Preliminary Ecological Assessment

Project: Ysgol Iolo Morgannwg, Cowbridge
Instructed by: AECOM

Reported by: Ecological Services Ltd
10 Mount Pleasant, Llanelly Hill, Abergavenny, Monmouth NP7 0NT
Reported by

Author	Checked By	Date	Version
Beth Lewis	Ash Harris	April 2024	V1.0

T: 07494250372 E: beth@ecologicalservices.wales W: www.ecologicalservices.wales

Contents

Appendix

1. Introduction

The applicant is seeking planning permission to create new primary school building complex, associated hardstanding and amenity areas within the site boundary (grid reference: SS 98443 74670). The development is in its early stages of planning thus detailed drawings are not available at the time of writing this report. It is presumed that the majority of the current habitats within the site will be lost to make way for a large building along with hardstanding tarmac areas and some areas of amenity grassland. It is presumed that a new lighting scheme will be required for the development and access will be gained from the south of the site or through the current gap within the hedgerow along the west site boundary. The site is located west of Cowbridge, north of Llantwit Major Road.

This report will assess the potential of the land within the site boundary to support habitats and species and the implications that any future development proposals could have on them.

1.1 Site Description

The site is rectangular in shape and sits adjacent to residential housing to the north, east and west. To the south of site a road is present but open fields and a small area of woodland are situated. The sites habitats are connected to the surrounding landscape via the south of the site. North of the site lies farmland, and two larger areas of woodland approximately 1 km away. Hedgerows and grassland fields lie between the woodlands and the A48 dual carriageway which is approximately 400 m north. A housing estate lies immediately adjacent to the site with Clisson Close residential houses and gardens backing onto the north boundary of the site.

The built up area of Cowbridge lies to the east of the site. An parcel of woodland and large pond area located approximately 1.2 km away connected via the A48 wooded verge. Four areas of public open space, likely amenity grassland, are present, scattered between residential estates; Cowbridge athletic club, Police fields, Bear field and an area near The Verands estate. Immediately east lies an area of housing.

Llandough castle sits in a wooded area approximately 2 km south. Farmland, hedgerow and small parcels of woodland lie between here and the site with the village of Llanblethian is located approximately 500 m away with a parcel of woodland running from this area towards the southern boundary of the site. A brook runs through the village and converges with a small river along Bridge Road approximately 780 m south of the site. The river runs closer to the site, at its closest it's approximately 360 m southwest. Immediately adjacent to the south of the site lies an amenity grassland verge and Llantwit Major Road. That extends into an adjacent grassland field.

The village of Llysworney sits approximately 2 km west of the site with Hazel Court Fishery ponds and woodland area adjacent to this village. Farmland runs between here and the site. A church and nearby ponds are located alongside the B4270 approximately 400 m west.

1.2 Survey Constraints

The site visit was completed during March which is a sub optimal time of year to undertake habitat assessments. However it was still possible to draw broad conclusions on habitat types within the site boundary.

No plans or drawings of the proposed development were available at time of writing this report as the development is in its early stages of proposal. No information is yet known on the full extent of the development within the site or the amount of habitat loss that will be required. No new lighting scheme information is currently known. Impacts and recommendations provided in this report may alter once development plans are confirmed for the site. This report is written under the assumption that the majority of the habitats on site will be lost to make way for a large building and hardstanding complex.

1.3 Surveyor Experience

Beth Lewis is an associate member of Chartered Institute of Ecology and Environmental Management (CIEEM). Beth is an ecologist with 6 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).

2. Desktop Study

A data search was undertaken via Aderyn (LERC Reference: 0234-899) for the proposed development site and surrounding area. A 1 km buffer zone was searched and records returned within 500m of site are noted below:

- One record of Hazel dormouse (*Muscardinus avellanarius*) was returned from 2001 approximately 200 m southeast of the site.
- Common toad *(Bufo bufo)*- approximately 160 m south.
- Common frog *(Rana temporaria)*- closest being approximately 160 m south.
- One bat roost record was returned within a residential property for an unknown bat species approximately 400 m east.
- Five records of Hedgehog (*Erinaceus europaeus)* were returned- closest record being approximately 180 m southwest.
- Two records of Invasive Non-Native Plant Species (INNPs) were returned- Japanese Knotweed (*Fallopia japonica) and* Himalayan Balsam *(Impatiens glandulifera)* both approximately 120 m south of the site in the adjacent field.
- Bluebell (*Hyacinthoides non-scripta)* - 480 m south.
- Four records of invertebrate species were returned for species: Beautiful demoiselle (*Calopteryx virgo)*, Black-tailed skimmer *(Orthetrum cancellatum),* Speckled bush-cricket *(Leptophyes punctatissima) and* Emerald damselfly *(Lestes sponsa).*
- Bird species listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016) include – Skylark (*Alauda arvensis),* Black-headed gull (*Chroicocephalus ridibundus),* Reed bunting (E*mberiza schoeniclus)*, Kestrel *(Falco tinnunculus)*, Herring gull (*Larus argentatus), H*ouse sparrow (*Passer domesticus) and* Dunnock (*Prunella modularis).*
- Bird species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (WCA1.1) include – Peregrine (*Falco peregrinus)*, Red kite (*Milvus milvus),* Serin (*Serinus serinus),* Redwing *(Turdus iliacus),* Fieldfare *(Turdus pilaris) and* Barn ow*l (Tyto alba)*.

Records of note returned for the rest of the 1 km buffer zone are detailed below:

- Otter *(Lutra lutra)*- 11 records within a 1 km buffer. The closest record being approximately 620 m northeast. Nine records, including recent records from 2021-2022 were returned within the river and brook approximately 650 m south of the site.
- Three records of slow worm (*Anguis fragilis)* were returned- closest record being approximately 630 m southeast.
- Adder (*Vipera berus*)- approximately 630 m southeast.
- Grass snake *(Natrix helvetica)*- approximately 890 m southeast.

- Great crested newt (GCN) (*Triturus cristatus)* - approximately 900 m east.
- Two records of Palmate newt (*Lissotriton helveticus)* were returned- closest being approximately 700 m east.
- Smooth newt *(Lissotriton vulgaris)*- approximately 780 m southeast.
- Five records of bat roosts have been returned for the rest of the 1 km buffer zone for species including Brown long-eared bat (P*lecotus auritus*), Lesser horseshoe *(Rhinolophus hipposideros)* and Soprano pipistrelle (*Pipistrellus pygmaeus).* A roost of interest includes: A maternity roost of Lesser horseshoes was returned in 2007 approximately 720 m south of the site.
- Six records of bat commuting and foraging activity was returned for species including: Noctule bat (*Nyctalus noctula),* Pipistrelle bat species (*Pipistrellus sp.),* Soprano pipistrelle *(Pipistrellus pygmaeus),* Serotine *(Eptesicus serotinus)* and Daubenton's bat (*Myotis daubentonii)*- closest record being a Noctule bat approximately 610 m west.
- 37 records of invertebrate species were returned for the rest of the 1 km buffer with the closest records for species being: August thorn (*Ennomos quercinaria*), Beaded chestnut *(Agrochola lychnidis*), Blood-vein (*Timandra comae),* Brindled beauty *(Lycia hirtaria*), Buff ermine (*Spilosoma lutea*), Bulrush veneer (*Calamotropha paludella*), Centre-barred sallow (*Atethmia centrago)*, Cinnabar *(Tyria jacobaeae*), Coastal pear*l (Mecyna asinalis)*, and Dot moth *(Melanchra persicariae).*
- Bird species listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016) include – Yellow Wagtai*l (Motacilla flava).*
- Bird species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (WCA1.1) include – Hobby (*Falco subbuteo).*

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

The proposed development site does not lie within or directly adjacent to any statutory protected site. Cors Aberthin Site of Special Scientific Interest (SSSI) is located approximately 1.8 km east.

Coedymwstwr Woodlands SSSI is a mixed deciduous woodland and is designated for its bat activity within the woodland and bats are known to inhabit the main cave system - Approximately 7.3 km northwest.

Non-Statutory Protected Sites

There are a number of non-statutory sites within the 1km search area around site. Details of Sites of Interest for Nature Conservation (SINCs) located within 1 km of the proposed development site and are listed below with an approximate distance at their closest point from the site:

- Llanbiethian Hill Down SINC (290 m southwest).
- Land North of Limefield House SINC (520 m south).
- Coed Y Castell SINC (820 m north).
- Beech Clump SINC (840 m north).

There are two areas of Ancient Semi Natural Woodland (ASNW) within 1 km of the site boundary, approximately 200m south and 700m west. These are broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years. The ground vegetation will reflect the naturalness of these woodlands and will frequently feature species which provide clear indication of long and continued woodland cover. They will have been woodland for centuries and contribute substantially to our natural and cultural heritage.

There is one Restored Ancient Woodland Site within 1 km of the site boundary, approximately 900 m north. These Woodlands are predominately broadleaved 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 approximately 260m to the south east of the proposed development site.

There are three Plantation on Ancient Woodland Sites within 1 km of the site boundary approximately 700 m west and 900 m north. These are sites which are believed to have been continuously wooded for over 400 years. They have been replanted with native or non-native species, most commonly with conifers. They currently have a canopy cover of more than 50% non-native conifer tree species. The closest such site is approximately 390 m away to the south west.

There are three Natural Resources Wales (NRW) Priority Areas of woodland within 1 km of the site boundary approximately 700 m west and 900 m north.

The land approximately 100 m east of the site is defined as a B-Line area. 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.

Hedgerow habitat is present within the site boundary. Hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Whilst the hedgerow

has been created as part of the soft landscape proposals when the school was created, the features meet the criteria for section 7 habitat. Therefore any impacts to hedgerow must be avoided. If impacts are unavoidable hedgerow translocation and or replacement hedgerow planting must be provided.

2.2 Potential Impacts to Protected Sites

It is noted that hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Any hedgerow loss must be avoided and appropriately mitigated for if undertaken. Additional hedgerow planting within the site of native species with an appropriate aftercare regime must be provided. The translocation of already established hedgerow should also be considered.

Consideration should be given to enhance invertebrate habitats within the site to maintain the area as a potential 'stepping stone' within the network of habitats in the designated B-line area.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on the **11th March 2024**. The surveyor accessed all areas of the site. 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 site is rectangular in shape and is currently bounded on all sides by temporary metal, **heras fencin**g (see site photographs 1 and 6). Immediately adjacent to the site, on the south and west boundaries, amenity grassland is present (see site photograph 1). To the north and west, adjacent to the site lies residential housing. The houses that surround the site are all newly built and part of a wider housing estate.

Tall **hedgerow** is present along the east and western boundary of the site (see site photographs 6 and 7). Garden fencing makes up the site boundary to the north and no barrier, other than the temporary fencing, is currently present on the south boundary of the site. Species noted within the hedgerow include: Bramble, hawthorn, butterfly bush.

Semi improved grassland dominates the majority of the site and is in some areas, tussocky in nature (see site photograph 4). Species include: Cleavers, yorkshire fog, speedwell sp., red dead nettle, hoary mustard, broad leaved dock, rose bay willow herb, cut-leaved crane's bill, ribwort plantain, coltsfoot, spear thistle, clover sp., fescue sp., common daisy, hedge mustard, cow parsley, chickweed, lesser Celandine, wild strawberry.

It is understood the site was previously cleared and utilised as a works compound and parking area. The sites some areas of very short **ephemeral short perennial vegetation** (see site photograph 3) and **bare ground** patches (see site photograph 2) throughout its interior. Species noted within the short perennial vegetation include: red dead nettle, ribwort plantain, coltsfoot, spear thistle, hoary plantain, pineapple weed, dandelion sp., square stalked willow herb, creeping buttercup, hairy bittercress, creeping cinquefoil, mayweed sp., scarlet pimpernel, nettle, fescue sp., prickly sow thistle, common daisy, cow parsley, chickweed, selfheal, foxglove and lesser celandine. An area of muddy **bare ground** (see site photograph 2) is present in the southeast corner of the site where higher levels of site traffic, presumably, has previously entered and exited the site.

No mature trees are present within the site or in the hedgerow boundary. A line of **gravel stones** runs parallel to the north boundary of the site (see site photograph 5). Large gaps under the heras fencing are present along all sides of the boundary.

A small electrical substation building is located approximately 5 m west of the site. Two lifted tiles were present on the north and south elevations of the buildings roof (see site photographs 8 and 9).

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.

There is one historic record of GCN approximately 900 m east of the site from 1988. There do not appear to be any ponds within the site itself or 500 m of the development site. However garden ponds in surrounding residential properties are not visible on aerial images but may be present.

The habitats found within the development site have some potential to be used by amphibians, such as GCN, during their terrestrial life stages. The habitats such as the ephemeral short perennial vegetation, semi improved grassland, rubble stone channel and the hedgerow within the site boundary are suitable for commuting, foraging and overwinter use. GCN generally like to have a necklace of suitable waterbodies for breeding purposes within a local area.

The site has little connectivity to the north, east and west to other suitable habitat in the wider landscape. A busy road is immediately south of the site reducing the likelihood of amphibians commuting into the site from this direction. Recent aerial photography shows the majority of the site has has significant vegetation clearance of the grassland areas, making the site less likely to be inhabited by amphibians. Given the lack of ponds within the

locale and lack of local, recent records it is considered unlikely that GCN are present within the development site. **No further survey recommendations are made for this species.**

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.

One record of Hazel dormouse (*Muscardinus avellanariu*s) was returned from 2001 approximately 200 m southeast of the site. The record appears to possibly be unconfirmed.

A large portion of the land within the main development area of the site is short ephemeral perennial vegetation, semi-improved grassland of short sward height and bare ground which is considered to be unsuitable for use by dormouse. However the hedgerow around the site boundary could potentially be used by dormouse.

The suitable habitat within the development area is fairly limited in extent when considered in the context of the site. The Dormouse Conservation Handbook estimates that 2.2 ha of suitable habitat are required to support a pair of Dormouse. When reviewing aerial images of the site and considering habitat connectivity, there is limited connectivity to suitable habitat in the wider landscape and no direct aerial connectivity to other hedgerows or woodlands nearby.

Given the lack of recent, local records and very limited amount of suitable woody habitat within the site boundary, on balance the presence of dormouse within the site boundary is considered to be highly unlikely. The site is surrounded by residential housing and likely to be well used by predators such as cats, further reducing the potential for dormouse to be present. **No further survey recommendations are made for this species.**

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.

There are six records of bat roosts within 1 km of the site boundary including an unknown bat species roost approximately 400 m east and a maternity roost of lesser horseshoe bats approximately 720 m south of the site.

There are no mature trees or buildings within the site to allow for bat roosting habitat.

Habitat Assessment

The habitat within the site is considered to have **NEGLIGIBLE-LOW** suitability for use by commuting and foraging bats. The habitats within the site is small in area and has little commuting lines and no trees to enable sheltered flying. The hedgerows that border the north, east and west of of the site provide some areas to aid in bat commuting in a residential area that offers very little other natural commuting lines in the locality. The site is connected to the wider landscape to the south via the grassland fields, hedgerow and a section of broad-leaved woodland but this is dissected by the street lit Llantwit Major Road.

A electrical substation building is located immediately adjacent to the west of the site (approximately 5 m west). This building has two lifted tiles with the north and south areas pitches of its roof which provide bat roost suitability. Although this structure is not within the site boundary, consideration should be given in the lighting design to reduce spill onto these potential roost features (PRFs). **No further survey recommendations are made, however a Wildlife friendly lighting and soft landscaping plan for the site will be required**.

3.5 Otters

The 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.

11 records of otter were returned within 1 km of the site. With the closest record being approximately 620 m northeast. The record is for a Road Traffic Collision. The next closest record is associated with the River Thaw to the south east and for field signs.

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 within the site is considered to be unsuitable for use by Otter. Grassland is open and exposed to weather and disturbance by predators. The hedgerow within the site could possibly provide cover for use by Otter. However there is a lack of habitat connectivity to any surround watercourses which otter may use. The site does not lie between any otter records and other suitable waterbodies in the wider landscape reducing the likelihood that otters will utilise the site as a 'stepping stone' from one suitable habitat to the next.

Given the very limited amount of suitable habitat within the site boundary and disturbance via human use, on balance the presence of otter within the site boundary is considered to be highly unlikely. The site is surrounded by residential housing and likely to be well used by other mammals such as dogs, further reducing the potential for otter to be present. **No further survey recommendations are made for this species.**

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.

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. No records of badger were returned in the data search within 1 km of the site.

Hedgerow and grassland within the site provide suitable habitat for foraging and commuting badger. The site is sub optimal for badger sett creation as no bankings and no sheltered areas within the grassland were present. The presence of a badger sett within the site boundary is considered to be highly unlikely.

Although considered unlikely, the site could be used, at least on occasion, by badgers for commuting and foraging purposes. **No further survey recommendations are made for this species.**

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.

The grassland within the site boundary is considered to be unsuitable for nesting use by bird species. Nesting opportunities occur in the hedgerow around the edges of the site. All habitats within the site boundary are likely to be used by local bird species for foraging use.

It is considered possible to retain the hedgerow habitat within any future development proposals. The development proposals are likely to have an increased disturbance of the hedgerow areas around the site. There is no loss of bird nesting habitat presumed in the development works. Birds nesting around the boundary of the site could be impacted by temporary noise disturbance and any new proposed lighting scheme for the works.

Noise increases and lighting schemes should consider nesting bird disturbance and mitigate against this disturbance during nesting bird season.

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 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.

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.

There are records of Common toad*,* Common frog*,* Palmate newt *and* Smooth newt returned within 1 km of the site. The closest record is for Common Toad and Common Frog approximately 55m to the south of site.

Due to the lack of standing water within the site it is highly unlikely that amphibians will utilises the site for breeding. However they may use the hedgerow and stone gravel for overwintering purposes.

There are records of Slow worm, Adder and Grass snake within 1 km of the site boundary. The River Thaw runs between these records and the site and the busy Llantwit Major Road runs parallel to the site boundary reducing the suitability for reptiles and amphibians to access the site. The closest record is for slow worm and adder approximately 630 m south.

The grassland, hedgerow and short perennial vegetation within the site are considered suitable for foraging use by reptile and amphibian species. The stone gravel channel and root system of the hedgerow is suitable habitat for over wintering reptiles.

The site is considered to be slightly isolated from adjacent suitable habitat suitable for reptiles. However they are likely to use the garden spaces of adjacent residential properties and may occasionally commute to suitable habitat to the south of site. The site has been heavily disturbed in the recent past when used for parking and storage for the surrounded housing development.

Given the history of the land within the development site and likely future development proposals reptile surveys are not recommended in this instance. Instead it is suggested that the presence of a small population of reptiles is assumed and appropriate mitigation measures implemented. Providing reptile enhancement measure are included within any future development proposals, it should be possible for reptiles to colonise a portion of the site once works are completed. The site is mostly surrounded by housing and roads and as such is considered to have limited habitat connectivity to adjacent suitable reptile habitat. **No further survey recommendations are made for reptiles on site. However a reptile mitigation strategy will be required to inform the development proposals and on site works.**

3.9 Other Mammals

Other notable mammal species listed under S7 of the Environment (Wales) Act 2016 which returned records within 1 km include Hedgehog (approximately 180 m southwest).

Hedgehog is considered likely to be present within the site at least on an occasional basis for foraging and overwintering. 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.

No further survey recommendations are made for other mammals on site.

3.10 Invertebrates

There are limited records for various types of invertebrate returned from the data search within 1 km of the site. This is thought to indicate a lack of recording rather than an absence of presence. Species records in the wider area include Beautiful demoiselle, Black-tailed skimmer, Speckled bush-cricket, Emerald damselfly, August thorn, Beaded chestnut, Blood-vein, Brindled beauty, Buff ermine, Bulrush veneer, Centre-barred sallow, Cinnabar, Coastal pear*l*, and Dot moth.

The habitats of the site were assessed for their potential to support invertebrates using the Invertebrate Habitat Potential Assessment (IHPA) as found in CIEEM in practice 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	E – Negligible/Absent
Rotational Management – H2	E – Negligible/Absent
Nectar Resources – H3	D - Minor
Wet Substrates – H4	E – Negligible/Absent
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	D - Minor
Bare Earth – H11	C - Moderate

Based on the Invertebrate Habitat Potential Assessment (IHPA) the site, in its current state, is considered to have potential to support common and widespread generalist species of invertebrate only. **No further survey recommendations are made for invertebrates on site.**

4. Recommendations and Mitigation

The current development proposals for site seek to create a new primary school building complex, associated hardstanding and amenity areas within the site boundary. Although the development is in its early stages of planning, it is presumed that the majority of habitats within the site will be lost.

Broad recommendations are made below to help inform the design process. **Once the development proposals are progressed and the considerations to development within the site are addressed, further ecological input will be required.** Our general recommendations are:

- A reptile mitigation strategy will be required to inform the development. **Vegetation clearance must be undertaken in two stages as below and during the summer months of April to September inclusive to ensure reptiles are active.**
    - First Stage Cut - All vegetation including scrub, grasses and flowers are to be cut no shorter than 150mm. Once the cuttings have been collected and removed from site the site must then be left for 24hrs.
    - Second Stage Cut - Once all steps within the first stage cut have been undertaken the remaining vegetation can be cut to 50mm high or shorter. Cutting will look to push any resident reptiles south into adjacent habitats (gardens) beyond the site boundary. All cuttings must be collected and removed from site.
    - The machinery to be used for cutting vegetation depends on the ground conditions and contractors. Owing to the small scale of the site ideally hand held strimmers and or brush cutters may be suitable and the tailings hand raked and removed from site.
    - Enhancement measures will be required within any future development proposals. Measures can include habitat connectivity, reptile hibernacula and compost areas. An indicative reptile hibernacula design can be found in Appendix 6.
- In order to ensure the hedgerow around site is retained a suitable buffer is required between them and the closest development point ie engineering works. Retaining hedgerow 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 the hedgerow is recommended.**
- Any hedgerow removal must be avoided. If hedgerow impacts cannot be avoided the consideration to hedgerow translocation must be given. Should new hedgerow creation be required it is recommended that 2m of native hedgerow planting is created for every 1m of hedgerow lost.

- 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. 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^{o}. This will allow any mammal to escape and avoid increased stress from being trapped..

- The hedgerow within the site boundary has the potential for use by nesting birds. Any removal or work adjacent to hedgerows within the site 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 08/23 Bats and Artificial Lighting at Night.

- No night time working will be permitted to prevent incidental light spillage onto retained vegetation and habitats where nocturnal species may use at night. No work between the hours of 7pm and 7am which requires the use of artificial lighting will be allowed.

5. Biodiversity Enhancements & Green Infrastructure

The Environment Act (Wales) 2016 places a duty on competent authorities such as Vale of Glamorgan County Borough Council to conserve and enhance biodiversity. Chapter 6 of Planning Policy Wales (version 12), paragraph 6.2.5 requires Green Infrastructure considerations to be included with all planning applications. Development proposals must detail how green infrastructure considerations which are proportionate to the scale and nature of the plans are being provided.

Green Infrastructure currently found within the site is of local biodiversity value consisting of semi improved grassland, short perennial vegetation, mature hedgerow and bare ground. The site does not have direct habitat connectivity to adjacent natural areas but there are eon fields and woodland areas to the south of site, just past a road. General considerations to green infrastructure to be considered as part for the development include:

- The site layout should avoid hedgerow loss where possible. If loss is unavoidable, space within the site boundary and development plans to allow a suitable amount of compensatory planting is required.
- Creating habitat connectivity around the site would be a positive step for biodiversity. Pulling buildings away from the edge of the development site boundary and providing green areas around the periphery of the site that are managed to benefit wildlife can help wildlife continue to commute across the site.

The Environment Act (Wales) 2016 places a duty on competent authorities such as Vale of Glamorgan 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. 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. 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.

- All fencing across the site must 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.

- A reptile hibernacula can be created within the grounds of the development site using rubble and brash from on site clearance works. The hibernacula must at least measure 0.5m in depth, 2m wide and 2m long each. It will be made by creating layers of wood, brash, rubble and soil. The hibernacula will create a mound approximately 0.3m above ground level which will be covered over with soil and seeded using a native seed mix. A diagram of a Reptile Hibernacula is located in Appendix 7 for reference.

- The creation of a butterfly bank within the site boundary could be created to encourage invertebrate populations.

Appendix 1 – Plant Species Recorded

Species	Common Name
Trees & Scrub	
Crataegus monogyna	Hawthorn
Rubus fruticosus	Bramble
Buddleja davidii	Butterfly bush
Ilex aquifolium	Holly
Herbaceous Plants, Rushes and Ferns	
Matricaria discoidea	Pineappleweed
Geranium dissectum	Cut-leaved crane's bill
Fragaria vesca	Wild strawberry
Plantago lanceolata	Ribwort plantain
Veronica sp.	Speedwell sp.
Sonchus asper	Prickly sow thistle
Taraxacum spp.	Dandelion sp.
Chamerion angustifolium	Rosebay willowherb
Galium aparine	Cleavers
Rumex obtusifolius	Broad leaved dock
Cirsium vulgare	Spear thistle
Potentilla reptans	Creeping cinquefoil
Trifolium sp.	Clover sp.
Juncus conglomeratus	Compact rush
Prunella vulgaris	Selfheal
Digitalis purpurea	Foxglove
Stellaria media	Chickweed
Bellis perennis	Common daisy
Anthriscus sylvestris	Cow parsley
Ranunculus repens	Creeping buttercup
Cardamine hirsuta	Hairy bittercress
Sisymbrium officinale	Hedge mustard
Hirschfeldia incana	Hoary mustard
Ranunculus ficaria	Lesser celandine
Tripleurospermum sp.	Mayweed sp.
Tussilago farfara	Coltsfoot
Plantago media	Hoary plantain
Urtica dioica	Nettle
Grasses	
Holcus ianatus	Yorkshire Fog
Dactylis glomerata	Cock's-foot
Festuca sp.	Fescue sp.

Appendix 2 – Site Photographs

Photograph 1. South fence boundary of site and amenity grassland verge outside of site

Photograph 2. Bare ground in southeast corner of site.

Photograph 3. Ephemeral short perennial vegetation within site.

Photograph 4. Tussocky semi-improved grassland within site.

Photograph 5. North boundary of site. Rubble channel running east to west.

Photograph 6. East boundary of site. Hedgerow and fence.

Photograph 7 west boundary of site view. Hedgerow and amenity grassland outside of site boundary

Photograph 8. Electrical building outside of west boundary.

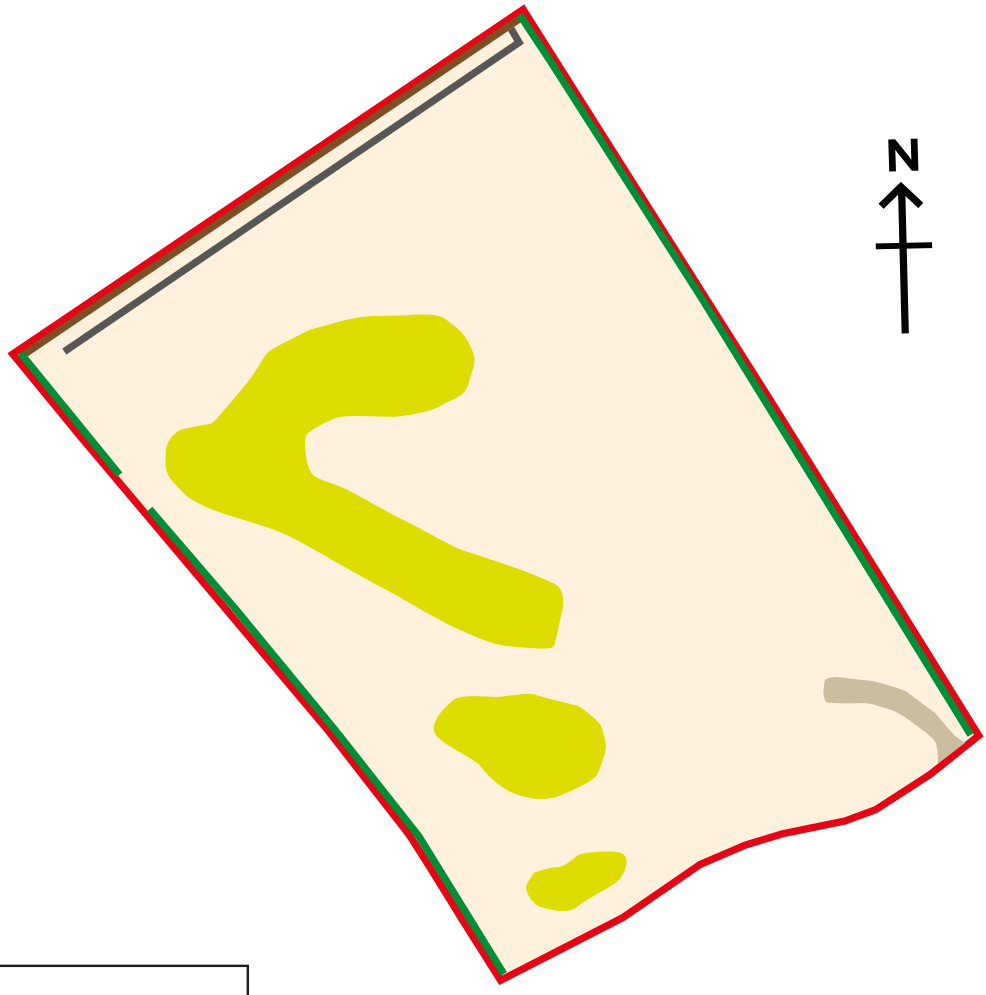
Photograph 9. Electrical building with lifted roof tiles on north and south elevations.

Appendix 3– Site Habitat Map

YSGOL IOLO MORGANWG, COWBRIDGE

Habitat Map

March 2024



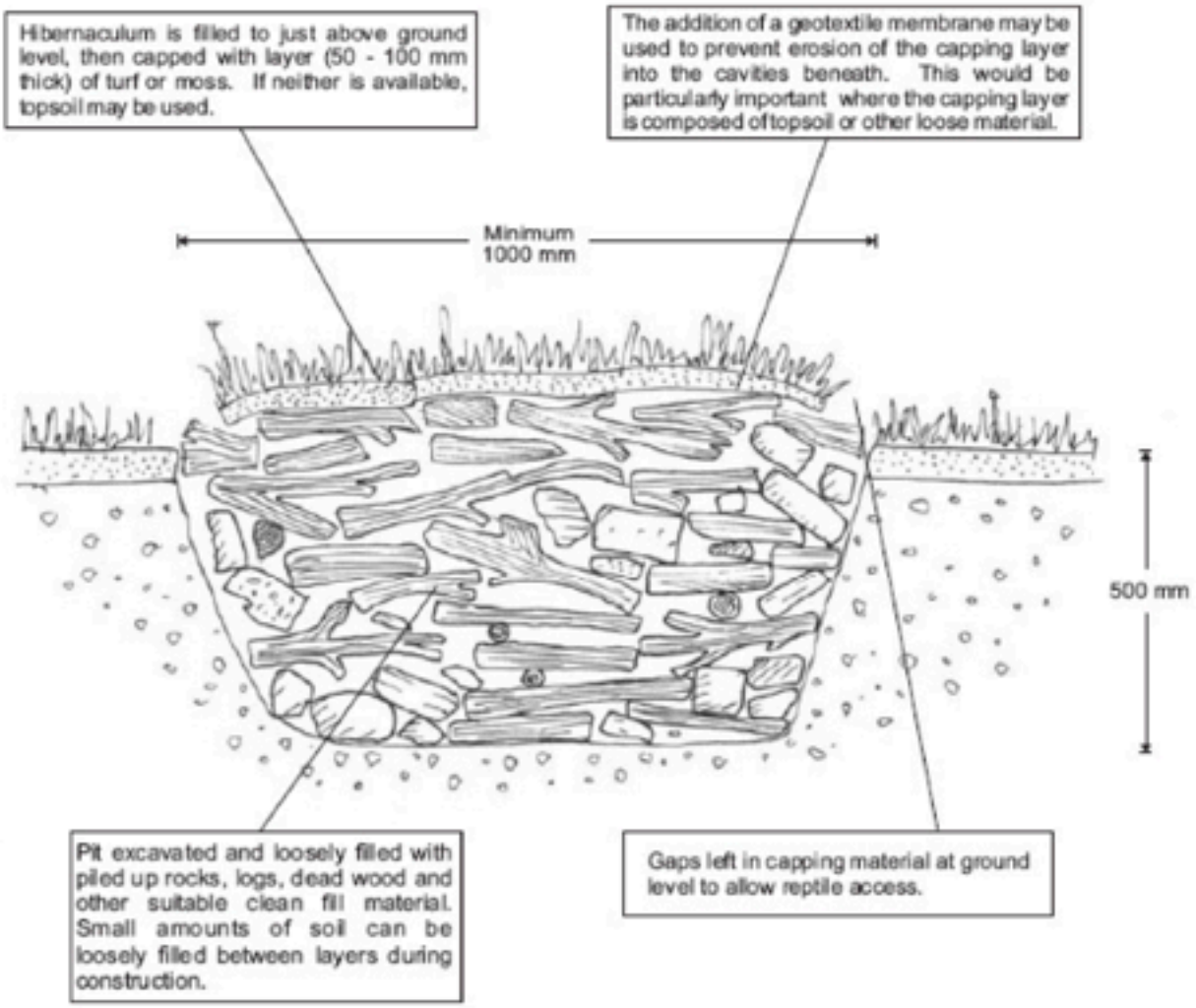
Appendix 4- Aerial View of Site Location

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

Appendix 6 - Reptile Hibernacula



Source: Highways Agency (2005) *Design Manual for Roads and Bridges: Volume 10 Section 4 Part 7 – Nature Conservation Advice in Relation to Roads and Reptiles*