reptile surveys across the proposed development site are recommended.
- The matrix of habitats within the site boundary provide highly suitable bat foraging / commuting habitat
- Possible badger evidence (snuffle marks) were found on the western side of the site. No evidence of a badger sett was identified.
- The woodland and scrub habitat provide suitable dormouse habitat.
- The matrix of habitats within the site boundary offers suitable habitat for a range of invertebrate species.
- Japanese knotweed, Himalayan Balsam, Montbretia and Himalayan honeysuckle were all noted within the site boundary. All four are invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 with respect to England and Wales. A detailed invasive species management strategy is recommended.
- Consideration to potential development impacts on the protected habitats and sites within the development site and local area must be given.
- Breeding bird surveys across the proposed development site are recommended. Breeding bird surveys are to include four monthly visits March to June inclusive.
- Additional badger survey work within the development site to confirm presence or likely absence of such species.
- Dormouse surveys of the site dependent on proposed development site layout.
- Otter surveys of the watercourses and pond within the site boundary.
- Invertebrate surveys of the proposed development site.

It is understood that a broad suite of ecological survey work was completed in 2019 to build upon the recommendations made in the Ecological Assessment.

2. Desktop Study

A data search was undertaken via Aderyn (Reference: 0234-153) for the proposed development site and surrounding area. A 2km buffer zone was searched from around the proposed development site boundary and records returned within 500m of site are noted below:

- Common Lizard - closest within the proposed development site, along the boundary with Moss Place
- Badger - closest within the proposed development site. However the record is from 1974 and considered to be historic. The next closest record is from 1985 in woodland approximately 720m away
- Unidentified bat species - Within Abernant Primary School approximately 15m to the south east, no further details are provided with the record
- Unidentified bat species - A bat roost for Natterers of Brown-Long Eared bat within a barn approximately 65m to the north of site
- Common Toad - closest record approximately 190m to the south west
- Slow Worm - closest record approximately 190m to the south west
- Pipistrelle Bat Species - Closest record approximately 300m to the south west in the Former Aberdare Hospital Building which has since been demolished
- Birds: Species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (WCA1.1) include; Red Kite, Redwing, Fieldfare, Goshawk, Kingfisher
- Species listed under Section 7 (S7) of the Environment (Wales) Act 2016 (EWA 2016) include; Herring Gull, Black-headed Gull, Bullfinch, Songthrush, Starling, Dunnock, House sparrow, Willow Tit, Ring Ouzel, Lesser Redpoll, Wood Warbler
- Invertebrate records including Brown-Banded Carder Bee, Cinnabar moth, Goat Moth, Wall, Grayling, Dot Moth, Knot Grass, Dusky Brocade, Blood-wein, White Ermine, Ghost Moth, Shaded Broad-bar, Buff Ermine, Garden Tiger, Small Phoenix, White Letter Hairstreak

Records of note returned for the rest of the buffer zone are detailed below:

- Commuting / Foraging Noctule, Common and Soprano Pipistrelle
- Grass Snake
- Hedgehog

- Otter

2.1 Protected Sites

A data search for species records was undertaken for the proposed development site and surrounding area. The search also considered statutory and non-statutory protected sites.

Statutory Protected Sites

A single statutory designated site is present within the search area. The Cacao Nant Y Groes Site of Special Scientific Interest (SSSI) is present approximately 1.7km to the south west of the development site.

Non-Statutory Protected Sites

The 2km search area around the proposed development site covers land within both Rhondda Cynon Taff and Merthyr Tydfil County Borough. Two Sites of Importance for Nature Conservation (SINC) lie within Merthyr Tydfil County Borough. Gethin Forest SINC is approximately 1.5km away and Winchfawr West SINC is approximately 1.7km away to the north east of the development site.

The Nant Y Wenalt SINC (AW8.30) is present within the proposed site boundary. The SINC boundary follows the course of the Nant Y Wenalt along the south east of the development site until it is culverted underground. The SINC boundary extends to the north east along the upper stream course. East Llwydcoed SINC (AW8.20) is present along the northern edge of the development site. The SINC follows the woodland corridor of the footpath as it extends north west. The boundary of each SINC is shown in Figure 1.

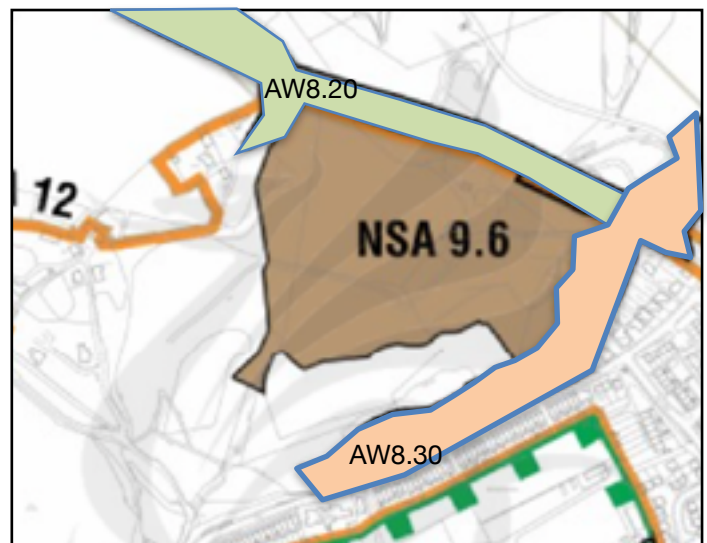


Figure 1. SINC Proximity

Remaining SINC sites in the local area are listed below. An approximate distance from the SINC to the closest part of the development site is also provided:

- Cwm Y Felin Newydd SINC (AW8.31) - 300m
- Upper Cynon Floodplain SINC (AW8.15) - 322m
- Aberdare Canal SINC (AW8.15) - 890m

There are 40 areas of Ancient Semi Natural Woodland (ASNW) within 2km of the site. These woodlands have been identified as Priority Areas by Natural Resources Wales (NRW) as they comprise mostly broadleaved native trees and shrubs believed to have been in existence for over 400 years. The nearest such area lies approximately 500m to the south east, within Aberdare Golf Club.

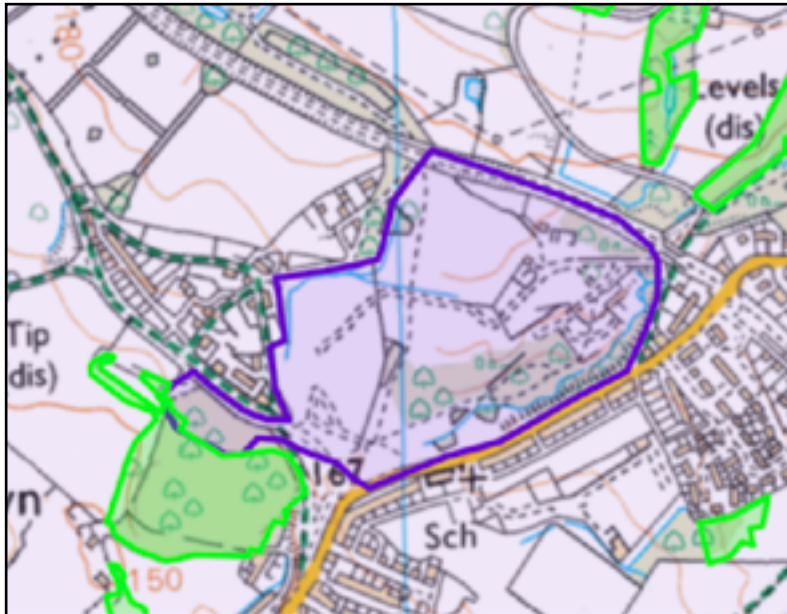


Figure 2. RAW Proximity

There are 13 areas of Restored Ancient Woodland (RAW) within 2km of the site. These Woodlands are predominately broadleaves now and are believed to have been continually wooded for over 400 years. They will have gone through a phase where canopy cover will have been more than 50% non-native conifer tree species and now have a canopy of more than 50% broadleaf. The closest such area of woodland lies immediately adjacent to the south east boundary of the proposed development site. The proximity of the RAW to the site boundary is shown in Figure 2.

Approximately 16.52% of the land within the 2km buffer zone is defined as a B-Line. B-Lines are non-statutory protected sites which aim to restore and create wildflower habitats forming stepping stones that link existing wildlife areas together creating a network of habitats across the landscape benefiting not only pollinators but a host of other wildlife. The closest boundary of the B-Line lies approximately 1.2km away to the north of the proposed development site.

Two ponds are present within the site boundary which will be lost to the development proposals. Ponds are a Section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Any pond loss must be avoided and appropriately mitigated for if undertaken.

The mosaic of short perennial vegetation, bare earth, tall ruderal, grassland, scrub and woodland could be considered to qualify as Open Mosaic Habitat (OMH). The lower plateau areas to the south west of the site along Moss Place in particular appear to suit the criteria for OMH. However the extent of suitable habitat is less than 0.25ha. On balance the habitats within the site boundary are not considered to be OMH due to the small size of the potential areas of habitat that contribute to such classification.

2.2 Potential Impacts to Protected Sites

The Nant Y Wenalt SINC is designated for its riparian woodland habitat and associated species use by animals including otter and woodland birds. The development proposals do not seek to directly effect the Nant Y Wenalt or its adjacent habitats. However the proposed works have the potential to negatively effect the SINC via indirect impacts such as water pollution through surface water run off, drainage and construction works.

Policy AW8 - Protection and Enhancement Of The Natural Environment featured in Rhondda Cynon Taf LDP states:

Rhondda Cynon Taf's distinctive natural heritage will be preserved and enhanced by protecting it from inappropriate development.

Development proposals will only be permitted where:

1. They would not cause harm to the features of a Site of Importance for Nature Conservation (SINC) or Regionally Important Geological Site (RIGS) or other locally designated sites, unless it can be demonstrated that:

- a) The proposal is directly necessary for the positive management of the site; or
- b) The proposal would not unacceptably impact on the features of the site for which it has been designated; or
- c) The development could not reasonably be located elsewhere and the benefits of the proposed development clearly outweigh the nature conservation value of the site.

2. There would be no unacceptable impact upon features of importance to landscape or nature conservation, including ecological networks, the quality of natural resources such as air, water and soil, and the natural drainage of surface water.

All development proposals, including ethos in built up areas, that may affect protected and priority species will be required to demonstrate what measures are proposed for the protection and management of the species and the mitigation and compensation of potential impacts. Development proposals must be accompanied by appropriate ecological surveys and appraisals, as requested by the council.

Development proposals that contribute to the management or development of Ecological Networks will be supported.

Two ponds are present within the site boundary which will be lost to the development proposals. Ponds are a Section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Any pond loss must be avoided and appropriately mitigated for if undertaken. Pond creation within the site and an appropriate aftercare regime must be provided to compensate for any loss of pond habitat.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on the **1st June 2023**. The site is split roughly into an upper plateau which is broadly flat, the riparian river corridor which is steeply sloping down the river with various paths cut through it and a lower plateau to the south west which spans Moss Place.

All areas of the site were accessible. A species list can be found in Appendix 1, photographs of the site can be found in Appendix 2 and a map of the habitats found within the site is provided in Appendix 3.

The habitats across the development site have been subject to varying levels of disturbance in the past and recent years. The habitats observed, especially the tall ruderal and scrub areas are clearly changing rapidly as part of natural succession. This has made mapping habitat areas difficult but every effort has been made to provide clear habitat types in the below descriptions and habitat map.

Ponds

Pond 1 is located in woodland to the east of the development site. The pond sits within a depression and is shaded by overhanging woodland vegetation. Steep banks border the pond which is approximately 1.5m below the surrounding ground level. Tall ruderal vegetation and young scrub restricted access to the pond during the site visit.

Pond 2 is located to the west of Pond 1 and surrounded by what appears to be a grassland bund. The bund is approximately 1m in height from the surrounding ground level. On the inner edge of the bund dense willow scrub is present around the entire edge of the pond making access to the water difficult. It was possible to see the majority of the pond is choked with reedmace with little open water present.



Fig.1 - View of Pond 1



Fig.2 - View of Pond 2

Grassland

For ease of reference each pocket of grassland within the upper plateau has been split into 4 fields. **The grassland within Fields 1 - 4 is considered to be neutral grassland.** Smaller pockets of grassland are present across the development site, namely around Pond 2, the lower plateau and a small number of footpaths that dissect the woodland edge of the site. The level of disturbance in these areas has made categorising the grassland difficult and therefore it is considered to be species rich semi improved grassland. The semi improved grassland is considered likely to quickly progress into tall ruderal vegetation.



Fig.3 - Field 1



Fig.4 - Field 2



Fig.5 - Field 3



Fig.6 - Field 4

Field 1 - This is the north eastern most field. The field is bounded by scrub and woodland which is starting to encroach through the post and wire fence lines. The sward was short within this field indicating grazing or recent cutting. Species noted include crested dogs tail, sweet vernal grass, ribwort plantain, mouse eared hawkweed, field wood rush, meadow buttercup, creeping buttercup, birds foot trefoil, daisy and smooth hawksbeard.

Field 2 - The sward within this field is longer but even perhaps indicating low intensity management on an ad hoc basis. Species noted in this field include grass vetchling, sweet vernal grass, crested dogs tail, yorkshire fog, pale flax, cut leaved cranesbill, lesser stitchwort, creeping bent, yarrow, ladies mantle, creeping bent, false oat grass and common cats ear.

Field 3 - The sward within this field was short and even perhaps indicating it is grazed or cut at certain times throughout the year. Scrub and tall ruderal vegetation are present to the east. The edge of the field to the south starts to slope steeply downwards, the grassland is bordered by scrub and woodland on the slope. Numerous large sections of dead wood are scattered across the field as well. Species noted include crested dogs tail, sweet vernal grass, ribwort plantain, mouse eared hawkweed, field wood rush, cut leaved cranesbill, meadow buttercup, creeping buttercup, birds foot trefoil, daisy and common cats ear.

Field 4 - The presence of dense and scattered scrub within this field indicates low intensity management. Worn gravelly footpaths are present indicating the field is likely to be well used by locals for recreation. A greater floral diversity was noted to the north / upper areas of this field where scrub encroachment is less prevalent. Species noted in the grassland areas of this field include ragged robin, smooth tare, knapweed, hairy tare, cut leaved cranesbill, red clover, common vetch,

Marshy Grassland - The grassland to the south west of the site, separated from the majority of the site by Moss Place is considered to be marshy grassland due to the presence of Hard Rush and at least one species of sedge. During the site visit the ground was incredibly dry but it does look like the ground would hold water during periods of rain fall.

Woodland

Broadleaved semi-natural woodland is present across the proposed development site. The woodland is mainly present along the east and southern edge of the site. Woodland follows the route of the Nant Y Wenalt stream as it enters and leaves the site. A spur of woodland is present roughly central to the site. The woodland areas to the east and south east are present on a steep bank with a dense understory making access difficult.

Species noted in the **woodland** areas include ash, goat willow, hawthorn, alder, sycamore, horse chestnut, field maple, a species of oak and holly. The woodland understory along the Nant Y Wenalt was dominated by Japanese knotweed for much of its length. A path way appeared to have been cut into the vegetation along the riparian corridor of the stream at the east of the site travelling downwards from north east to the south west. The footpath spurs off down to the stream at one point allowing access to the water. Dense vegetation along the river corridor and steep topography prevented river access anywhere else within the site boundary.

The understory across the rest of the woodland contained bramble, enchanters night shade, nettle, cleavers, harts tongue fern, male fern and wood avens were accessible.



Fig.7 Woodland



Fig.8 - Woodland

Tall Ruderal Vegetation

Patches of tall ruderal vegetation are scattered across the development site. Species noted within the tall ruderal vegetation include creeping thistle, knapweed, hedge woundwort, cocksfoot, creeping bent, foxglove, silverweed, great willow herb and st johns wort.



Fig.9 Tall ruderal to north of site



Fig.10 Tall ruderal to east of Field 3

Hardstanding

Areas of hardstanding are present within the site. A central plateau of the site is currently used for storage by the client and contains gravel hardstanding. The gravel access roads to the storage area from the eastern edge of the site are present.

The remains of tarmac access roads are present to the south east of the hardstanding storage area. They are in poor condition with many cracks allowing tall ruderal and short

perennial vegetation to establish. The tarmac sections here become gravel tracks extending north and east across the upper areas of the site. To the south west of the site the single lane tarmac Moss Place provide vehicular access to surrounding residential properties.



Fig.11 - Old tarmac road



Fig.12 - Gravel hard standing at storage area

Short Perennial Vegetation

Based on the height of the vegetation and lack of dominant species the pathways through some sections of the development site and at TN3, have been categorised as short perennial vegetation. The areas of short perennial vegetation had patchy vegetation cover and plant species all below 30cm approximately. Species noted in these areas include birds foot trefoil, common century, black medick, wild strawberry, ribwort plantain, greater plantain, cats ear, common vetch, tormentil, fox and cubs, daisy, creeping forget me not and mouse eared hawkweed.



Fig.13 - Short perennial vegetation at TN3



Fig.14 - Short perennial vegetation at path

Watercourse

The Nant Y Wenalt stream flows along the east and southern edge of the proposed development site. The stream enters the site via a culvert in the eastern edge and travels down to the south west. The stream is accessible at the culvert where a footpath crosses the watercourse and at TN1 where a broad path appears to have been previously cut through the woodland.

Access along the Nant Y Wenalt is difficult in some areas. Access upstream through the culvert is not allowed and would require landowner permission. The stream flows through steep river banks and rock faces. Water levels fluctuate along the water course and access along the banks to shallower sections of the river cannot be obtained due to dense understory or rock faces. However a good section of the stream was walked as part of the June site visit.



Fig.15 - Culvert where stream enters the site



Fig.16 - Example view of stream course

Scrub

Dense bramble scrub is present in various pockets across the site. It mainly sits adjacent to older more mature vegetation such as the woodland. The dense scrub areas are dominated by bramble.

Scattered scrub comprising mainly of young hawthorn, willow trees, buddleja and bramble is progressing across the western section of the site into Field 4. Scattered scrub is present where habitats interface across the site indicating natural habitat succession starting to take place.



Fig.17 - View of scrub



Fig.18 - View of scrub

Invasive Non Native Species

Large stands of well established Japanese knotweed were present across the development site, mainly following the Nant Y Wenalt stream corridor. The vegetation along the watercourse and steep valley side was dominated by Japanese knotweed. Smaller stands of the plant were noted scattered across the site, the approximate location is noted on the habitat map within Appendix 3.

Himalayan balsam is present at TN2 as shown on the habitat map. It is likely the species is more wider spread, in woodland and scrub areas of the site where access was difficult.



Fig.19 Japanese knotweed stand



Fig.20 Himalayn Balsam

Bare Earth

Narrow paths are present through the grassland areas of the site. They have been mapped as bare earth but they do have a gravelly substrate, thought most likely to reflect the poor ground conditions.

A small area of bare earth is present in the lower plateau of the site. The bare earth is slowly vegetating back over but appears to have been piled in small heaps with lumps of tarmac peppered through the heaps.



Fig.21 - Bare earth path



Fig.22 - Bare earth heaps

Hedgerow

A single hedgerow is present within the site boundary. The hedgerow is L-Shaped and made entirely of coniferous trees thought to be a species of Leylandi. The hedgerow forms a boundary between the storage area and Field 4.



Fig.23 - View of hedgerow



Fig.24 - View of hedgerow

3.2 Great Crested Newts

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great crested newts (GCN) are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a great crested newt. Great crested newt and common toad are listed in section 7 of the Environment (Wales) Act 2016 which makes them key species to sustain and improve biodiversity.

The closest record for the presence of GCN available via SEWBReC is approximately 1.5km away from the proposed development site. However, it is understood that GCN surveys completed by WYG in 2019 confirmed the presence of GCN via an eDNA survey in a pond within 120m of the proposed development site.

Two ponds are present within the development site with the approximate location shown on the habitat map within Appendix 3. Pond 1 is present within the woodland to the east of the development site and contained open water during the survey visit. Pond 2 is located 20m to the west of Pond 1. Pond 2 is choked with reedmace and had little open water present. There are at least 3 ponds visible within 500m of the development site when reviewing aerial images. The three ponds are present to the north of the development site. Another pond is present approximately 370m to the east of the site within the grounds of a residential property. The presence of garden ponds within residential properties in the local area which aren't visible on aerial images cannot be ruled out.

The development site has the potential to be used by amphibians such as GCN during their terrestrial and aquatic life stages. The habitats within the site boundary are suitable for commuting, foraging, breeding and overwinter use. Further survey work to establish the presence or likely absence of GCN from within the development site is required. **An eDNA survey of Pond 1 and Pond 2 is recommended.**

Survey work of unidentified ponds within the local area was undertaken by WYG in 2019. eDNA surveys found a pond positive for the presence of GCN but landowner permission for survey work was withdrawn. Therefore surveys outside of the development site were not pursued in the 2023 survey work.

3.3 Dormouse

The dormouse (*Muscardinus avellanarius*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Dormouse is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a native dormouse. Dormouse is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There are no records for the presence of Dormouse within 2km of the proposed development site available via SEWBRc. However, it is understood that dormouse has been confirmed in the Llwydcoed area via discussion with the county ecologist. It is understood a dormouse survey was undertaken within the development site in 2019 which did not find any evidence of dormouse.

The tree lines, hedgerow, woodland, scattered scrub and areas of dense bramble scrub all have the potential to be used by dormouse. The suitable habitat within the proposed development site has at least moderate habitat connectivity to woodland in the local area and the wooded riparian corridor of the River Cynon. **Updated dormouse surveys are recommended to inform the proposed development plans and planning application for site.**

Dormouse surveys are currently underway across the development site and will run from June until November 2023.

3.4 Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,

- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, bechstein, noctule, brown long eared, common pipistrelle, soprano pipistrelle, greater horseshoe and lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

The nearest recorded bat record is approximately 15m away to the south east for an unidentified bat found within a school building. A natterers or brown long eared bat roost was confirmed in a barn approximately 65m away to the north west. A pipistrelle bat roost was found to be present within the former Aberdare Hospital site approximately 300m to the south west of site. The building has since been demolished under licence from NRW.

Building Assessment

A small number of temporary buildings / structures are present within the storage area on the central plateau of the site. The buildings are all either metal storage containers, a caravan or a single storey rectangular portacabin style buildings. All structures were subject to an external assessment for the potential to support roosting use by bats.

The metal storage containers are considered to have no potential for roosting bat use. No evidence of the presence of bats, such as bat droppings were found in the open structures within the site. The caravan and portacabin style units had no visible gaps or cracks that roosting bats could utilise. The buildings are all metal structures which would make it difficult for bats to gain purchase on the walls to roost behind and boards at eaves level of the structures.

Tree Assessment

The trees of the site were subject to a cursory ground level assessment for the potential presence of roosting bats. Should any tree be considered likely to have above low potential for roosting use, further detailed survey work will be recommended following the ground based visual assessment methodology provided in the BCT Survey Guidelines 2016 (2nd Ed).

It was not possible to access all trees within the site boundary and woodland areas due to dense bramble understorey and large stands of Japanese knotweed. Based on the age and structure of many of the mature trees within the woodland areas, tree lines and scattered trees across the site many of the trees within the site have bat roosting potential. It is strongly recommended that all mature trees are retained as part of any future development

proposals. Dependent on the proposed site layout of any future planning application **further detailed survey work of trees for their potential roosting use by bats may be required.**

Habitat Assessment

The site is considered highly likely to be used by foraging and commuting bats. The Nant Y Wenalt stream runs along the east and southern boundary of the site which is likely to be an important commuting route for bats. The woodland, scrub habitat and footpaths through the denser vegetation are all likely to be used by commuting and foraging bats.

It is understood that transect surveys within the development site were completed in 2019. The transect surveys ran from April to October inclusive and likely consisted of a walked transect and period of static monitoring each month. As the previous survey results are not available it is not clear what level of bat activity was found within the site. Based on the previous transect work agreement to a lower level of transect work in 2023 has been agreed with the county ecologist. 3 separate periods of bat transect survey work are required and will be undertaken during the 2023 survey period.

Regardless of the bat transect survey work results, **Consideration to a sensitive lighting strategy for nocturnal species such as bats will be required.** Measures must be taken to reduce and avoid light spill into any retained adjacent vegetation.

3.5 Otters

The common otter (*Lutra lutra*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

Several records for the presence of otter returned from the data trawl, the nearest of which is situated approximately 920m away to the south west for a live sighting of an adult otter. The majority of records recorded are associated with the River Cynon. An old otter spraint was found on a rock at TN1, an accessible area of the stream.

Otters tend to prefer secluded locations for their holts to help prevent them being disturbed by other animals. It is accepted that otters can travel long distances from river corridors to find acceptable holt sites.

The open grassland and tall ruderal vegetation are open and exposed to weather and disturbance by predators or humans. The more open habitats within the site are considered unsuitable for otter use as they do not provide shelter. The woodland, dense scrub and the riparian corridor of the Nant Y Wenalt stream are all suitable for use by otter. An old spraint was found on a rock within the watercourse indicating the species at least commute along or make use of the stream.

The presence of an otter holt in the scrub / tree line to the east and south of the site is considered possible. A good portion of the Nant Y Wenalt from the culvert approximately 30m downstream of TN1 was walked during the site visit. At this point the rock of the river bed became steep and smooth making it dangerous to pass. No additional evidence of otter presence was noted. The stream corridor is wooded with a bramble understorey containing Japanese knotweed making it difficult to access.

Development proposals at present appear to seek to retain the woodland corridor along the Nant Y Wenalt as a wildlife area with no housing proposed for this area. Should development proposals seek to affect the woodland areas within the site additional consideration to the presence of otter will be required. Additional consideration may include the need for an otter survey and or winter mammal survey of the site. **Ecological supervision of the scrub removal will be required to ensure no presence of protected species such as otter.**

3.6 Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general there is usually a main sett which the family will use the most.

There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive. NRW are the licensing body for any actions which may contravene the above legislation.

There are numerous records for the presence of badger within 2km of the development site, the closest recent record is approximately 720m away to the south of the site. All other badger records are at least 1.3km away from site.

Badgers favour a dry sloping site for digging their setts preferably within woodland or even under a large hedgerow bank. Badgers are creatures of habit and tend to follow regular pathways between their setts and foraging grounds. No evidence of the presence of badger such as hairs snagged on fencing, latrines, digging or evidence of regular pathways was found within the proposed development site. However the ground was incredibly dry due to the heat wave in May / June of 2023. This may reduce the presence of likely signs such as snuffle holes. The grassland fields are also clearly grazed during certain periods of the year due to the poaching visible in the sward. This again may obscure field signs indicating badger presence.

The dense scrub and woodland present within the site boundary are suitable for badger use. Development proposals at present appear to seek to retain the woodland corridor along the Nant Y Wenalt as a wildlife area with no housing proposed for this area. Should development proposals seek to affect the woodland areas within the site additional consideration to the presence of badger will be required. Additional consideration may include the need for a winter mammal survey of the site. **Ecological supervision of the scrub removal will be required to ensure no presence of protected species such as otter.**

3.7 Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.

Enhanced protection is afforded to species listed on Schedule 1 of the Act, this additional protection makes it an offence to:

- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Table 1 below provides a list of bird species noted within the development site. As the months progress and various site visits are required the intention is to keep recording bird species noted and update the list.

Table 1 - Bird Activity Within Site

Bird Species	Activity	Bird Species	Activity
Mistle Thrush	Fe	Great Spotted Woodpecker	C
Pied Wagtail	Fe	Blackcap	C
Chiffchaff	S	Nuthatch	C
Garden Warbler	S	Bullfinch	Fe
Chaffinch	C	Coal Tit	C
Goldcrest	C	Wren	S
Stock Dove	S	Goldfinch	C
Spotted Flycatcher	C	Song Thrush	Returning to Rose - presumably nesting
Woodpigeon	S	Magpie	C
Dunnock	Foraging, also juvenile seen		

Key = S - Singing, C - Calling, F - Flying, Fe - Foraging

The habitats within the site boundary are suitable for use by a wide range of bird species. The woodland, scattered scrub, dense scrub and open lean too structures within the site are suitable for nesting use. The grassland and bare earth areas are suitable for foraging purposes. The reedbed within Pond 2 may be attractive to nesting birds as well.

The development proposals are likely to impact on scrub, woodland, individual trees, grassland and tall ruderal vegetation. **A precautionary approach to the removal of habitat with bird nesting potential will be required. Compensation measures for the loss of bird foraging and nesting habitat will be required.**

3.8 Reptiles and Amphibians

Reptiles such as the slow worm, common lizard, adder and grass snake are protected under the Wildlife and Countryside Act 1981(as amended). They are protected from killing, injuring and sale. They are also listed in section 6 of The Environment (Wales) Act 2016.

The four widespread species of amphibian i.e. the smooth and palmate newts, common frog and common toad, are protected under the Wildlife and Countryside Act 1981 (as amended)

by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale of these species. Common Toad is listed in section 6 of The Environment (Wales) Act 2016.

Records for the presence of amphibians have been returned as part of the data search. The closest record is for the presence of Common Toad approximately 190m to the south west. There are no other amphibian records within 1km of the development site but that's thought to indicate under recording rather than a lack of presence. A record for the presence of Common Lizard within the development site has been returned as part of the data search. Slow worm has been recorded within 190m of the development site as well

The ponds within the site boundary are considered likely to support breeding use by Common Toad and Frog. The mosaic of habitats around the site are likely to support all terrestrial life stages of Common Toad and Frog. Smooth and or Palmate newt may also use the ponds and surrounding habitat for foraging and hibernation.

Reptiles prefer a mosaic of habitats with diverse vegetation structure creating open areas and nearby cover to provide protection from predators and the elements. Common amphibian species require still pools of water for breeding purposes and damp conditions with foraging habitat during their terrestrial life stages.

The grassland, tall ruderal, scrub and woodland areas within the site are considered suitable for foraging use by reptile species. The scrub, woodland and tree lines are all considered suitable for over wintering use by reptiles. The presence of reptiles within the site boundary has been confirmed via records and is considered highly likely due to the suitable mosaic of habitats within the site.

The development proposals are residential and will entail garden space once the construction work is completed. Providing reptile enhancement measures are included within the development design, it should be possible for reptiles to recolonise a portion of the site once works are completed. The riparian corridor of the Nant Y Wenalt is also proposed for retention and enhancement to increase the quality and value of the habitat.

Based on the surrounding suitable habitat and development proposals, reptile surveys are not recommended in this instance. Instead it is suggested that **the presence of a moderate number of reptiles within the site boundary is assumed and that a reptile mitigation strategy is implemented**. A reptile mitigation strategy will also take steps to ensure that species such as Common Toad are not harmed.

3.9 Other Mammals

Other notable mammal species listed under S7 of the Environment (Wales) Act 2016 which returned records within 2km include Hedgehog (approximately 600m), Polecat (1.7km), Brown Hare (1.9km)

Hedgehog is considered likely to be present within the site at least on occasion. Hedgehog is considered to be a species of principal importance, for the purpose of maintaining and enhancing biodiversity in relation to Wales. As such consideration must be given to this species in any plans proposed for the site.

Polecat is considered likely to be present within the site at least on occasion. Polecat is considered to be a species of principal importance, for the purpose of maintaining and enhancing biodiversity in relation to Wales. As such consideration must be given to this species in any plans proposed for the site.

Brown Hare is considered unlikely to be present within the site.

3.10 Invertebrates

A number of records for various types of invertebrate returned from the data trawl within 2km.

Notable species records, those species that are listed under S7 of the Environment (Wales) Act 2016, returned from the data trawl include Dot Moth, Knot grass, Small Phoenix, Buff Ermine, Goth Moth and Brindled Beauty amongst others.

The habitats of the site were assessed for their potential to support invertebrates using the Invertebrate Habitat Potential Assessment (IHPA) as found in CIEEM inpractice Issue 112, June 2021. The IHPA protocol has been produced to allow ecologists without specialised entomological expertise to identify key habitats and features likely to support important invertebrate assemblages. Full details of habitat types can be found in Appendix 5.

Habitat Element	Grade
Decaying Wood – H1	C - Moderate
Rotational Management – H2	D - Minor
Nectar Resources – H3	C - Moderate
Wet Substrates – H4	C - Moderate
Other Water Habitats – H5	E – Negligible/Absent
Structural Patchwork – H6	D - Minor
Still Air (S) – H7	D - Minor
Still Air (H) – H8	D - Minor
Connectivity – H9	D - Minor
Ecoclines – H10	E – Negligible/Absent
Bare Earth – H11	D - Minor

A range of habitat types suitable for invertebrate use are present within the site boundary. Of particular note is the dead wood present in Field 3, the range of wet habitats ie pond and the Nant Y Wenalt and the mosaic of habitats in TN3. Based on the Invertebrate Habitat Potential Assessment (IHPA) the site, in its current state, is considered to have potential to support a wide range of species of invertebrate.

It is understood that invertebrate surveys of the development site were completed in 2019. It is difficult to compare the habitat present in 2018 with that present in 2023, as the habitat assessment work has been completed at different times within the year. It would appear the dead wood present within Field 3 was not there in 2018. It would also appear the habitat composition at TN3 has changed. In 2023 the area has been mainly assessed as being short perennial vegetation being dominated by birds foot trefoil, mouse eared hawkweed, wild strawberry and white and red clover. The short perennial vegetation is bounded by scrub, bare earth and rubble piles which all create a mosaic of habitat suitable for invertebrate use. In 2018 this area was mapped as being mainly tall ruderal vegetation, scattered scrub and neutral grassland.

Based on the current information and habitats known for the proposed development site, undertaking invertebrate surveys of habitat within the site boundary would be beneficial.

Invertebrate surveys must include a range of survey techniques to target broad invertebrate families. Invertebrate surveys undertaken across a range of seasons would also provide useful data to inform the development proposals

4. Recommendations and Mitigation

The client is seeking planning permission to create a residential development within the proposed development site boundary. The proposals have not yet been finalised but seek to create 260 residential units, garden space and vehicular access roads.

The site currently consists of open semi improved grassland, neutral grassland, hedgerow, tall ruderal vegetation, Nant Y Wenalt Stream, broadleaved woodland, tree line and scrub. It is anticipated that the majority of the grassland, tall ruderal vegetation and woody scrub will be lost as part of the proposals.

A previous ecological assessment of the development was completed by WYG in October of 2018 when the site was in different ownership. Since the 2018 survey work the habitat types within the site are broadly similar however the extent of bramble scrub, short perennial vegetation, scattered scrub and invasive non native plant species presence has increased.

Additional ecological survey work within the site boundary is already underway. An eDNA survey of ponds 1 and 2 has been completed, a dormouse nest tube survey and 3 separate periods of bat transect work are being undertaken. The outcome of the survey work and individual survey reports will be provided to the design team. The PEA will be updated at a later date to reflect additional incidental records as survey work is undertaken.

Broad recommendations are made below to help inform the design process. **Once the development proposals are progressed and further survey work and enhancement measures agreed within the site, further ecological input may be required.** Our general recommendations are:

- A **detailed ground based visual assessment of all trees** proposed ?? and their use by roosting bats will be required for any tree to be removed. Should any tree be found to have above moderate potential for use by roosting bats or above further detailed surveys such as climbing surveys to fully inspect any suitable feature will be required. The optimal survey window for bat tree assessment work is the winter when leaves are not on the trees.
- The Nant Y Wenalt SINC (AW8.30) runs along the eastern portion of the development site including the stream and riparian corridor either side. At present the development proposals seek to retain the Nant Y Wenalt stream and adjacent vegetation therefore there should be no direct impacts to the SINC. The East Llwydcoed SINC (8.20) runs along the northern boundary. **A suitable buffer between SINC habitat and any adjacent development work will be required. Discussion with the county ecologist will be required to determine a suitable buffer distance.**

- The development proposals will result in the loss of Pond 1 and Pond 2. **At least 2 new ponds (ideally 3 if space allows) must be created within the development site boundary to compensate for the loss of S7 habitat.** The ponds must be at least the same size of those which are lost. Long term management of the ponds and a mechanism to ensure funding for pond management will be required.
- If at any point dormouse or evidence of the presence of dormouse is found during any on site work, all work must stop. Advice from the supervising ecologist will be sought before works recommence. Advice may include that all work must stop until the a development licence from Natural Resources Wales is sought.
- In order to ensure the woodland and mature trees around site are protected a suitable buffer is required between them and the closest development point ie engineering works and location of garden boundaries. Retaining woodland and mature trees will benefit a range of species ie dormouse, reptiles, habitat connectivity and will provide a biodiversity benefit to the development site. **A buffer of at least 3m from any woodland edge is recommended.**
- **A reptile mitigation strategy is required** to support any development works. The reptile mitigation strategy must include, but not be limited to:
 - Sensitive timings of works,
 - A phased cut of suitable vegetation to naturally encourage reptiles to move away
 - Supervised destructive searching where necessary
 - Enhancement measures within any development plans to allow reptiles to recolonise the site,
- The presence of otter and badger within the proposed development site cannot be ruled out entirely. Precautionary measures during vegetation clearance are recommended for these species, i.e. two stage cut of the vegetation to be supervised by a suitably qualified ecologist, as indicated for reptiles above. Otter and badger measures can be included in the reptile mitigation strategy above.
- Ideally all excavations within the site will be securely covered over if left unattended. Any excavations that have a depth in excess of 0.5m and that are left open overnight will have a means of escape let for any mammals (e.g. badger, hedgehog) that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole at an angle no steeper than 45°. This will allow any mammal to escape and avoid increased stress from being trapped.

- A root protection zone (RPZ) must be implemented around any retained trees which lie adjacent to the boundary of the proposed development site. British Standard BS 5837, *Trees in relation to design, demolition and construction - Recommendations* will be followed. Measures will include clear marking of the RPZ to guarantee no machinery is used or digging carried out in that area. This will ensure that there is no detrimental impact to the trees and the flora or fauna it supports.
- There are a number of mature trees within the site boundary. **Any tree loss within the site boundary must be compensated for with tree planting in future development proposals.** It is recommended that for every tree lost at least 3 trees are planted to replace it, in line with guidance from the Woodland Trust. Consideration to the use of extra heavy standards for tree planting as opposed to whips must be given.
- The hedgerow, scrub and trees within and adjacent to the site have potential for use by nesting birds. Any tree or scrub removal must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any vegetation with the potential for birds to be present for active birds' nests prior to removal works beginning. If an active nest is identified a buffer zone of at least 5m around the nest must be observed until the chicks have fledged. Only then can the vegetation be removed. Greater buffer zones around nests may be required depending on the species and habitat the nest is within.
- Careful consideration must be given to the use of lighting within the development site, as this can adversely affect the activity of a variety of fauna, particularly foraging bats, nesting birds and invertebrates. Light spillage into adjacent semi-natural habitats must be avoided and brightness kept to the lowest permissible level in the areas adjacent to such habitats.
- All lighting must meet recommendations in the BCT Guidance Note 08/18 Bats and artificial lighting in the UK document <https://theiip.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/> This guidance advises complete darkness to be where illuminance is below 0.2lux on a horizontal plane and 0.4lux on a vertical plane.
- Pollution prevention measures will be required to ensure drainage during construction and the operation of any housing development does not impact negatively on the Nant Y Wenalt stream.
- An invasive non native species strategy will be required for the development site. The strategy will require detailed methodology on the eradication of all Schedule 9 plant species within the site boundary. Most notable is the extent of Japanese knotweed

present within many areas of the site. The strategy must be prepared by an independent contractor.

The Environment Act (Wales) 2016 places a duty on competent authorities such as Rhondda Cynon Taff County Borough Council to conserve and enhance biodiversity. The below bullet points are some simple measures that could be achieved to enhance the biodiversity of the site:

- The provision of integrated bird boxes within any new buildings created on site. At least 25% of new structures should include nesting provision for birds. A variety of bird boxes should be used but all boxes must be placed at least 2m high from ground floor.
- The provision of integrated bat boxes within any new buildings created on site. At least 25% of new structures should include roosting provision for bats. Integrated boxes are welcome but consideration to the creation of roosting provision with a roof should also be given. For example garage roof spaces can be lined with a bitumen based roofing felt and suitable bat access points included to the space between the roofing felt and roof tiles.
- The use of native species within the soft landscaping works on the site. Suitable long term management of soft landscaping also helps ensure spaces are useful to wildlife. A low intensity cutting regime for grassland habitat would help ensure the areas do not become scrub. Hedgerow and the wildlife that use them benefit from being cut once every two years between the months of November to February inclusive
- All fencing across the site will be hedgehog friendly in design. A friendly design is considered to allow passage of small animals across the site. Close board or mesh fencing should provide either a continuous gap between the bottom of the fence and ground of approximately 13cm or 13cm by 13cm gaps cut every 3m along fencing.
- The development proposals will seek to retain the Nant Y Wenalt stream and riparian corridor as a biodiversity zone. The stream corridor and woodland is currently over run by Japanese knotweed. One of the best ways to enhance the quality of the biodiversity zone would be to treat the invasive plant species currently outcompeting native fauna. Given the steep topography of the stream corridor it is likely that the only viable treatment will be via spraying of stem injection with treatment on-going for at least 5 years. Annual monitoring will

then be required to ensure Japanese knotweed does not return or another non native plant species takes hold.

Reference List

- WYG Environment Planning Transport Ltd (January 2019) '*Land at Nant Y Wenalt, Abernant; Ecological Appraisal*'
- BCT Guidance Note 08/18 Bats and artificial lighting <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

Appendix 1 – Plant Species Recorded

Species	Common Name	Species	Common Name
Trees & Scrub		<i>Vivia hirsuta</i>	Hairy tare
<i>Ulmus sp</i>	Elm sp	<i>Luzula campestris</i>	Field wood rush
<i>Corylus avellana</i>	hazel	<i>Care otrubae</i>	False fox sedge
<i>Crataegus monogyna</i>	hawthorn	<i>Cardamine pratensis</i>	Cuckoo flower
<i>Fraxinus excelsior</i>	ash	<i>Cirsium vulgare</i>	Spear thistle
<i>Acer Campestre</i>	Field Maple	<i>Leucanthemum vulgare</i>	Oxeye daisy
<i>Buddleja davididi</i>	Buddleja	<i>Equisetum sp</i>	Horsetail sp
<i>Prunus spinosa</i>	Blackthorn	<i>Trifolium pratense</i>	red clover
<i>Acer pseudoplatanus</i>	Sycamore	<i>Origanum vulgare</i>	Majoram
<i>Salix caprea</i>	goat willow	<i>Lathyrus nissolia</i>	grass vetchling
<i>Rubus fruticosus</i>	Bramble	<i>Lotus corniculatus</i>	Birds-foot trefoil
<i>Rosa canina</i>	Dog Rose	<i>Geranium robertianum</i>	Herb Robert
<i>Ilex aquifolium</i>	Holly	<i>Reseda luteola</i>	Weld
<i>Betula pendula</i>	Silver birch	<i>Cirsium arvense</i>	creeping thistle
<i>Ulex europaeus</i>	Gorse	<i>Cerastium fontanum</i>	Common mouse-ear
<i>Alnus glutinosa</i>	Alder	<i>Agrimonia eupatoria</i>	Agrimony
Herbaceous Plants		<i>Centaurium erythraea</i>	Common centuary
<i>Crepis capillaries</i>	Smooth hawkweed	<i>Euphrasia sp.</i>	eyebright
<i>Hypochaeris radicata</i>	Common cats ear	<i>Typha sp</i>	Reedmace
<i>Pilosella officinarum</i>	Mouse eared hawkweed	<i>Fallopia japonica</i>	Japanese knotweed
<i>Pilosella aurantiaca</i>	Fox & cubs	<i>Jacobaea vulgaris</i>	Ragwort
<i>Mentha sp</i>	Mint sp	<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Potential erecta</i>	Tormentil	<i>Plantago major</i>	Greater Plantain
<i>Impatiens glandulifera</i>	Himalayan balsam	<i>Trifolium repens</i>	White clover
<i>Medical lupulina</i>	Black medick	<i>Geum Urbanum</i>	Wood avens
<i>Stellaria graminea</i>	Lesser stitchwort	<i>Rumex sp</i>	Dock sp
<i>Linum bienne</i>	Pale flax	<i>Rumex acetosa</i>	Common sorrel
<i>Geranium molle</i>	Doves foot Cranesbill	<i>Veronica chamaedrys</i>	Germander speedwell
<i>Alchemical mollis</i>	Ladies mantle	<i>Fragaria vesca</i>	Wild strawberry
<i>Achillea millefolium</i>	Yarrow	<i>Tussilago farfara</i>	Coltsfoot
<i>Agrimonia eupatoria</i>	Agrimony	<i>Ranunculus repens</i>	Creeping buttercup
<i>Ranunculus acris</i>	Meadow buttercup	<i>Brachypodium sylvaticum</i>	Wood false brome

<i>Lathyrus pratensis</i>	Meadow vetchling		
<i>Heracleum sphondylium</i>	Hogweed		
<i>Circaea lutetiana</i>	Enchanters nightshade		
<i>Epilobium hirsute</i>	Greater willow herb		
<i>Galium aparine</i>	Cleavers		
<i>Caradamine flexuosa</i>	Wavy bittercress		
<i>Vicia sativa</i>	Common vetch		
<i>Blechnum spicant</i>	Hard fern		
<i>Asplenium scolopendrium</i>	Harts tongue fern		
<i>Digitalis purpurea</i>	Foxglove		
<i>Centaurea nigra</i>	Knapweed		
<i>Juncus inflexus</i>	Hard rush		
<i>Stachys sylvatica</i>	Hedge woundwort		
<i>Rumex obtusifolius</i>	Broad-leaved dock		
<i>Hypericum tetrapterum</i>	Square stemmed St Johns Wort		
<i>Potentilla anserina</i>	Silverweed		
<i>Lychnis flos-cuculi</i>	Ragged Robin		
<i>Melilotus sp</i>	Melliot sp		
<i>Dipsacus fullonum</i>	Teasel		
<i>Geranium dissectum</i>	Cut leaved cranesbill		
<i>Vicia sepium</i>	Bush vetch		
<i>Alliaria petiolata</i>	Garlic mustard		
<i>Juncu conglomeratus</i>	Compact rush		
<i>Pteridium aquilinum</i>	Bracken		
<i>Vicia tetrasperma</i>	Smooth tare		
Grasses			
<i>Holcus lanatus</i>	Yorkshire Fog		
<i>Agrostis stolonifera</i>	Creeping bent		
<i>Dactylis glomerata</i>	Cocksfoot		
<i>Cynosures cristatus</i>	Crested Dogstail		
<i>Anthoxanthum odoratum</i>	Sweet vernal grass		
<i>Avenula pratensis</i>	Meadow oat grass		

Appendix 2 – Site Photographs



Semi improved grassland track along SE of site



Scrub slope between F3 & woodland



Woodland stand between F1 & F3



Fence line between F1 & F3



Tarmac roads starting to vegetate over
V1.0



Moss Place dissecting development site



Marshy grassland to south west of site



Northern view of storage area / hardstanding



View of storage containers & caravan



Storage containers & protacabin style Buildings



Example view of caravan



Storage area & tall ruderal vegetation

Appendix 3– Site Habitat Map

LAND AT NANT Y WENALT, ABERNANT
Habitat Map
June 2023



	Scattered Japanese Knotweed		Tall Ruderal Vegetation
	Scattered Scrub		Japanese Knotweed Stand
	Broadleaved Woodland		Hardstanding
	Scrub		Post & Wire Fence
	Short Perennial Vegetation		Conifer Hedgerow
	Neutral Grassland		Watercourse & Approximate Location of Culverts
	Semi Improved Grassland		Site Boundary
	Marshy Grassland		Tree Line
	Wooden Fence Line		Gravel Pathway

Appendix 4 - Aerial View of Site Location



Appendix 5 – Invertebrate Habitat Potential Assessment

Table 1. Summary of the 11 habitat elements assessed by IHP survey.

Habitat element	No.	Comments
Decaying Wood	HE1	In all its forms; from decaying wood on/in large trees to woodland floor debris
Rotational Management	HE2	Planned or serendipitous; and whether for nature conservation or other purposes
Nectar Resources	HE3	As a proxy for nectar- and pollen resources, as assessment of pollen resources is impracticable on a walk-through survey
Wet Substrates	HE4	Including marginal, marshy, muddy and seasonally inundated habitats, as well as flushes
Open Water Habitats	HE5	The open water element of rivers, lakes, ponds, streams, ditches, etc.
Structural Patchwork	HE6	Habitat mosaics, including, but by no means restricted to open mosaic habitats on previously developed land
Still Air (S)	HE7	Suntraps and still-air microclimates in open situations; the term 'still air' is used in preference to 'wind breaks' as many rigid wind breaks are likely to produce turbulent air in their lee
Still Air (H)	HE8	Humid still-air microclimates in sheltered and shaded situations
Connectivity	HE9	Landscape-scale connectivity between the site and external habitats
Ecoclines	HE10	A graded transition between two or more broad habitats
Bare Earth	HE11	Unshaded bare or sparsely vegetated well-drained substrate, regardless of soil type