



**Ysgol Rhyd-Y-Grug,
Aberfan**

Preliminary Ecological Appraisal

November 2024

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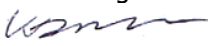
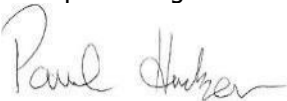
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Document Verification Table

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Revision	Date	Prepared by	Checked by	Verified by
1.1	29 November 2024	Kelly Brown Senior Ecologist 	Isabel Humphries Assistant Ecologist 	Paul Hudson MCIEEM Principal Ecologist 

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Summary

Brief and Site Location	Acer Ecology Ltd were commissioned to conduct a preliminary ecological appraisal of land at Ysgol Rhyd-y-Grug, Aberfan, Merthyr Tydfil, CF48 4NT (Ordnance Survey Grid Reference centred at: ST 0739 9962).
Development Proposals	The proposed development works comprise the expansion of the existing Ysgol Rhyd-Y-Grug Welsh medium primary school, increasing the capacity to 327 primary places with 60 FTE nursery pupils, a new community room and Meithrin (Welsh language early years provision). The developmental proposals include ca. 600m ² new build classrooms on the northern aspect and partial refurbishment of the existing building.
Impacts to Key Receptors	The development may result in adverse impacts to the following protected sites and habitats: Indirect impacts are anticipated to the Afon Taf cSINC which lies 20m east of the site boundary during the construction and operational phases without appropriate mitigation.
Further Surveys	None required.
Required Actions	The following provisional recommendations have been developed based on the development proposals available at the time of writing. They may be subject to change upon receipt of the final design: - Proposed design amendment – It is recommended that the parcel of broadleaved woodland within the western aspect is retained and protected from the development. - The building has been assessed as having low potential to support roosting bats however two further surveys were undertaken on the building in May and June 2022 by BE Ecology prior to the roof replacement which did not record any roosts present within the building with very low levels of bat foraging and commuting activity recorded within the site boundary. Furthermore, the building, and PRFs identified, will be retained in its entirety as part of the proposals with minimal disturbance to the northern aspect anticipated. Therefore, no further survey is required. - Precautionary measures: - The retained broadleaved woodland adjacent to the clearance area on the western and eastern aspects will be protected and securely fenced-off with appropriate temporary and permanent fencing; - A pre-commencement breeding bird inspection should be conducted prior to works starting on site if undertaken within the bird nesting season (March to September inclusive); - Precautionary measures should be implemented to reduce disturbance to riparian species which are likely to use the Afon Taf which lies 20m east of the site boundary for breeding, foraging and commuting through the landscape including no night working and directional lighting measures; and - A pre-commencement badger survey should be conducted prior to works starting on site. It is recommended that during the construction phase any steep sided holes left open overnight should be equipped with a mammal ladder. - Mitigation measures:

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	• A Construction and Environmental Management Plan (CEMP) should be produced for the works; and • A sensitive lighting strategy should be produced as part of the planning conditions for the site. • Compensation and enhancement measures: • Broad recommendations include the creation of a 2-5m strip of species-rich grassland along the eastern boundary of the site, broadleaved woodland enhancements, hedgehog, bird and bat boxes and SuDs enhancements.
Licensing Requirements	None required.
Conclusions	Provided the precautionary and mitigation measures detailed in Section 4 are implemented, the development is not anticipated to result in adverse impacts to any protected sites, habitats or species. The site's ecological value will not represent a fundamental constraint to the proposed development. If development works do not begin within eighteen months to two years of the date of this report of this report, an update survey is likely to be required in accordance with guidance from Natural Resources Wales (NRW), (CIEEM, 2019) and BS 42020:2013, to determine if conditions have changed since those described in this report.

1. Introduction

1.1. Brief and Site Location

Acer Ecology Ltd. were commissioned by Neil Farquhar to conduct a preliminary ecological appraisal of land at Ysgol Rhyd-y-Grug, Aberfan, Merthyr Tydfil, CF48 4NT within the boundary of Merthyr Tydfil Borough Council (Ordnance Survey Grid Reference centred at: ST 0739 9962)¹. The assessment documents the baseline ecological condition of the survey area, which is shown by the red line boundary on Plan 1. Designated sites, habitats, protected and notable species of conservation interest that could be affected by the proposed works are identified, and subsequent recommendations provided.

This assessment will provide initial recommendations based on the development proposals available at the time of writing. They should be revised upon finalisation of the design.

1.2. Site Description

The proposed development site is in the village of Aberfan, approximately 7.1km south-east of Merthyr Tydfil. The site currently operates as a primary school and encompasses an area of around 1.78ha. The school building occupies approximately 0.21ha and the site includes a grass playing field named Aberfan Park to the northern and eastern aspects, a hard-standing staff carpark to the western aspect, outdoor learning spaces associated with classrooms, and an area of trees and vegetation along the southern and western aspects. The River Taff flows approximately 20m east of the site boundary. Adjacent to the southern boundary of the site is an area of ancient semi-natural woodland. To the west, the A407 is situated 0.31km from the site, beyond which lies an expanse of tree-lined agricultural fields, grassland, and woodland, separating the villages of Aberfan and Mountain Ash which lies 2.1km to the east. The site is characterised by a flat topography and sits approximately 134m above sea level.

1.3. Proposed Works

The proposed development works comprise the expansion of the existing Ysgol Rhyd-Y-Grug Welsh medium primary school, increasing the capacity to 327 primary places with 60 FTE nursery pupils, a new community room and Meithrin (Welsh language early years provision). The developmental proposals include ca. 600m² of new build classrooms on the northern aspect and partial refurbishment of the existing building. Areas of short mown modified grassland within the existing playing field to the north of the building will be removed to facilitate the development. The new building will be attached to the existing building through an external walkway on the northern aspect which is unlikely to affect the roof of the existing building.

The development proposals are shown in Appendix 1.

A planning application has yet to be submitted. The project has just completed RIBA Stage 2, pre-planning advice is to be sought at the outset of RIBA Stage 3.

¹ Latitude and Longitude: 51.68769505, -3.34082535 / what3words: frown.competent.stilted

1.4. Scope of the Study

The study comprised the following:

- A desk study to identify existing information on statutory and non-statutory sites of nature conservation interest, and records of notable or protected habitats or species within the site and its surrounding area;
- A Phase 1 Habitat Survey of the site, extended to search for evidence of, and potential for, protected fauna; and
- Identification of potential ecological constraints to the proposed development and assessments of impacts including appropriate mitigation measures where necessary.

1.5. Review of Historic Site Data

A relevant historic report exists for the proposed development:

Initial Bat Inspection Survey & Activity Surveys, Rhyd Y Grug Aberfan Primary School, BE Ecology 2022 which was undertaken to support a planning application to re-roof the school which was undertaken in 2022:

- An initial bat inspection survey of the site was undertaken on 14th April 2022.
- No bats or evidence of bats was seen on the exterior of the building. There is no access to the roof voids within the property.
- The building was classified as being of low/ moderate potential and as such two further surveys were undertaken in May and June 2022.
- The property was not identified as a bat roost. There is very little bat activity in the surrounding area including common and soprano pipistrelle, noctule and lesser horseshoe bats.
- As the property has not been identified as a bat roost, a European Protected Species Licence will not be required in this instance.
- No evidence of breeding birds (active nests) were found throughout the buildings at the time of survey.

Arboricultural Assessment Survey 2024, Andrey Taylor, Arboriculturist. Arboricultural Assessment of trees within the boundary of Ysgol Rhud Grug Primary School, Merthyr Tydfil:

- Appendix 11: Historical Report Data;
- Poor Union on Tree ID – 2434 that should be removed to avoid uncontrolled failure, target area is used by children;
- Tree Tag 2433: Union has poor connective tissues and is located over the main access road, codominant stem should be removed to reduce risk; and
- The willow structure to the rear of the building needs reducing and re-weaving to reform the structure.

1.6. Reporting

This report aims to:

- Outline the methodology used during the survey;
- Present the baseline ecological information;
- Provide an ecological evaluation of on-site habitats, including an assessment of the potential for protected species;
- Assess the potential impacts of the proposed development on ecological receptors;
- Assess the potential ecological constraints to the proposed development; and
- Provide recommendations for further survey, avoidance, mitigation and enhancement where appropriate.

2. Methods

2.1. Scope of Assessment

This assessment has been undertaken following the approach detailed in the Chartered Institute of Ecology and Environmental Management's 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018). The assessment has focussed on 'Important Ecological Features' that are present within the 'Zone of Influence' of the project. Important Ecological Features, as detailed in Box 14 of the CIEEM's Guidelines comprise:

- Habitats and Species of Principal Importance for the Conservation of Biodiversity in Wales;
- Legally protected species; and
- Red Listed or rare species (based on Red Data Book lists, Birds of Conservation Concern and species considered to be nationally rare/scarce).

The Zone of Influence (ZoI) is the area over which a development proposal could have an influence on ecological features. The ZoI will vary for different features, although the ZoI for this proposed development comprises the land within the red line boundary and immediately adjacent habitat features.

2.2. Desk Study

2.2.1. Protected Sites, Habitats and Species

Existing information on designated sites and protected species was obtained from the sources detailed in Table 1.

Table 1: Sources of Data

Source	Data	Radius of Search
Natural resources Wales (NRW) Geographical Information Systems (GIS) Layers	Statutory and non-statutory nature conservation designated sites	Ramsar/Special Area of Conservation (SACs)/Special Area of Protection (SPAs)/Site of Special Scientific Interest (SSSIs) National Nature Reserves (NNRs), Local Nature Reserves (/LNRs), Ancient Semi-Natural Woodland, (ASNW), Restored Ancient Woodland Sites (RAWS) and Plantation on Ancient Woodland Sites (PAWS) - 2km ² SACs (designated for bats) - 10km
South East Wales Biological Records Centre (SEWBRc)	Protected species records (SEWBRc unique reference: 0245-189) Site of Importance for Nature Conservation (SINC)	1km. 1km.

All available records of bat roosts, badger, dormouse, amphibians and reptiles were considered. For other species, only records collected within the last 10 years were considered relevant.

The protected species search of 1km is considered appropriate. Page 15 of CIEEM's Guidelines for Preliminary Ecological Appraisals states that 'Existing ecological information for the site and adjacent areas should extend to at least 1km from the site boundaries (or 0.5 km for sites of approximately 1 ha or less). The search for desk study information will need to extend further beyond the site boundaries to ensure that all information of relevance to the assessment has been collected. In this instance a 1km data search for protected species is considered appropriate.

2.2.2. Landscape Context

The site and wider landscape were assessed and characterised using aerial images, Ordnance Survey maps and SEWBrEC data. The presence of off-site features and habitats, which add to the ecological value within the wider area (for example, ponds within 0.5km of the site) were identified. Where appropriate, such features were scoped into the detailed assessment of impacts presented in Section 3.

2.2.3. Ancient Woodland

Although ancient woodland is not a designated site as such, it is often listed as a designated site due to its ecological significance and associated protection. Ancient woodland has therefore been included within the non-statutory designated site section of this report.

2.2.4. Planning Authority

The Merthyr Tydfil Council Planning Portal² was consulted to determine if any previous survey information was available for the site, or immediate surroundings.

2.3. Field Study

2.3.1. Personnel

The field survey was undertaken in good weather on the 4th July 2024 by Kelly Brown³.

2.3.2. Vegetation and Habitats

The vegetation and habitat types present within the survey area were categorised and mapped in accordance with the standard⁴ The UK Habitat Classification (version 2) codes (UK Hab 2023). Dominant and conspicuous plant species were recorded for each habitat. Target notes were used to record information on features of ecological interest, such as evidence of, or habitats with potential to support, protected species, or where any features of interest too small to map were recorded. Following the completion of the survey, a colour-coded habitat plan was digitised using QGIS to show the extent and distribution of the different habitat types present within the site (see Plan 3).

² <https://www.merthyr.gov.uk/resident/planning-and-building-control/planning-search-and-weekly-lists/>

³ Kelly holds a Field Identification Skills Certificate (FISC) Level 4 botanical qualification and holds NRW survey licences for bats, dormice and great crested newts.

⁴ Some additional categories were also used if applicable e.g. broadleaved trees indicated by green filled circles rather than using secondary codes.

Habitats of principal importance detailed within Section 7 of Environment Wales Act 2016 within the site were identified.

Invasive plant species listed on Schedule 9⁵ of the Wildlife and Countryside Act 1981 (as amended), such as Himalayan balsam (*Impatiens glandulifera*), giant hogweed (*Heracleum mantegazzianum*) and Japanese knotweed (*Fallopia japonica*) were also noted during the survey, if present.

2.3.3. Protected and Notable Species

Evidence of, and habitats with, potential to support protected or notable species were noted, especially species meeting any of the following criteria:

- Listed under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019;
- Listed under Section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales;
- Listed as a local priority for conservation, for example in the relevant Local Biodiversity Action Plan (LBAP);
- Red Listed using International Union for the Conservation of Nature (IUCN) criteria (e.g. in one of the UK Species Status Project⁶ reviews, in the Species of Conservation Concern Red, Amber or Near Threatened List⁷, Birds of Conservation Concern in Wales⁸, or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book);
- Listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or listed as a Nationally Notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/or
- Endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place).

Only those species with potential to be present on-site are mentioned within this report. The methodologies used were as follows:

Birds

Any birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble, ruderal vegetation and rough grassland etc.). The site was also assessed for its actual and potential suitability to support Wildlife and Countryside Act 1981 (as amended) Schedule 1 species.

⁵ Schedule 9 species of plants and animals are ones that do not naturally occur in Great Britain but have become established in the wild and represent a threat to the natural fauna and flora.

⁶ The Species Status project is the successor to the JNCC’s Species Status Assessment project, providing up-to-date assessments of the threat status of various taxa using the internationally accepted Red List guidelines (<http://jncc.defra.gov.uk/page-1773>).

⁷ Eaton *et al.* (2015) Birds of conservation concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746.

⁸ Johnstone, I. and Bladwell, S. (2016) Birds of Conservation Concern in Wales 3: the population status of birds in Wales. Birds in Wales 13 (1).

A comprehensive bird survey, such as a breeding bird survey, was not undertaken as this was beyond the scope of the assessment.

Bats

Preliminary Ground-level Roost Assessment

There are no trees present within the development area, therefore a preliminary ground-level assessment was not carried out.

Daytime Internal and External Building Inspection and Assessment

A systematic search of the exterior and interior of the building was undertaken, looking for features that bats could use for entry/ exit and roosting⁹ and to search for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats. The survey was undertaken on the 4th July 2024 by Kelly Brown.

A high-powered torch (Clulite), an endoscope (Snake vision), binoculars and a ladder were used as appropriate during the survey.

The building comprised a flat roof with minimal roof voids present. One roof void used to house disused water tanks and storage was inspected during the survey. A small section of a false roof within a classroom the southern aspect of the building was subject to an inspection however the whole false ceiling was not inspected as access to this area is unlikely due to its position within the internal aspect of the building.

The location of the building is shown on Plan 5.

Terrestrial Habitat Assessment

A preliminary assessment of the value of the site for bats (and any potential roost sites therein) was made in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2023) (see Appendix 7). The assessment was based on the relative abundance and quality of habitat features within the site, and surrounding landscape, suitable for roosting, foraging and commuting bats.

Landscape features suitable for foraging and commuting bats include linear landscape features such as watercourses, transport corridors (e.g. roads, sunken lanes railways), walls, hedgerows, coppice, woodland fringe, tree lines, ditches and areas of scrub and pasture.

Dormice

The habitats on site are not suitable for supporting dormice. Furthermore, no woodland or scrub surrounding the building will be cleared.

In addition, no records of dormice within 1km of the site have been provided by SEWBRc. Therefore, no adverse impacts are envisaged to occur. This species is therefore not mentioned further in this report.

⁹ Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster flies leaflet)

Great Crested Newts

The survey area was appraised for its suitability to support great crested newts (*Triturus cristatus*) (GCN). The assessment was based on guidance outlined in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003) and the Great Crested Newt Conservation Handbook (Langton, Beckett & Foster, 2001).

Ordnance Survey maps and aerial images of the land surrounding the site were consulted to determine if any waterbodies or watercourses were present within the site or within 0.5km of it. One waterbody and one watercourse, the Afon Taff, were identified within the study area (see Plan 6).

Access had not been arranged at the point of survey, and therefore a Habitat Suitability Index (HSI) (Oldham *et al.*, 2000) Assessments of these ponds could not be undertaken as part of the study.

Pond 1 is separated from the proposed development site by the River Taff. Major rivers are considered to act as a barrier to GCN migration (English Nature, 2001) and therefore, the likelihood of GCN migrating onto the proposed development site is considered to be very low.

Considered the lack of suitable waterbodies within 500m, the likelihood of GCN being present on site is considered to be negligible. No adverse impacts to GCN are therefore anticipated and this species is not mentioned further in this report.

Otters, Water Voles and White-Clawed Crayfish

The nearest suitable watercourse for otters, water vole and white-clawed crayfish is the Afon Taff, approximately 20m east of the proposed development site. This watercourse is separated from the site by a metal palisade fence. Due to the short mown modified grassland within the development area, there is negligible likelihood of otters, water voles or white-clawed crayfish being present within the site, and they are not mentioned any further in this report. However, due to the close proximity of the watercourse precautionary measures to minimise disturbance to nocturnal species within the riparian corridor is provided in Section 4.

Badgers

Earth embankments, wooded copses, hedgerows and dense bramble beds are habitat features that often contain evidence of badgers (*Meles meles*). Where present on-site and within a 30m buffer adjacent to the site, these and other suitable habitat features were searched for such evidence. Where present, the location of badger signs such as setts, runs, dung pits or latrines, prints, hair and foraging snuffle holes, were recorded.

Reptiles

An assessment of the suitability of on-site habitats to support reptiles was made. Reptiles require a diverse range of habitats to meet their needs such as hedgerows, scrub, rough grassland, woodpiles, rubble, banks and compost heaps. The potential of the site to provide hibernation opportunities and spring/

summer/autumn habitat was also assessed, with reference to guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003), the Reptile Management Handbook (Edgar, Foster & Baker, 2011) and the Reptile Mitigation Guidelines Technical Note TIN 102 (Natural England, 2013). The following factors were considered: vegetation type and structure; insolation (sun exposure); slope aspect; topography; surface geology; habitat connectivity; habitat size; prey abundance; refuge opportunity; hibernation opportunity; egg-laying potential for grass snake (*Natrix helvetica*); public pressure; percentage of shade; levels of disturbance and management regime.

A targeted presence/likely absence reptile survey was not undertaken as it was beyond the scope of this assessment.

Hedgehogs

The site's potential to support hedgehog was assessed using guidance on habitats of importance in Hedgehogs and Development (People's Trust for Endangered Species, 2022)¹⁰ with the following habitats particularly favoured: dense scrub to build hibernation nests in during the winter; short grass to forage in for invertebrate prey; longer grass to forage in and to make nests in during the summer; areas of leaf litter to collect and use for hibernation nests; log piles and decaying vegetation to forage in and hibernate in; and hedgerows and boundary vegetation that are important corridors for travel and nesting sites.

Other Species

General habitat suitability and incidental sightings of other animal species were also noted.

2.3.4. Assessment of Ecological Value

The value of the habitats and features of the site have been provisionally evaluated and graded in accordance with the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (CIEEM, 2018). The level of value of specific ecological receptors is assigned using a geographic frame of reference, i.e. international value being most important, then national, regional, county, district, local and, lastly, within the immediate zone of influence of the site only. Brief descriptions of how Acer Ecology interprets these categories are set out in Appendix 4.

Potential impacts on important ecological features (species, habitats and ecosystems¹¹) are identified and assessed. Mitigation measures have been devised following the mitigation hierarchy and appropriate mechanisms for securing mitigation measures have been identified.

2.3.5. Limitations

General Temporal Limitations

¹⁰ <https://www.hedgehogstreet.org/wp-content/uploads/2022/08/PTES-BHPS-Hedgehogs-and-development-guide-2022.pdf>

¹¹ The 2018 EcIA Guidelines from CIEEM make it clear that an EcIA should consider the impacts upon ecosystems, as well as habitats and species. Statements to this effect are found throughout the document including in sections 1.3, 1.9, 2.3, 4.1 and 4.8 etc.

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Any ecological survey can only identify what was present on-site at the time the survey was conducted and habitat usage by species can change over time.

Restricted Access to Water Bodies Within 0.5km of Site

Access to the waterbody within 0.5km of the site was not possible as it is situated on private land and access permissions had not been agreed at the time of the survey. However, given the lack of suitable waterbodies for GCN on site, this is not considered to be a significant survey constraint and it is considered unlikely to have altered the assessments made.

3. Baseline Ecological Conditions, Evaluation and Development Impacts

The baseline conditions and evaluation of the *in-situ* habitats and the actual/potential presence of protected species are discussed in this section. Potential impacts on protected sites, *in-situ* habitats and protected or notable species arising from the proposed development are identified, including both direct and indirect impacts and those associated with construction and operational stages.

A summary of relevant legislation and planning policies relating to protected sites, habitats and species is provided in Appendices 3 and 4.

3.1. Statutory Nature Conservation Designated Sites

Statutory Sites (SACs or SSSIs) Designated for Bats within 10km of Site

No SACs or SSSIs specially designated for bats lie within 10km of the site.

RAMSARs, SPAs, SACs, SSSIs, NNRs, LNRs, National Parks and National Landscapes within 2km of Site

There are no statutory sites designated for their conservation value within 2km of the site.

3.2. Non-statutory Nature Conservation Designated Sites

SINCs

The proposed development site lies within 2km of the following non-statutory sites:

Table 2: Non-Statutory Sites Designated Within 2km

Site Name and Designation	Description	Distance and Direction from Development Site	Development Impacts
Afon Taf ¹²	The major river in the county borough. cSINC includes areas of bankside and floodplain habitats, particularly towards the south of the county borough where the river corridor is less urbanised than further north. Associated habitats are chiefly semi-natural woodland (including areas of ancient semi-natural oak woodland and linear wet woodlands dominated by alder), neutral and marshy grasslands, bracken and scrub. Notable features of the river course include shingle banks which support localised plant species such as water chickweed, bearded couch and giant fescue. Otter occurs throughout the length of the cSINC, and the river is known to be of value to a wide variety of birds of interest, including	0.03km to the north of the development site.	Considering the distance between the designated site and the proposed development site no direct impacts to the SINC are anticipated. However, the development is likely to have indirect impacts through dust, noise and hydrological impacts through the construction and operational phases.

¹² <https://safleol.lercwales.org.uk/Public?ID=3221>

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	kingfisher, grey wagtail, sand martin and dipper, as well as fish species including salmon, brown trout and bullhead and a range of foraging bat species.		
Merthyr Vale ¹³	Complex mosaic of ffridd habitats on valleyside above the Afon Taf. These comprise mainly semi-natural birch and oak woodlands, acid grasslands, dry heathlands and bracken slopes. There is also a large disused quarry with associated spoil tips which have revegetated with heathland dominated by ling heather. In the north of the site is a large regraded colliery spoil tip supporting acid grassland with several species of interest, including grass vetchling and burnet rose, both regionally scarce plants, along with hairy rock-cress, field madder and carline thistle. Other noteworthy plant species which occur elsewhere on the site include smooth-stalked sedge, pale sedge and marsh speedwell. A colony of small pearl-bordered fritillary butterfly is established on the site, and a range of localised moth species have been recorded. Kestrel breeds in the quarry.	0.26km to the east of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.
Tarran y Gigfran, St Tydfil Forest ¹⁴	Semi-upland valleyside slopes above the A470, including a large disused quarry with screes, spoil mounds and outcrops, supporting dry heathland dominated by bilberry and ling heather, bracken slopes and semi-improved acid grasslands. Also includes small areas of semi-natural woodland, including ancient semi-natural oak and beech woodland and wet alder woodland. A second, smaller parcel of land to the north of the main part of the site comprises a hilltop heathland dominated by bilberry and wavy hair-grass. The site is partially enclosed by conifer plantation. Plant species of note include the regionally scarce climbing corydalis, which is abundant among bracken in the quarry, and localised species including ivy-leaved bellflower, lesser skullcap, smooth-stalked sedge, marsh pennywort and lemon-scented fern. Great wood-rush is a prominent feature of the quarry	0.43km to the south-west of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.

¹³ <https://safleol.lercwales.org.uk/Public?ID=3260>

¹⁴ <https://safleol.lercwales.org.uk/Public?ID=3269>

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	ledges. Peregrine falcon nests on the cliffs associated with the old quarry, and the site is likely to be important for a range of other nesting birds.		
Mynydd y Capel Common ¹⁵	Area of upland and semi-upland common land occupying part of the hilltop between the Taf and Bargod Taf valleys. Supports a mosaic of habitats characteristic of dry acid soils, particularly unimproved and semi-improved acid grasslands, with bracken slopes and small areas of heathland and western gorse scrub. The acid grasslands are dominated by common bent and sheep's fescue; species of interest here include brown bent, early hair-grass, pill sedge, wavy hair-grass and heath-grass. There are numerous outcrops of acidic rocks and small disused quarries. The site is likely to be important for ground-nesting birds, particularly skylark and meadow pipit. Grayling and small heath butterflies have been recorded. Large areas of grassland in the east and centre of the site have been subject to agricultural improvement in recent years and these are excluded from the cSINC.	0.51km to the east of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.
St Tydfil Forest (West) ¹⁶	Semi-upland valleyside slopes above the A470, including a large disused quarry with screes, spoil mounds and outcrops, supporting dry heathland dominated by bilberry and ling heather, bracken slopes and semi-improved acid grasslands. Also includes small areas of semi-natural woodland, including ancient semi-natural oak and beech woodland and wet alder woodland. A second, smaller parcel of land to the north of the main part of the site comprises a hilltop heathland dominated by bilberry and wavy hair-grass. The site is partially enclosed by conifer plantation. Plant species of note include the regionally scarce climbing corydalis, which is abundant among bracken in the quarry, and localised species including ivy-leaved bellflower, lesser skullcap, smooth-stalked sedge, marsh pennywort and lemon-scented fern. Great wood-rush is a prominent feature of the quarry ledges. Peregrine falcon nests on the	0.64km to the south-west of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.

¹⁵ <https://safleol.lercwales.org.uk/Public?ID=3264>

¹⁶ <https://safleol.lercwales.org.uk/Public?ID=3269>

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	cliffs associated with the old quarry, and the site is likely to be important for a range of other nesting birds.		
St Tydfil Forest (East) ¹⁷	Semi-upland valleyside slopes above the A470, including a large disused quarry with screes, spoil mounds and outcrops, supporting dry heathland dominated by bilberry and ling heather, bracken slopes and semi-improved acid grasslands. Also includes small areas of semi-natural woodland, including ancient semi-natural oak and beech woodland and wet alder woodland. A second, smaller parcel of land to the north of the main part of the site comprises a hilltop heathland dominated by bilberry and wavy hair-grass. The site is partially enclosed by conifer plantation. Plant species of note include the regionally scarce climbing corydalis, which is abundant among bracken in the quarry, and localised species including ivy-leaved bellflower, lesser skullcap, smooth-stalked sedge, marsh pennywort and lemon-scented fern. Great wood-rush is a prominent feature of the quarry ledges. Peregrine falcon nests on the cliffs associated with the old quarry, and the site is likely to be important for a range of other nesting birds.	0.65km to the south-east of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.
West Aberfan ¹⁸ of	Two parcels of land situated on the lower slopes of the Taff valley between Aberfan and the A470. The southern areas of the site support a mosaic of damp neutral grasslands, semi-natural broadleaved woodlands along minor streams and bracken stands. The woodlands include areas of wet woodland dominated by alder and drier areas dominated by sessile oak. The neutral grasslands are generally species-rich and include both unimproved and semi-improved areas, with notable species including ivy-leaved bellflower, lousewort, devil's-bit scabious, quaking grass and saw-wort. The northern portion of the site consists of a colliery spoil substrate that has revegetated with a mosaic of neutral grasslands and mixed-species scrub. Species of note include southern marsh orchid, sneezewort and bog pimpernel.	0.82km to the north-west of the development site.	Considering the distance between the designated site and the proposed development site, the nature of its designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.

¹⁷ <https://safleol.lercwales.org.uk/Public?ID=3269>

¹⁸ <https://safleol.lercwales.org.uk/Public?ID=3274>

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Cefn Forest	-	0.88km to the west of the development site.	Considering the distance between the designated site and the proposed development site, the nature of it's designating features, the somewhat limited ecological connectivity, and the small-scale of the proposals, no adverse impacts are anticipated as a result of the development.
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Ancient Woodland Sites

The following table shows the ancient woodland sites within 2km of the site:

Table 3: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) ⁷³	49
Restored Ancient Woodland Sites (RAWS) ⁷⁴	13
Plantations on Ancient Woodland Sites (PAWS) ⁷⁵	23
Ancient Woodland Sites of Unknown Category ⁷⁶	10
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 18m to the south of the site.
Development Impacts	None due to the distance distances between these woodlands and the proposed development site, together with the small scale nature of the works. They are therefore not mentioned further in this report.

3.3. Habitats and Vegetation

The habitats within the development footprint comprised an existing school which comprised a large flat roofed school building which was split into two building connected by an external walkway which had been subject to extensions on all aspects within the centre of the site with a playing field comprising modified grassland to the northern and western aspects. A hard-standing staff carpark to the western aspect, outdoor learning spaces associated with classrooms, and an area of trees and vegetation along the southern and western aspects which lay outside of the development footprint. The majority of the building and vegetation including the other areas of modified grassland which comprise a large playing field on the northern and eastern aspects, a small allotment garden on the eastern aspect, hardstanding within the southern and western aspects, broadleaved woodland along the western aspect and areas of dense scrub and broadleaved woodland adjacent to the eastern and southern boundaries within the wider site will be

retained as part of the proposals and are not discussed further within this report. The results of the general survey of habitats and vegetation are shown on Plan 5.

The development footprint consists of the following elements which are described in detail below. These comprise:

Modified Grassland (G4);
Developed land (Ub1); and
Buildings (U1b5).

3.4. Habitat Descriptions

3.4.1. Modified Grassland (G4)

Areas of short mown modified grassland were present within the playing field, Aberfan Park, to the north of the building within the development footprint. The grassland was subject to regular maintenance with an average height of 5cm with signs of recent maintenance. The grassland species-poor which was dominated by creeping bent *Agrostis stolonifera* with frequent perennial rye grass *Lolium perenne*, white clover *Trifolium repens*, daisy *Bellis perennis*, creeping buttercup *Ranunculus repens* and Yorkshire-fog *Holcus lantus* with occasional yarrow *Achillea millifolium* and common mouse-ear *Cerastium fontanum* with rare oxeye daisy *Leucanthemum vulgare* and dandelion *Taraxacum officinale* agg.

Photo 1: Modified grassland within the development footprint in the northern aspect of Aberfan Park



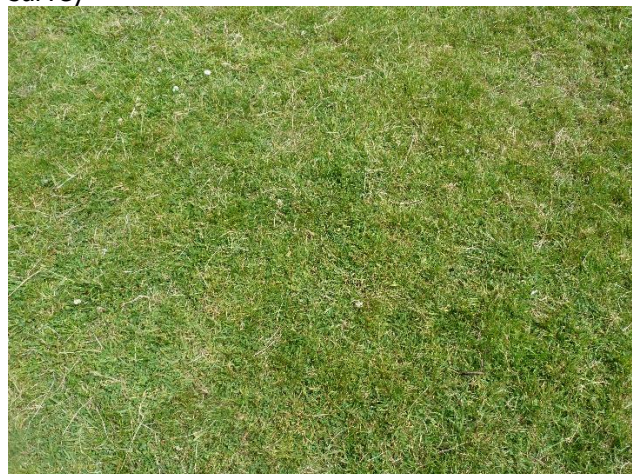
Photo 2: Modified grassland within the development footprint within the northern aspect



Photo 3: Modified grassland within the northern aspect of Aberfan Park



Photo 4: The condition of the grassland at the time of survey



3.4.2. Developed land (Ub1)

Areas of hardstanding playground surrounded the northern aspect of the existing school building within the development footprint. A car park area and access road was present on the western aspect.

Photo 5: Example of hardstanding within the north of the site



Photo 6: Main access road into the site along the western aspect, looking south



3.4.3. Buildings (U1b5)

One building was present which comprised a typical 1970/80's flat roofed school building which was split into two building connected by an external walkway. The building was a brick built, single storey structure beneath a bitumen felt roof constructed of barge boards and uPVC fascias. Concrete cladding was present on the walls surrounding the school from ground level to 2m in height. There is a separate building to the south and an additional separate building of a similar construction to the main school. Full building descriptions are provided in Section 3.7.3 below.

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Photo 7: Western aspect of B1, looking south-east



Photo 8: Eastern aspect of B1, looking south-west



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Table 4: Habitats Recorded on Site				
Phase 1 Habitat	UK Habs Habitat	Description	Ecological Value	Development Impacts
Semi-improved Grassland (B6)	Modified Grassland (G4);	Located throughout the site aspect of the site surrounding the existing large commercial building within the centre of the site.	Site value	The areas of modified grassland within the northern and eastern aspects of the site will be lost to facilitate the development. All other areas are likely to be retained as part of the proposals.
Buildings (J3.6)	Buildings (U1b5).	Within the centre of the site.	Negligible value	The existing buildings will be retained as part of the proposals.
Hard Standing ¹³	Urban - Developed land; sealed surface (u1b) secondary codes: 89, 111	This habitat conforms to Urban; developed land, sealed surface with very low distinctiveness within the UK habs.	Negligible value UK Habs very low distinctiveness	This feature is likely to be retained as part of the proposals.

3.5. Invasive Plant Species

No invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the site visit.

3.6. Assessment of Ecological Value of Off-site Habitats

Survey Results

The Afon Taf cSINC runs north-south 20m east of the site boundary. The cSINC is separated from the proposed development footprint by retained areas of modified grassland within Aberfan Park to the east. The school grounds are surrounded by a metal palisade fence at a height of 2m on all aspects. A strip of broadleaved woodland runs the length of the riparian corridor along the boundary of the school grounds.

Assessment of Development Impacts

The proposed development is unlikely to have direct impacts on the designated site however there is potential for the proposals to have negative indirect impacts through air pollution, dust, noise, hydrological impacts and disturbance during the construction and operational phases of the development if appropriate pollution prevention and mitigation measures are not implemented. Detailed recommendations are provided in Section 4.

3.7. Protected and Notable Species

3.7.1. Notable Plant Species

Data Trawl Results

SWBREC returned records of 16 rare and/or 'notable' plants (including species regarded as 'Locally Important', LBAP species and UK Red Data Book-listed species).

Two priority plant species were recorded within 1km of the site, namely: cornflower (*Centaurea cyanus*) and bluebell (*Hyacinthoides non-scripta*).

However, bluebell is mainly protected from sale via its listing under Schedule 8 of the Wildlife and Countryside Act.

One plant listed as species of conservation concern were recorded within 1km of the site, namely: charlock (*Sinapis arvensis*).

Seven plant listed as locally important species were recorded within 1km of the site, namely: brown sedge (*Carex disticha*), climbing corydalis (*Ceratocarpus claviculata*), viper's-bugloss (*Echium vulgare*), grass vetchling (*Lathyrus nissolia*), burnet rose (*Rosa spinosissima*), stone parsley (*Sison amomum*) and heath dog-violet (*Viola canina*).

Field Survey Results

No plant species, which individually are considered to be of either of national, regional or local significance were recorded on the site.

3.7.2. Birds

SEWBrEC returned records of 29 priority bird species within 1km of the site, namely: lesser redpoll (*Acanthis cabaret*), goshawk (*Accipiter gentilis*), skylark (*Alauda arvensis*), kingfisher (*Alcedo atthis*), tree pipit (*Anthus trivialis*), black-headed gull (*Chroicocephalus ridibundus*), marsh harrier (*Circus aeruginosus*), cuckoo (*Cuculus canorus*), reed bunting (*Emberiza schoeniclus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), kestrel (*Falco tinnunculus*), pied flycatcher (*Ficedula hypoleuca*), herring gull (*Larus argentatus*), linnet (*Linaria cannabina*), crossbill (*Loxia curvirostra*), red kite (*Milvus milvus*), spotted flycatcher (*Muscicapa striata*), curlew (*Numenius arquata*), osprey (*Pandion haliaetus*), house sparrow (*Passer domesticus*), wood warbler (*Phylloscopus sibilatrix*), dunnoek (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*), starling (*Sturnus vulgaris*), redwing (*Turdus iliacus*), song thrush (*Turdus philomelos*), fieldfare (*Turdus pilaris*) and barn owl (*Tyto alba*).

21 birds listed as species of conservation concern were recorded within 1km of the site, namely: long-tailed tit (*Aegithalos caudatus*), mallard (*Anas platyrhynchos*), meadow pipit (*Anthus pratensis*), swift (*Apus apus*), grey heron (*Ardea cinerea*), greenfinch (*Chloris chloris*), dipper (*Cinclus cinclus*), whitethroat (*Curruca communis*), swallow (*Hirundo rustica*), lesser black-backed gull (*Larus fuscus*), grey wagtail (*Motacilla cinerea*), wheatear (*Oenanthe oenanthe*), cormorant (*Phalacrocorax carbo*), redstart (*Phoenicurus phoenicurus*), willow warbler (*Phylloscopus trochilus*), green woodpecker (*Picus viridis*), goldcrest (*Regulus regulus*), sand martin (*Riparia riparia*), whinchat (*Saxicola rubetra*), woodcock (*Scolopax rusticola*) and mistle thrush (*Turdus viscivorus*).

SEWBrEC also returned two birds listed as locally important species within 1km of the site, namely: jackdaw (*Coloeus monedula*) and wren (*Troglodytes Troglodytes*).

Two birds listed as other bird species (i.e. invasive species) were recorded within 1km of the site, namely: Canada goose (*Branta canadensis*) and Eurasian eagle-owl (*Bubo bubo*).

Field Survey Results

A low number of birds were recorded on site, including: blackbird (*Turdus merula*), blue tit (*Parus caeruleus*) and robin (*Erithacus rubecula*),

The habitats within the development footprint comprises short mown modified grassland which provides negligible potential to support nesting birds. The existing school building provided suitable nesting bird habitat however no active nests were recorded at the time of survey.

Evaluation of Ecological Value of Site for Birds

The site provided low potential to support nesting birds at the time of survey.

Impact Assessment of Proposed Development on Birds

There is limited potential of death or injury to adults or destruction of nests during the construction phase of the development. However, such impacts can be avoided either via the retention of the building, or by timing works so that they occur outside of the nesting bird season (September to February inclusive), and by adopting sensitive working practices as detailed in Section 4

3.7.3. Bats

Desk Study Results

SEWBRc returned a total of 14 records of bat roosts within 1km of the site. The roost records are summarised in the table below.

Table 5: Bat Roost Records

Species	Total Number of Records	Distance to Nearest Record	Most Recent Record	Maximum Count
Daubenton's bat (<i>Myotis daubentonii</i>)	Three	0.22km	2019	Four
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	Three	0.22km	2019	10
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	Three	0.22km	2019	Eight
Noctule (<i>Nyctalus noctula</i>)	Two	0.22km	2019	One
Pipistrelle bat species (<i>Pipistrellus sp.</i>)	One	0.27km	2011	One
Unidentified bats	One	0.43km	2005	One
Whiskered/Brandt's bats (<i>Myotis mystacinus</i> / <i>Myotis brandtii</i>)	One	0.73km	2021	One

In addition to the roost records, SEWBRc returned 23 records of bats foraging or commuting within 1km of the site. These included: brown long-eared (*Plecotus auritus*), common pipistrelle, Daubenton's bat, Myotis bat species (*Myotis*), Nathusius's pipistrelle (*Pipistrellus nathusii*), Natterer's bat (*Myotis nattereri*), Noctule bat (*Nyctalus noctule*), pipistrelle bat species, soprano pipistrelle (*Pipistrellus pygmaeus*) and unidentified bat species.

Field Survey Results and Evaluation of Ecological Value of Site for Bats

Buildings and Other Structures

The single storey flat roofed building on site was assessed externally and internally for its suitability to support roosting bats, as set out in the table overleaf:

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Table 6: Buildings Assessed for Bat Suitability

Building Number	Description and PRF	Evidence of Bats	Roosting Suitability	Hibernation Potential
B1	Building 1 is a brick built, single storey structure beneath a bitumen felt roof constructed of barge boards and uPVC fascias. The roof was replaced in 2022-23 which was subject to a previous planning application which was in good condition. Some gaps were present on the eastern, southern and western aspects on the corners of the fascia boards and warping of the fascia boards creating gaps between the board and the bitumen felt. Concrete cladding was present on the walls surrounding the building from ground level to 2m in height. The cladding was in poor condition with subsidence throughout the structure creating gaps between the panels. Some of these gaps lead to gaps within the cavity walls. However, the panels are lined with a plastic lining which reduces the suitability as a roosting feature. There is a separate building to the south and an additional separate building of a similar construction to the main school. The two buildings are joined by a single storey walkway on the eastern aspect. The building has been extended on all aspects with additional classrooms.	None	Low- gaps under the uPVC fascias and concrete cladding provide suitable roosting features. No evidence was found during the survey.	Low

Photo 9: Gaps under uPVC fascias on eastern aspect



Photo 10: Gap in concrete cladding on eastern aspect



Photo 11: Gap under uPVC fascias on south-western aspect



Photo 12: Gap under uPVC fascia on western aspect



Photo 13: Gap under uPVC fascia on western aspect



Photo 14: Gap in concrete cladding on eastern aspect leading to a crevice in cavity wall behind cladding on western aspect



Photo 15: Internal roof space uses as storage. Concrete roof



Photo 16: False ceiling in classroom in southern aspect of building



Potential Building Roosts

B1 has been assessed as having low potential to support roosting bats however two further surveys were undertaken on the building in May and June 2022 by BE Ecology prior to the roof replacement which did not record any roosts present within the building with very low levels of bat foraging and commuting activity recorded within the site boundary. Furthermore, the building and the PRFs identified on the eastern,

southern and western aspects, will be retained in its entirety as part of the proposals with minimal disturbance to the northern aspect anticipated.

Potential Foraging and Commuting Habitat

A majority of the habitats within the development footprint, including the modified grassland and hardstanding, provide low potential foraging and commuting habitat for bats. The grassland is short mown with little potential to support important invertebrate assemblages. Additionally, these habitats are likely to have lightspill during nocturnal hours from security lighting within the school grounds. The habitats within the wider school grounds provide moderate quality foraging and commuting habitat in the form of areas of broadleaved woodland and scrub on the peripheries. High-quality foraging and commuting habitat is present within the wider landscape including the riparian corridor of the River Taf which lie 20m east of the site boundary which is likely to be an important resource for the local bat population. The site is also close to and connected to known roosts including roosts of Daubenton's bats, common pipistrelle, soprano pipistrelle and noctule all just 0.22km east of the site.

Impact Assessment of Proposed Development on Bats

T1 is proposed for retention. However, if plans change, the felling of the tree on site could result in the death, injury, or disturbance to any bats present at the time of works, or the loss of potential roost sites. In that scenario, further surveys would therefore be required as detailed in Section 4;

- Modifications to the building may result in the potential disturbance to roosting sites for bats. The building has low potential for bats however the proposed extension to the building will be attached to the existing building through an external walkway on the northern aspect which is unlikely to affect the roof of the existing building. Two further surveys were undertaken in 2022 by BE Ecology for the re-roofing works which have been completed on the building in 2022/23 which did not identify any bat roosts within the building. A mitigation licence from NRW was not required for the re-roofing works to proceed. A majority of the features with bat roosting potential on all aspects of the building will be retained as part of the proposals including the concrete cladding and uPVC fascia boards. Therefore, further survey is not required.

The following indirect impacts to bats may occur as a result of the development:

- Due to the change of use of the site, increases in artificial lighting levels will be significant, both during the construction phase and the operational phase of the development. If this lighting envelops the retained broadleaved woodland adjacent to the eastern aspect of the site, it could adversely affect foraging and commuting bats. A sensitive lighting strategy can be found in Section 4.

3.7.4. Great Crested Newt

Desk Study Results

SEWBRc did not return any records of GCN within 1km of the site. There are records of other amphibians, comprising one record of a common frog (*Rana temporaria*) and two records of common toad (*Bufo bufo*).

Field Survey Results

Aquatic Habitat

There is one pond located within 500m of the site, 0.4km north-east shown in Plan 6. The pond is separated from the site by the River Taff which is likely to be a major barrier to amphibian movement.

Terrestrial Habitats

The majority of the habitats present within the development footprint including the areas of hardstanding, building, areas of modified grassland provide negligible potential for terrestrial phase great crested newts in its current state due to the lack of cover as the grassland was subject to routine maintenance at the time of survey. Habitats within the wider landscape comprise the urban settlement of Aberfan on all aspects. Parcels of broadleaved woodland which provide high-quality terrestrial habitat lie adjacent to the peripheries of the site however the suitable waterbody is separated from these habitats and the development footprint by the riparian corridor associated with the River Taf which lies 20m east.

Evaluation of Ecological Value of Site for Great Crested Newt

Overall, the habitats within the development footprint and the wider school grounds provide negligible potential to support terrestrial great crested newts due to the regular maintenance and lack of suitable ground cover at the time of survey.

Impact Assessment of Proposed Development on Great Crested Newt

The likelihood of GCN being present on site is considered to be negligible and no adverse impacts are subsequently anticipated. They are therefore not mentioned further in this report.

3.7.5. Badgers

Desk Study Results

SEWBRc did not return any records of badgers from within 1km of the site.

Field Survey Results

No setts or signs of badgers were observed on site or within 30m of the eastern or southern boundaries of the site.

Evaluation of Ecological Value of Site for Badgers

Although no evidence of badgers was recorded on site, there is considered to be some limited potential for them to venture onto the site from the surrounding landscape to forage sporadically.

Impact Assessment of Proposed Development on Badgers

The likelihood of badgers sett building on site is considered to be negligible and no adverse impacts are subsequently anticipated. Likewise, there is considered to be a low risk of badgers foraging or commuting across the site. However, precautionary measures including site protocols are detailed in Section 4 below.

3.7.6. Reptiles

Desk Study Results

SEWBRc returned 15 records of reptiles within 1km of the site. These included: 14 records of slow-worm (*Anguis fragilis*) and one common lizard (*Zootoca vivipara*).

Field Survey Results and Evaluation of Ecological Value of Site for Reptiles

The majority of the habitats present within the site boundary including the areas of hardstanding, building, areas of modified grassland provide negligible potential for these species in its current state due to the lack of cover as the grassland was subject to routine maintenance at the time of survey.

Impact Assessment of Proposed Development on Reptiles

The likelihood of reptiles being present on site is considered to be negligible and no adverse impacts are subsequently anticipated. They are therefore not mentioned further in this report. However, If the grassland is subject to a less intensive mowing regime than present at the time of survey the area of modified grassland within the development footprint is likely to provide additional suitable foraging habitat for these species.

3.7.7. Other Mammals

Desk Study Results

SEWBRc returned nine records of other mammals within 1km of the site, comprising: eight common hedgehog (*Erinaceus europaeus*) and one weasel (*Mustella nivalis*) within 1km of the site.

Field Survey Results

No incidental observations of notable mammals were recorded during the survey.

Evaluation of Ecological Value of Site for Other Mammals

All of the habitats present within the site boundary provide suitable habitat to support hedgehogs however the small sized of the site is unlikely to support a large population.

The site has good connectivity between the residential properties on the western and northern aspects and the wider landscape.

Impact Assessment of Proposed Development on Other Mammals

The presence of hedgehogs on site cannot be ruled out completely. Additionally, the site forms a small part of suitable habitat for hedgehogs within the wider landscape.

The following direct impacts to other mammals may occur as a result of the development:

- Death or injury during vegetation clearance; and
- Habitat loss at a small-scale on a permanent basis

The following indirect impacts to other mammals may occur as a result of the development:

- Increases in disturbance levels.

The impact on potential hedgehog habitat on site is considered to be relatively low and permanent.

3.7.8. Invertebrates

Desk Study Results

SEWBRc returned 11 notable invertebrate records from within the study area, comprising:

Seven priority invertebrate species were recorded within 1km of the site, namely: small pearl-bordered fritillary (*Boloria selene*), brown-banded carder bee (*Bombus humilis*), broom moth (*Ceramica pis*), small heath (*Coenonympha pamphilus*), small square-spot (*Diarsia rubi*), grayling (*Hipparchia semele*) and cinnabar (*Tyria jacobaeae*).

Four invertebrate listed as locally important species were recorded within 1km of the site, namely: white-tailed Bumblebee (*Bombus lucorum*), buff-tailed bumblebee (*Bombus terrestris*), beautiful demoiselle (*Calopteryx virgo*) and scarce blue-tailed damselfly (*Ischnura pumilio*).

Field Survey Results and Evaluation of Ecological Value of Site for Invertebrates

No incidental observations of invertebrates were recorded during the survey. The area of modified grassland within the development footprint is short mown therefore the suitability to support protected and notable invertebrates is low. The unmanaged areas of marshy grassland within the wider site may be important nectar sources for a variety of bees and invertebrates. The areas of wet woodland and dense scrub on the boundaries are likely to be important hosts for associated invertebrate assemblages. The habitats present within the site are likely to be supplementary to the habitats present within the Afon Garnant stream corridor which runs adjacent to the north-western boundary of the site.

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Impact Assessment of Proposed Development on Invertebrates

The invertebrates using the site for habitat are unlikely to solely rely on the site for their continued survival. While some habitat loss will occur across the site, this can be more than offset by providing a range of new habitats within the development that will benefit invertebrates, Plans for enhancement planting across the site have potential to greatly increase the floristic diversity of the site, therefore introducing more opportunity for a wider range of invertebrates to utilise the site post-development.

4. Required Actions and Conclusions

The following recommendations are likely to be secured through planning conditions. They have been developed based on the development proposals available at the time of writing. The implementation of these recommendations will ensure compliance with the Planning Policy Wales Version 12 (Welsh Government, 2024)¹⁹, TAN 5 *Nature Conservation and Planning* (2009), Section 6 and 7 of the Environment Wales Act, 2016, the Conservation of Habitats and Species Regulations 2017 which has been updated by the Conservation of Habitats and Species (Amendment) (EU Exit) [CHSAEU] Regulations 2019 and Merthyr Tydfil Replacement Local Development Plan 2016-2031²⁰.

The recommendations aim to avoid or minimise adverse impacts on the environment and protected species, mitigate and compensate for losses where damage is unavoidable and promote opportunities to enhance biodiversity. There is a requirement that developments must provide net benefit for biodiversity.

4.1. Biodiversity and Ecosystem Enhancement Scheme/Green Infrastructural Plan

Local Authorities have a duty (known as the Biodiversity and Resilience of Ecosystems Duty) under the Environment (Wales) Act 2016 to seek to maintain and enhance biodiversity in the exercise of their functions. Section 6.4.12 of Planning Policy Wales states that *'Where biodiversity enhancement proportionate to the scale and nature of the development is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise, it will be necessary to refuse permission'*.

Where possible the existing on-site habitat will be retained to ensure that species are not adversely affected by the development. Native species of local provenance grown in the UK will be used for any new planting on the site. A soft and hard landscaping plan will need to be provided to inform the Green Infrastructure Statement and demonstrate Net Biodiversity Benefit (NBB) and include:

- Detailed planting/sowing specifications including species, size, density spacing, cultivation protection (fencing, staking, guards) and methods of weed control;
- Details of surfacing, boundary treatments and landscaping structures including design, location, hedgehog accessibility, size, colour, materials and openings;
- Details of planting of rainwater gardens and other sustainable urban features (if proposed);
- Details of the immediate and ongoing management of the site; and
- Details of the funding mechanisms in place to plan can be successfully implemented.

A biodiversity and ecosystem enhancement scheme will need to be provided. This could include the incorporation of permanent bat roosting feature(s), hedgehog homes and nesting opportunities for birds.

¹⁹ Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions ... and in so doing promote the resilience of ecosystems. Development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.

²⁰ <https://www.merthyr.gov.uk/media/5642/replacement-ldp-written-statement-final-composite-version-140120.pdf>

A Green Infrastructure Statement will need also to be produced for the site. This should ensure that all elements of green infrastructure are coordinated from the outset, so that biodiversity, trees, soils, landscaping, SuDS, amenity, access, recreation and climate change mitigation and adaptation are integrated into a scheme which delivers multiple benefits. Ideally the Green Infrastructure Statement should be a strategy which informs the design and layout of a scheme and details how a functionally connected habitat can be created that will increase biodiversity.

4.2. Proposal Design Amendment

There is a small area of broadleaved woodland within the western aspect of the school grounds with several mature trees present at the time of survey. This habitat is likely to be retained as part of the proposals however this habitat should be protected from the development through the implementation of a buffer to protect the mature trees present which is provides in Section 4.3.1 below.

Photo 17: Broadleaved woodland in western aspect of site, looking north



Photo 18: Broadleaved woodland in western aspect of site, looking south



4.3. Precautionary Measures

4.3.1. Protection and Retention of Hedgerow Habitats

The broadleaved woodland within the western aspect of the school grounds and adjacent to the eastern boundary of the site will be retained and protected from the development. There is a risk that they may be subject to root damage as a result of heavy plant movement over the root protection area, or accidental damage during general construction activities. Protective barriers will therefore be installed prior to any site work, to ensure that no such inadvertent impacts occur. These will be established in line with the standard tree root protection zones which is calculated as an area equivalent to a circle with a radius 12 times the stem diameter. The areas of broadleaved woodland should be retained and protected from the development through the implementation of a buffer which should be a minimum of 2m.

The retained woodland adjacent to the clearance areas will be protected and securely fenced-off with appropriate temporary fencing (e.g. 'Heras' fencing) and treated in accordance with British Standard

BS5837(2012) Trees in Relation to Design, Demolition and Construction – Recommendations. The fences will be erected prior to the commencement of construction work and will left in place until development completion. These protective measures will prevent any accidental damage to the woodland and mitigate potential direct impacts to any protected or priority species that may be utilising this habitat, including bats, dormice, nesting birds, reptiles and hedgehogs. This will help to maintain the biodiversity value and ecological connectivity of the site. The fencing will be installed under supervision of an ecologist to ensure that a suitable buffer is retained around the woodland habitats. Suitable fencing can be found in Appendix 8.

Screening barriers should be installed to protect the retained hedgerows from dust and pollution during the construction phase of the development. The hard landscape areas and residential house should remain unlit by artificial light to mitigate the effect on nocturnal wildlife.

4.3.2. Timing of Works for Birds

The construction phase of the development should be carried out outside of the bird nesting season (March-September inclusive). If this is not possible a pre-commencement nesting bird check of the building should be conducted prior to the works to the existing building commencing on site.

4.3.3. Pre-Commencement Badger Check

A pre-commencement badger survey should be conducted prior to works starting on site to check for badger setts which may be excavated within the site boundary prior to the development commencement.

it is recommended that during the construction phase any steep sided holes left open overnight should be equipped with a mammal ladder (a reinforced plywood board >60cm wide set at an angle of no greater than 30o to the base of the pit) to prevent entrapment.

4.3.4. Riparian Species

No direct mitigation is likely to be required; however, due to the close proximity of the Afon Taf which lies 20m east, the following mitigation should be implemented in order to minimise disturbance to nocturnal riparian species:

- Any and all lighting will be directed away from waterbodies to minimise disturbance as a result of light;
- There will be no night working;
- Any excavations will be covered overnight or where this is not possible, a means of escape will be provided; and
- An appropriately experienced ecologist will be “on call” for the duration of the project in the unlikely event that an otter or otters are found on site, in which case the relevant work will cease immediately, Natural Resources Wales (NRW) will be contacted. A development licence may be

required prior to any further work being carried out. No further work will be undertaken without the approval of NRW.

4.4. Mitigation Measures

4.4.1. Construction and Environmental Management Plan (CEMP)

Considering the potential for impacts to the Afon Taf cSINC, it is considered that a CEMP will be required before any construction activities commence on site. The CEMP will identify the responsibilities of various organisations and people to comply with legislation and ensure that mitigation measures are implemented as proposed.

The CEMP should aim to:

- Detail management measures to minimise environmental impact from the construction phase of the development;
- Provide a framework within which the measures will be implemented throughout the project; and
- Provide project-specific management measures.

It is proposed that this document is reviewed if activities or conditions on-site change in a way which influences management measures. The document will be reviewed at set intervals and new information added as appropriate.

4.4.2. Sensitive Lighting Strategy

The lighting design for the site will be kept to the minimum level which meets the needs of security and health and safety. The unnecessary lighting of habitats which could potentially be used by bats, dormice and badgers such as nearby trees, scrub habitats etc. will be avoided.

External lighting will be minimised and installed at low-level only (i.e. no higher than eaves level and lower than 2.4m) and directed downward (i.e. below the horizontal plane with no upward tilt). Fully shielded lights with front and side hoods/shields or cowls will be installed to prevent upwards and horizontal light spill. The lighting source will not be visible.

Lighting will not be located in the vicinity of, or shine towards the trees and areas of scrub which surround the site, thus maintaining a 'dark corridor' and avoiding/minimising disturbance to commuting and foraging bats and dormice. Any security lights used will operate on a passive infrared (PIR) motion sensor sensitive to large objects only, to avoid constant triggers by bat passes and with timers set on a short duration (i.e. a maximum 'on' time of one minute) to reduce the amount of 'lit time'. The lights will either have an integrated LED light source, or use LED bulbs. They will be low intensity (i.e. circa 11 watts) and have a warm white colour temperature of 3000K or less (ideally 2700K if commercially available). White, blue and green lighting sources including mercury or metal halide, CPO and CDO (ceramic discharge metal-halide)

bulbs which have significant effect on bats will be avoided. Examples of suitable light fittings are provided within Appendices 9 and 10.

4.5. Compensation

4.5.1. Compensatory Planting

To compensate for the loss of the small area of modified grassland within the development footprint the retained areas of modified grassland should be enhanced for a net gain in biodiversity within the site post-development. A 2-5m strip of grassland should be left unmanaged along the length of the eastern aspect of Aberfan Park which forms the school playing field in the northern and eastern aspects of the site. The grassland strip could be enhanced with a seed mix suitable for the local soil conditions and geology of the site. The type of ready-made mixtures which could be used include a Welsh meadow seed mix²¹ which is harvested from two hay meadows in West Pembrokeshire and North Carmarthenshire to ensure local provenance. Additionally, the strip of grassland could be sown with an additional butterfly and moth seed mix²² to increase the diversity of flowering species within the first two years of establishment which comprises 100% native British wildflowers, sustainably harvested in the UK which contains species recommended by the Butterfly Conservation Trust, however this seed mix does not contain grass seeds therefore it is not suitable as a seed mix to create a permanent wildflower grassland habitat. This should be a permanent feature post-development and should be managed in an appropriate way to optimise its biodiversity value.

4.6. Enhancement Measures and Biodiversity Net Gain

4.6.1. Hedgerows and Trees

Any gaps within the broadleaved woodland within the western aspect of the school grounds could be filled with additional planting of native species to provide an additional foraging resource for a range of species post-development.

The species planted should be proficient fruiting/nut bearing species which are known to benefit a range of species including hazel dormice, birds and small mammals. The species should be native and of local provenance to provide a large species-rich diversity. Species could include, but are not limited to; hazel, rowan (*Sorbus aucuparia*), goat willow (*Salix caprea*), field maple (*Acer campestre*), birch (*Betula sp.*), oak (*Quercus sp.*), crab apple (*Malus sp.*) and elder (*Sambucus nigra*) which are non-toxic species however several ready-made tree packs are available to schools from the woodland trust²³ which are suitable to be used as part of the proposals. Retained and planted trees should be managed in an appropriate way to optimise their biodiversity value.

²¹ [Welsh Meadow Seed | Packets | British Wildflower Seeds | British Wildflower Meadow Seeds](#)

²² <https://britishwildflowermeadowseeds.co.uk/collections/wildflower-meadow-seeds/products/butterfly-moth-seed-mix>

²³ <https://www.woodlandtrust.org.uk/plant-trees/schools-and-communities/>

4.6.2. Sustainable Urban Drainage Systems (SuDs)

As of 7th January 2019, all new developments of more than one dwelling house or where the construction area is 100m² or more are required to have SuDS to manage on-site surface water (whether they require planning permission or not). These SuDS must be designed and constructed in accordance with the Welsh Government Standards for Sustainable Drainage²⁴.

The SuDs could be in the form of a retention pond or linear swales. Ponds can be managed as a SuDs or a standalone wildlife enhancement area to benefit a range of species including common amphibians and reptiles. The periphery of the any ponds or linear swales created and incorporated into the development, could be planted with native species-rich aquatic plug plants²⁵ and a native species-rich marginal seed mix²⁶.

In order to prevent the gradual encroachment of scrub, an active management regime will be required, in which thinning, and the removal of scrub occurs every three years. In order to avoid the risk of adversely affecting nesting bird species, the management will take place during November to February inclusive.

4.6.3. Hedgehogs

The development of the site will also result in the loss of potential habitat for hedgehogs. It is recommended that the landscape design for the proposed development should incorporate some compensatory habitats for foraging and resting hedgehogs including the installation of a hedgehog house in suitable retained habitat within the southern aspect of the site.

To facilitate hedgehog movement across the site, boundaries and barriers such as fencing, railing, and gates should include hedgehog-friendly access features. This can be achieved by incorporating 13 x 13 cm holes in fence panels at ground level, leaving sufficient gaps beneath gates, or including spaces at the base of brick walls. Guidance and examples can be found in Appendix 13.

4.6.4. Bird Boxes

Two bird boxes will be installed on nearby buildings or retained trees as an enhancement post-development providing further nesting opportunities for small birds. These will provide nesting sites for species like great tits (*Parus major*) and house sparrows (*Passer domesticus*). The boxes will be located in secluded positions, ideally with dense cover and at a minimum height of 3m from ground level, ideally oriented so that they face north or east. Suitable bird boxes can be found in Appendix 11.

4.6.5. Bat Boxes

Two woodcrete bat boxes will be installed on the nearby buildings or retained trees within the areas of broadleaved woodland in the western or southern aspects of the site. The Schwegler 2F bat box (or a

²⁴ <https://gov.wales/sites/default/files/publications/2019-06/statutory-guidance.pdf>

²⁵ [Plant Collections](#) | [Aquatic Plants for Margins](#) | [British Pond Plants](#)

²⁶ [Welsh Meadow Seed](#) | [Packets](#) | [British Wildflower Seeds](#) | [British Wildflower Meadow Seeds](#)

suitable alternative) will be installed. The bat boxes will be installed at a height of over 3m from ground level and will be clear of any obstructions. The boxes must also be positioned away from any features which could easily be accessed by cats. Details of the Schwegler 2F bat box can be found in Appendix 12.

4.7. Longevity of Report

If development works do not begin within eighteen months to two years of the date of this report, an update survey is likely to be required in accordance with guidance from NRW²⁷, CIEEM (2019) and BS 42020:2013²⁸, to determine if conditions have changed since those described in this report.

4.8. Conclusions

Provided the measures detailed in Section 4 are implemented, the development is not anticipated to result in adverse impacts to any protected sites, habitats or species. The site's ecological will not present a fundamental constraint to the proposed development, although the measures outlined above will be required.

²⁷ As set out in Point 5 of the NRW *Bat Surveys - Frequently Asked Questions* and Point 4 of the guidance included within the NRW European Protected Species Development Application Form.

²⁸ As set out in Section 6.2.1, point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

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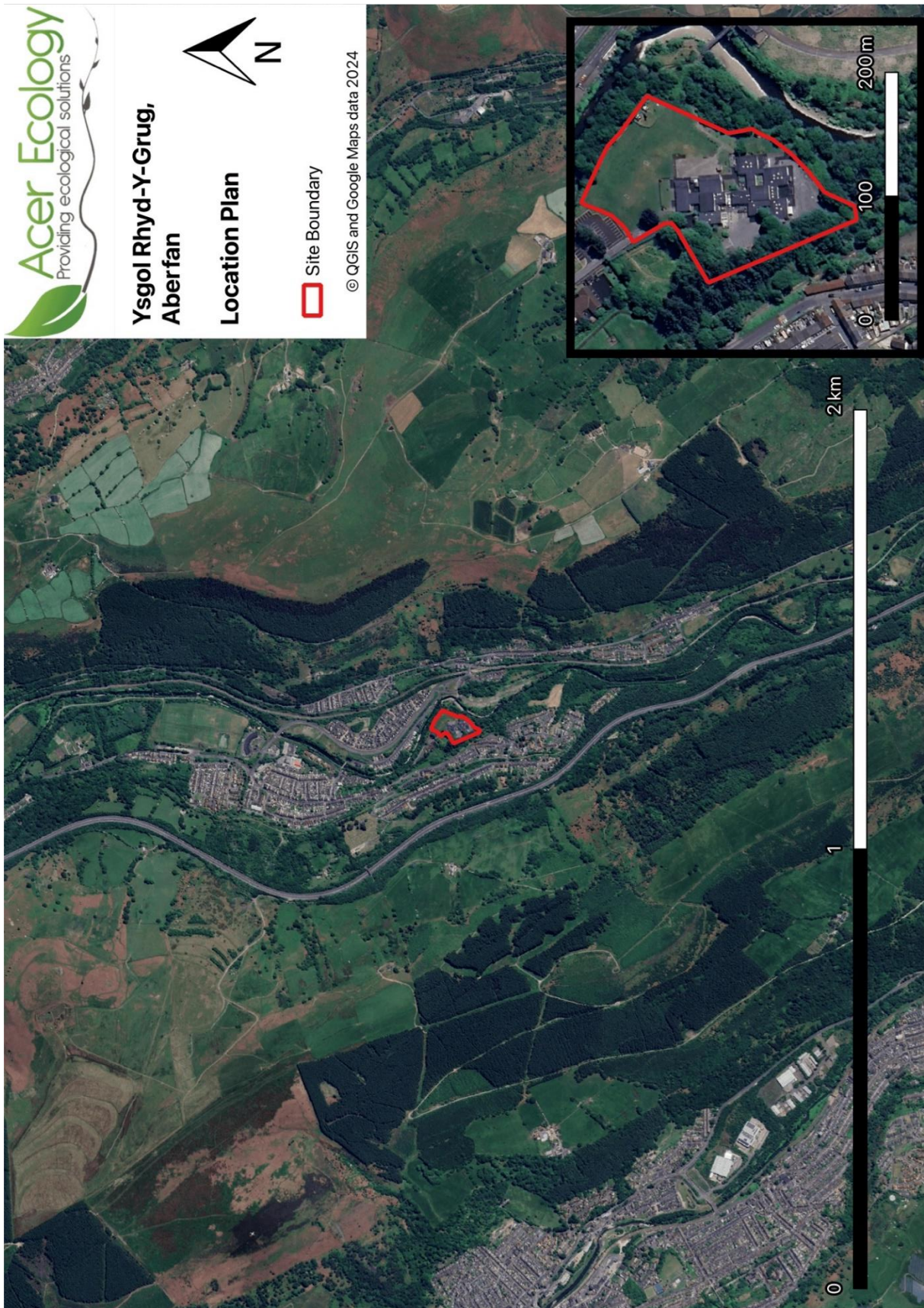
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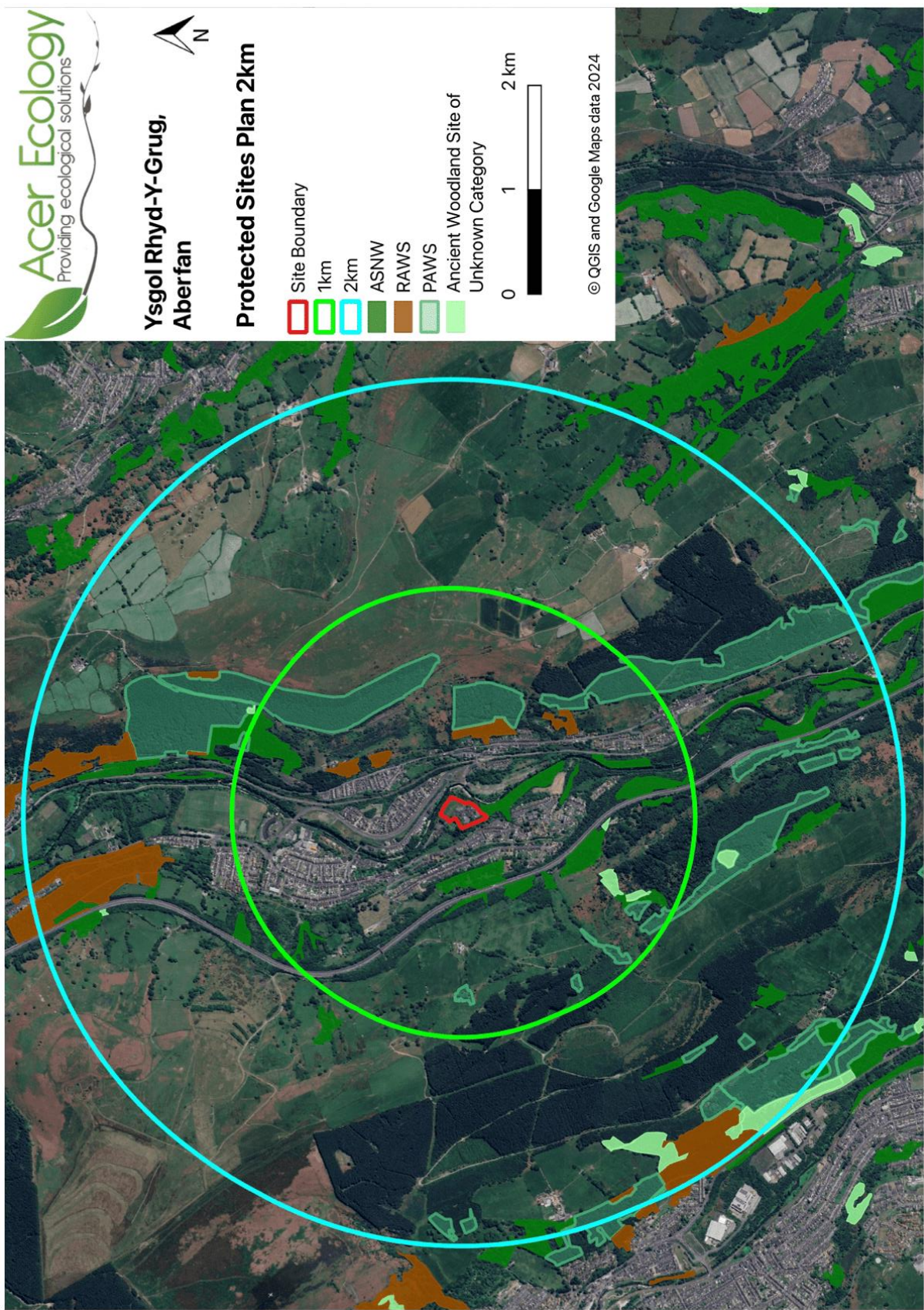
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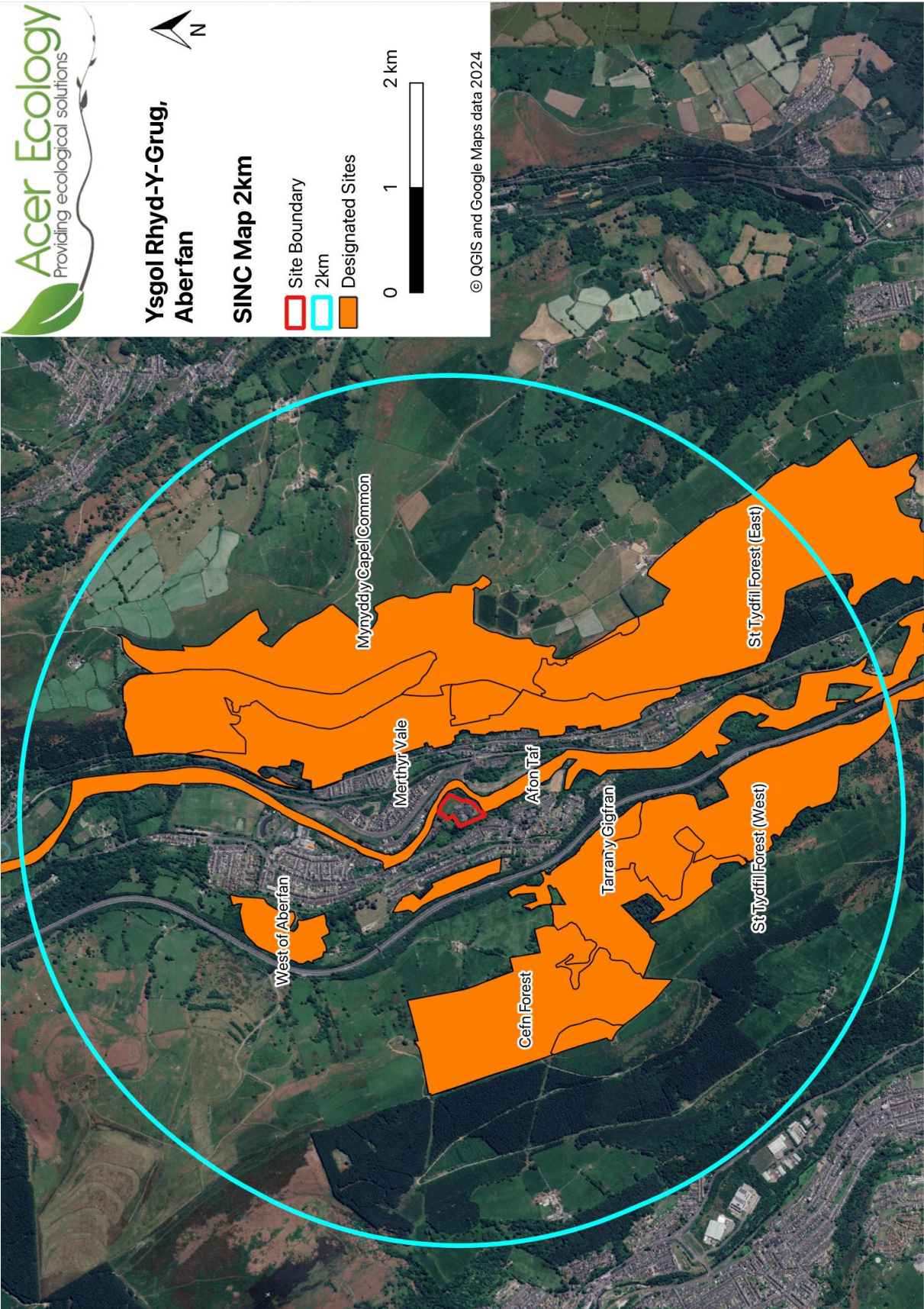
Plan 1: Site Location



Plan 2: Site Location and Protected Sites Within 2km



Plan 3: SINCs Within 2km



Plan 4: Location of Water Bodies Within 0.5km



Plan 5: Habitats and Vegetation



Appendix 2: Legislation and Policy Relating to Statutory and Non-Statutory Designated Sites and Planning Policy Relevant to Site

SINCs

SINCs are a class of nature conservation designations collectively referred to as 'Wildlife Sites'. Wildlife Sites are so-called 'third tier' sites, generally ranked below sites which are of international (first tier) or national (second tier) biodiversity significance, but which are considered to have '*substantive nature conservation value*' at the regional or district level. They are usually designated at the county or county borough level by the relevant local planning authority, and are recognised as a planning constraint in the relevant statutory development plan.

The framework for the identification and designation of 'Wildlife Sites' is set out in various Government documents, and is referred to in *Planning Policy Wales (2024)* and *Technical Advice Note (Wales) 5: Nature Conservation & Planning*. Defra published *Local Sites: Guidance on their identification, selection and management in 2006*²⁹.

Environment (Wales) Act 2016

The Environment (Wales) Act Section 6 duty, or the Biodiversity Duty, requires public authorities to seek to maintain and enhance biodiversity and in so doing promote the resilience of ecosystems. In fulfilling this duty, planning authorities must have regard to the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016.

The Section 6 duty requires that developments should not be permitted which result in net loss of value to biodiversity, and must seek to achieve biodiversity net gain. Where net loss cannot be achieved through avoidance or mitigation, compensation is required.

Future Wales - the National Plan 2040

Future Wales is the national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities. Future Wales - the national plan 2040 is the national development framework and it is the highest tier plan, setting the direction for development in Wales to 2040. It is a framework which will be built on by Strategic Development Plans at a regional level and Local Development Plans. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.

²⁹

<https://webarchive.nationalarchives.gov.uk/ukgwa/20111108175609/http://archive.defra.gov.uk/rural/documents/protected/localsites.pdf>

Planning Policy Wales 12 (2024)

The primary objective of PPW is to ensure the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

Planning Policy Wales (PPW) Edition 12 (Welsh Government, 2024) states that planning authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible. The first priority for planning authorities is to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or gain have been fully considered.

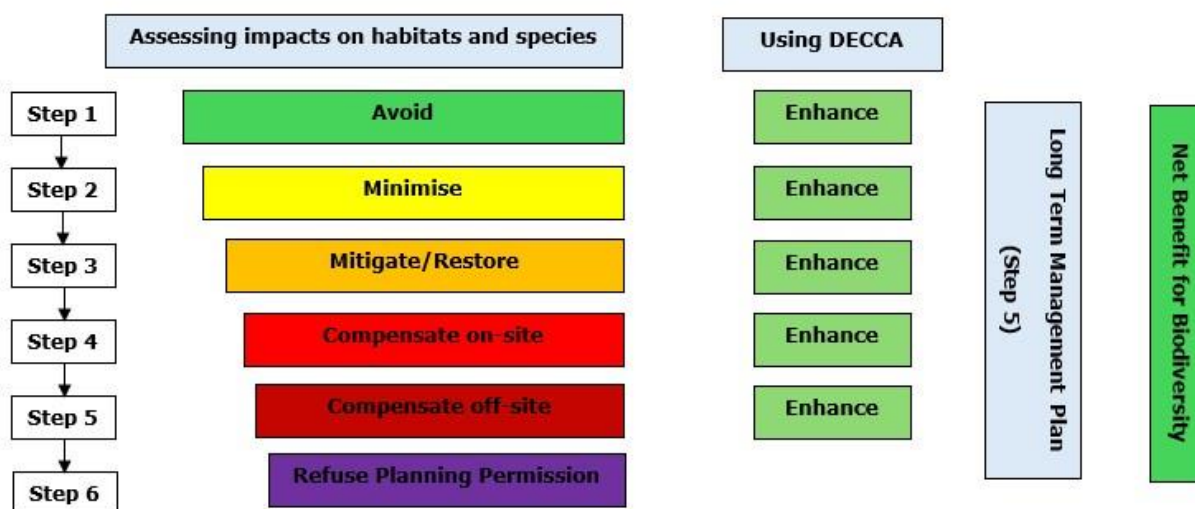
On 11th October 2023 Julie James MS Minister for Climate Change finalised policy for inclusion in the next iteration of Planning Policy Wales (version 12)³⁰. The new chapter 6 came into force with immediate effect. This was followed by the publication of version 12 of Planning Policy Wales in February 2024. The main changes to policy can be summarised as follows:

Green Infrastructure: stronger emphasis on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.

Net Benefit for Biodiversity and the Step-wise Approach: further clarity is provided on securing net benefit for biodiversity through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and, the need to consider enhancement and long-term management at each step.

³⁰ <https://www.gov.wales/sites/default/files/publications/2023-10/annex-addressing-the-nature-emergency-through-the-planning-system.pdf>

The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.



Trees and Woodlands: closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

Technical Advice Notes

Planning Policy Wales is supported by a series of more detailed Technical Advice Notes (TANs), of which TAN 5: Nature Conservation and Planning (2009)³¹ is of relevance.

Merthyr Tydfil Replacement Local Development Plan

The Merthyr Tydfil Replacement Local Development Plan 2016-2031³² which was adopted in January 2020, sets out Merthyr Tydfil Councils policies and proposals to guide all development in the area. The following policies are of note regarding ecological issues and safeguarding biodiversity:

- Policy EnW1 Nature Conservation and Ecosystem Resilience;
- Policy EnW2 Internationally and Nationally Protected Sites and Species;
- Policy EnW3 Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves and Priority Habitats and Species;
- Policy EnW4 Environmental Protection; and
- Policy EnW5 Landscape Protection.

³¹ <https://www.gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf>

³² <https://www.merthyr.gov.uk/media/5642/replacement-ldp-written-statement-final-composite-version-140120.pdf>

In Merthyr Tydfil County Borough, SINC's are also afforded protection under Policy EnW3: Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves and Priority Habitats and Species of the Merthyr Tydfil Local Development Plan (Merthyr Tydfil County Borough Council, 2020). They also get a degree of protection from Policy 1 EnW1: Nature Conservation and Ecosystem Resilience and Policy EnW4: Environmental Protection.

Policy EnW3 states that *'development proposals likely to have an adverse impact on Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves, or Priority Habitats and Species will only be permitted where it can be demonstrated that:*

- 1. The need for the development clearly outweighs the conservation value of the site;*
- 2. Adverse impacts on nature conservation features or geological features can be avoided;*
- 3. Appropriate and proportionate mitigation and compensation measures can be provided; and*
- 4. The development maintains and where possible enhances biodiversity and geodiversity interests.'*(pg.64)

Using published scientific criteria, Sites of Importance for Nature Conservation have been designated as shown on the LDP Proposals Map.

Development which is likely to have an adverse impact on SINC's, RIGS, LNRs or Priority Habitats and Species will be required to demonstrate that every effort has been made to avoid and mitigate any adverse impacts and that the need for the development outweighs the nature conservation or geological value. Where on site mitigation is not possible off-site compensation will be secured through planning conditions or Section 106 agreements as appropriate.

Biodiversity and/or geodiversity enhancement and the promotion of ecosystem resilience will be sought through the consideration of development proposals. Development proposals should therefore demonstrate how biodiversity and/or geodiversity interests will be maintained and where possible enhanced. Levels of mitigation and compensation should be appropriate and proportionate with the level of adverse impact and the scale of development.

Together with open space and good design, contributing to high quality landscaping, sustainable drainage solutions (SUDs), SSSIs, SINC's, RIGSs and Local Nature Reserves (LNRs) provide the foundation for ecosystem connectivity. In addition to considering these designations, development proposals will be expected to demonstrate how green infrastructure more broadly has been considered, including the incorporation of existing and provision of new features, in accordance with Policy SW11: Sustainable Design and Placemaking.

Biodiversity Net Gain

Planning Policy Wales (PPW) 11 states that “*planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity*” (NBB) (para 6.4.5 refers). This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016.

DECCA is the framework that Natural Resources Wales (NRW) has developed for evaluating ecosystem resilience to demonstrate a net benefit for biodiversity (NBB)³³. This is based on the following attributes:

- Diversity, extent, condition and connectivity;
- Adaptability, recovery and resistance; and
- Aspects of ecosystem resilience.

To comply with these requirements the main ecosystems on site and within the zone of influence need to be identified and set out how the diversity, extent, connectivity and condition of those ecosystems will be maintained and enhanced post-development. Recent changes to Planning Policy Wales³⁴ mean that some additional guidance will be required.

³³ <https://cdn.cyfoethnaturiol.cymru/media/693356/resilient-ecological-networks-practitioner-guide.pdf?mode=pad&rnd=132612537900000000>

³⁴ <https://www.gov.wales/addressing-nature-emergency-through-planning-system-update-chapter-6-planning-policy-wales>

Appendix 3: Protected Species Legislation Relevant to Site

Birds

All wild British birds (while nesting, building nests and sitting on eggs), their nests and eggs (with certain limited exceptions) are protected by law under Section 1 of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. Included in this protection are all nests (at whatever stage of construction or use) and all dependent young until the nest is abandoned and the young have fledged and become independent. Particularly rare species such as barn owl (*Tyto alba*) are listed on Schedule 1 which gives them additional protection from disturbance whilst nest building, whilst near a nest with eggs or young, or from disturbing the dependent young.

Section 10.8 of the Conservation of Habitats and Species Regulations 2017 state that Local authorities must use all reasonable endeavours to avoid any deterioration of habitats of wild birds.

Bats

All species of bats and their roosting sites are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019.

All species of UK bats are designated as ‘European protected species’. Seven species of bat (soprano pipistrelle (*Pipistrellus pygmaeus*), barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)) are listed under Section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales.

Dormice

Dormice are a ‘European protected species’ and afforded full protection under UK legislation. Dormice are listed under section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales. Since 2000, the UK population has declined by over a half (51%), decreasing on average by 3.8% per year (PTES, 2019).

Otters

Otters are a ‘European Protected Species’. Their breeding sites or resting places³⁵ are fully protected under UK legislation. Otter is a priority species in Wales Under Section 7 of the Environment (Wales) Act 2016.

Works affecting otter are subject to licensing procedures by NRW.

³⁵ Resting places are defined as ‘areas that are essential to sustain an animal or group of animals when they are not active’ (Anon 2007).

Water Voles

Water voles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which prohibits the deliberate killing or injury of individuals, damaging, destroying or blocking access to their places of protection (either intentionally or through ignorance), disturbing them in a place of shelter, or possessing them. The habitats of common water voles are not specifically protected. Water voles are listed as a priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

White-clawed Crayfish

White-clawed crayfish are listed in the Habitat's and Species Directive (Annex 2 non-priority species) and are listed in Wales under Schedule 5 of the Wildlife and Countryside Act (1981). They are also listed as priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Badgers

Badgers are protected under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas.

Reptiles

With the exception of smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) (which are afforded greater protection), common reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are given so-called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected. These species are listed as priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Hedgehogs

Hedgehogs are listed as a Red List mammal species in Britain and are protected under Schedule 6 of the Wildlife and Countryside Act (1981). They are "protected from being killed or taken by certain methods under Section 11(1) of the Wildlife and Countryside Act 1981. The methods listed are: self-locking snares, bows, crossbows, explosives (other than ammunition for a firearm), or live decoys. The species listed are also protected from the following activities: trap, snare or net, electrical device for killing or stunning, poisonous, poisoned or stupefying substances or any other gas or smoke, automatic or semi-automatic weapon, device for illuminating a target or sighting device for night shooting, artificial light, mirror or other dazzling device, sound recording, and mechanically propelled vehicle in immediate pursuit. They are also listed as priority species under Section 7 of the Environment (Wales) Act 2016.

The legislation afforded to hedgehogs in Section 7 of the Environment (Wales) Act 2016 means that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper

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exercise of those functions, to the purpose of conserving biodiversity³⁶. In effect, 'conserving biodiversity' includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.

³⁶ Biodiversity conservation in respect to hedgehogs is interpreted as a commitment to restoring or enhancing their population.

Appendix 4: Definitions of Site Value

International Value

Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or non-designated sites meeting criteria for international designation. Sites supporting populations of internationally important species or habitats.

National Value

Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria (NCC 1989), National Nature Reserves (NNRs) or Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.

Regional Value

Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. Sites supporting regionally significant areas of BAP habitats or large and viable populations Nationally Scarce species, or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.

County Value/District Value

Site identified as a Site of Importance to Nature Conservation (SINC) at the district level; meeting South Wales Wildlife Sites Partnership (SWWSP) 2004 published designation criteria, but falling short of SSSI designation criteria, whether designated as a SINC or not. Ancient woodlands and sites supporting regionally significant areas of UK BAP habitat. Large scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/ LBAP or threatened species (other than badger).

High Local

Habitats which just fail to meet Regional value criteria, but which appreciably enrich the ecological resource of the locality. Sites supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area. Moderate scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/LBAP or threatened species.

Local Value

Old hedges, woodlands, ponds, significant areas of species-rich grassland, small scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/LBAP or threatened species. Undesignated sites or features which appreciably enrich the habitat resource in the context of their immediate surroundings, parish or neighbourhood (e.g. a species-rich hedgerow). Rare or uncommon species may occur but are not restricted to the site or critically dependent upon it for their survival in the area.

Site Value (within the immediate zone of influence)

Low-grade and widespread habitats. Woodland plantations, structured planting, small areas of species-rich grassland and other species-rich habitats not included in the UK or Local BAP.

Negligible

No apparent nature conservation value.

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Appendix 5: Species Recorded

All species recorded by Acer Ecology, 2024

Taxonomic Name	Common Name	W	LM	CG	LDA	PMG	PIL	TF	Status
<i>Agrostis stolonifera</i>	Creeping bent								
<i>Lolium perenne</i>	Perennial rye grass								
<i>Achillea millifolium</i>	Yarrow								
<i>Cerastium fontanum</i>	Common mouse-ear								
<i>Ranunculus repens</i>	Creeping buttercup								
<i>Holcus lanatus</i>	Yorkshire-fog								
<i>Plantago majus</i>	Greater plantain								
<i>Bellis perennis</i>	Daisy								
<i>Leucanthemum vulgare</i>	Oxeye daisy								
<i>Trifolium repens</i>	White clover								
<i>Prunella vulgaris</i>	Self heal								
<i>Taraxacum officinale</i>	Dandelion								

'Habitat Indicator Species' Totals (Wales Biodiversity Partnership 2008 ³⁷)									
		W	LM	CG	LDA	PMG	PIL	TF	

Key to Indicator Species (Wales Biodiversity Partnership 2008³⁸)

W - Woodland, LM – Lowland meadow, CG - Calcareous Grassland, LDA – Lowland Dry Acid Grassland, PMR Purple moor-grass and rush pasture, PIL – Post Industrial Land, TF Species-rich Tillage Fields and Margins

WCA 5 – Species protected under Schedule 5 of the Wildlife and Countryside Act

WCA 9 – Species listed under Schedule 9 of the Wildlife and Countryside Act

³⁷ Wales Biodiversity Partnership (2008) Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales. Wales Biodiversity Partnership/Welsh Assembly Government.

Appendix 6: Guidelines for Assessing the Suitability of Trees for Bats

2023 Guidelines – Based upon Table 6.2 from Collins (2023)

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF present.

PRFs can be further categorised according to the below:

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.
PRF-U	Unknown if PRF could only be used by individuals or could be used by multiple bats and therefore used as a maternity roost.

Suitability	Description of Roosting Habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground ³⁹ .
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

³⁹ This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Appendix 7: Guidelines for Assessing Potential Suitability of Buildings

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. <u>Foraging Habitat</u> Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	<u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. <u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. <u>Foraging Habitat</u> High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. <u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.

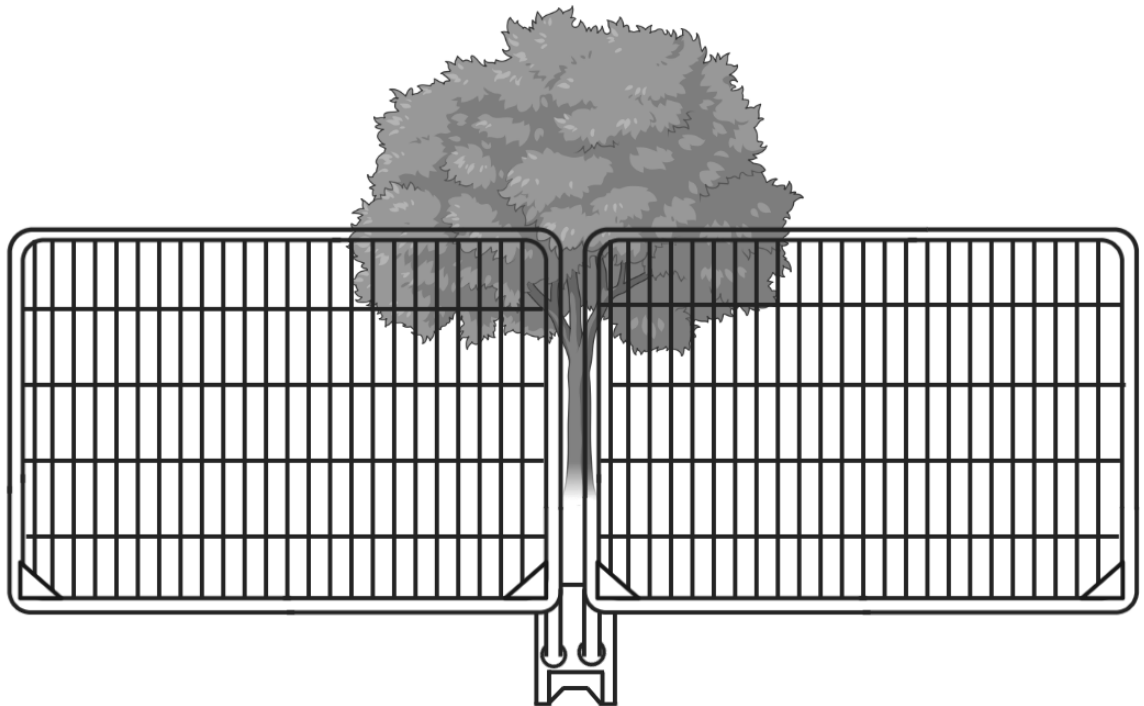
Suitability	Description of Roosting Habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection appropriate conditions ⁴⁰ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity) or hibernation ⁴¹ .
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status ⁴² (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

⁴⁰ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

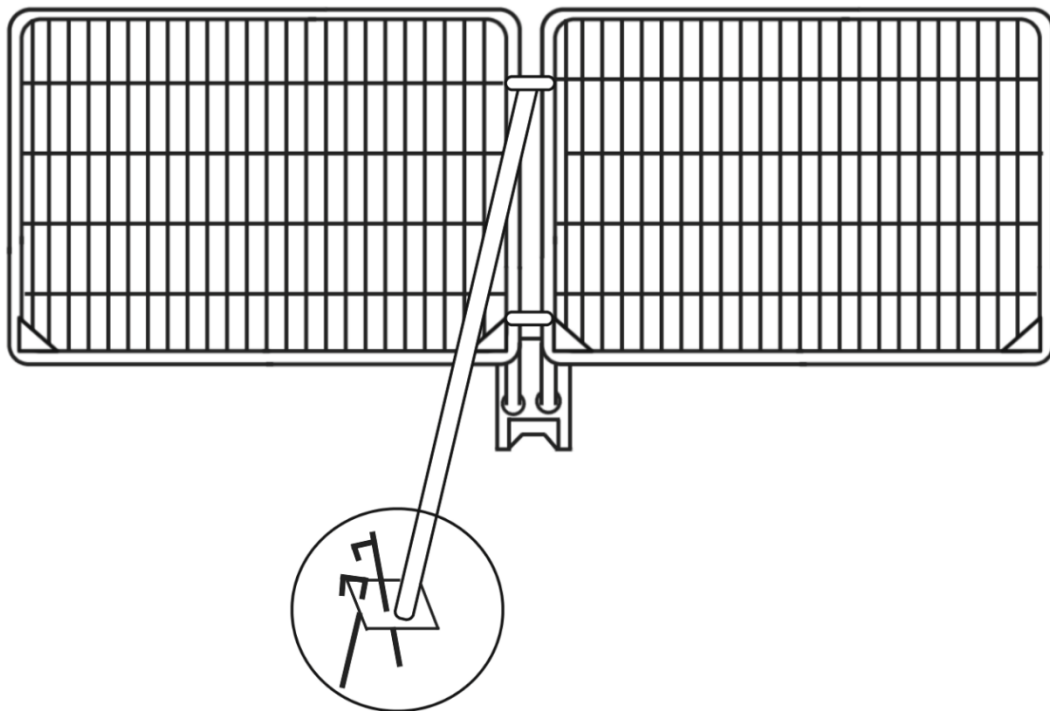
⁴¹ Evidence from the Netherlands, shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

⁴² 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition.

Appendix 8: Protective Barriers

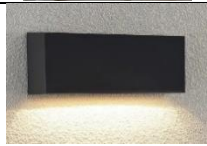


Wildlife barrier surrounding tree:



Stabilizer strut with base plate secured with ground pins
Redrawn by Acer Ecology Ltd after BS 5837:2012 Figure 1

Appendix 9: Example of Suitable Wall Light Fittings

	Description
	Light fitting sourced from http://www.energylightbulbs.co.uk/products/single-outdoor-wall-with-pir-movement-sensor-stainless-steel?gclid=CLuf2c63hM4CFYVAGwod0sYPvg
	Light fitting sourced from https://www.screwfix.com/p/lap-bronx-outdoor-wall-light-black/7323r
	Lighting sourced from https://energylightbulbs.co.uk/outdoor-lighting/single-wall-lights/black-single-wall-lights/single-outdoor-wall-light-black-stainless-steel https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/#!/Bronze-Outdoor-LED-Wall-Lantern-Sconce/p/50117847/category=12541418 teel-ip65-zlc076b
	Light fitting sourced from https://energylightbulbs.co.uk/outdoor-lighting/single-wall-lights/black-single-wall-lights/cone-shape-outdoor-wall-light-stainless-steel-black-finish-exterior-single-downlight-zlc068b
	Lighting sourced from https://www.dunelm.com/product/houston-outdoor-wall-light-1000189390?defaultSkuId=30730458
	Lighting sourced from https://www.lights.co.uk/lindby-jarte-led-outdoor-wall-light-23-9-cm-down.html?gclid=Cj0KCQIAys2MBhDOARIsAFf1D1cN-g6FdvDbjkJcq57t5Ym6RuP5BjinsVPsMI465W2D8SILoTRmA5kaAkHZEALw_wcB&gclid=aw.ds
	No longer available from previous stockist
	No longer available from previous stockist
	Lighting sourced from http://www.theopenboxshop.com/hampton-bay-lexington-collection-outdoor-rustic-bronze-led-medium-wall-lantern/ <u>Note: bulb is in unit above glass casing.</u>
A tool for finding 'bat-friendly' lighting is available at https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/ although the majority of suppliers are based in America	

Appendix 10: Example of Suitable Bollard Lighting

	Manufacturer	Model	Description
	DW Windsor	Pharola DS	Specifically designed as a 'dark sky compliant' light, this bollard produces zero light above the horizontal plane, and is available with 3000K warm white lighting. For more details, visit: https://www.dwwindsor.com/products/pharola/pharola-ds/
	GHM-Eclatec	Trek	Lighting head and module in die-cast aluminium; polyester powder coating, any colour available. Available in 3000k. For more details, visit: https://www.ghm-eclatec.com/products/lighting/bollards/trek-bollard
	GHM-Eclatec	Taiga	Lighting head and module in die-cast aluminium; polyester powder coating, any colour available. Available in 3000k. For more details, visit: https://www.ghm-eclatec.com/products/lighting/bollards/taiga-led-bollard
	BEGA	77237	Cast aluminium, LED 300k, directs beam downwards. For more details, visit: https://www.bega.com/en/products/led-garden-and-pathway-luminaires-for-the-private-sector-77237/
A tool for finding 'bat-friendly' lighting is available at https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/ although the majority of suppliers are based in America			

Appendix 11: Vivara Pro WoodStone House Sparrow Nest Box



This House Sparrow Nest Box is manufactured from WoodStone - a mix of concrete and FSC wood fibres. This material is strong and highly insulating which helps to provide a thermally stable environment within the box. It also protects against damage from predators such as cats, woodpeckers and squirrels. It is available with one or two breeding chambers, which can be particularly suitable for house sparrows as they prefer to nest in colonies.

The House Sparrow Nest Box can be integrated into the masonry of a new house or fixed onto an external wall using strong screws and wall plugs (not included). If possible, it should be positioned near to vegetation and at a minimum of 2m above ground.

Double Chamber:

*** Weight: 7.5kg**

*** Dimensions: Depth 16cm x Height 29cm x Width 21cm**

*** Number of chambers: 2**

Bird Box Availability

The bird box is available from NHBS (www.nhbs.com) where it retails at approximately £31.50 including VAT.

Appendix 12: 2F Schwegler Bat Box



The 2F is the standard and most popular Schwegler bat box. It is ideal as a starter box to see if there are bats in your area or to provide much needed secure roosting space. It has been designed as a summer roosting space for bats and has a simple entrance hole at the front. The Schwegler 2F has a removable front panel and can be converted to a bird nest box using a replacement 1B front panel if there is no evidence of bat activity after a couple of years. The 2F is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects. Woodcrete is breathable and maintains a stable temperature inside the box and the 2F is painted black to absorb warmth. It also provides a rough surface for bats to cling to and climb up.

The 2F bat box can be sited on a tree or building and is best positioned at a height of between 3m to 6m in an open sunny position. A group of 3 to 5 boxes facing in different directions will provide a variety of micro-habitats. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

Dimensions - (H) 33cm x (D) 16cm, weight: 4kg.

Bat Box Availability

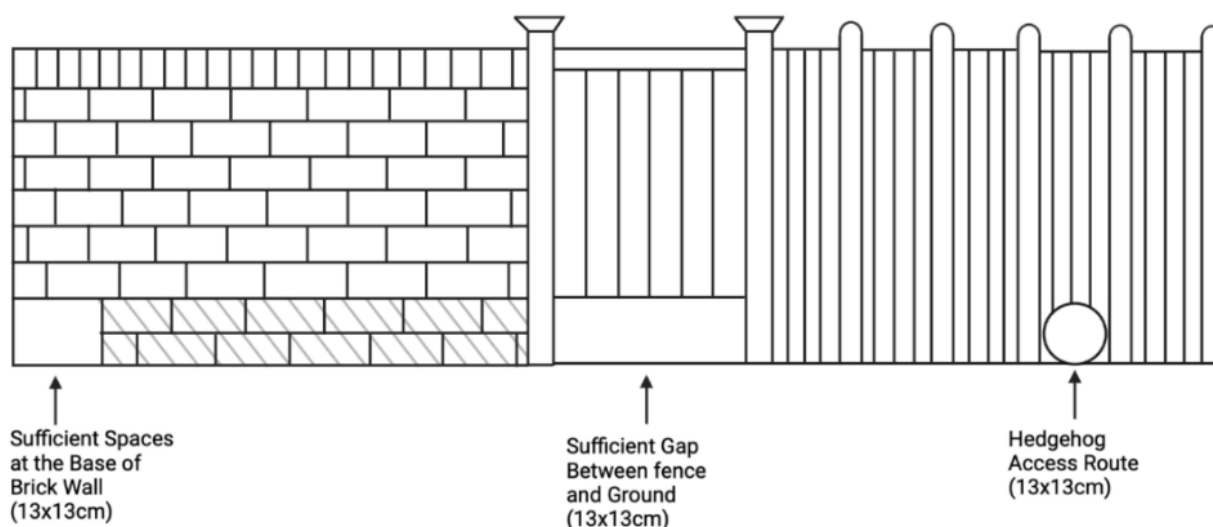
The bat box is available from NHBS (www.nhbs.com) where it retails at approximately £52 including VAT plus postage costs.

Appendix 13: Hedgehog Access Routes

Boundaries and barriers within and surrounding the development, including fencing, railing and gates, should be made permeable. For example:

- through the use of fence panels with 13 x 13 cm holes at ground level (hedgehog holes);
- leaving a sufficient gap beneath gates; or
- leaving brick spaces at the base of brick walls.

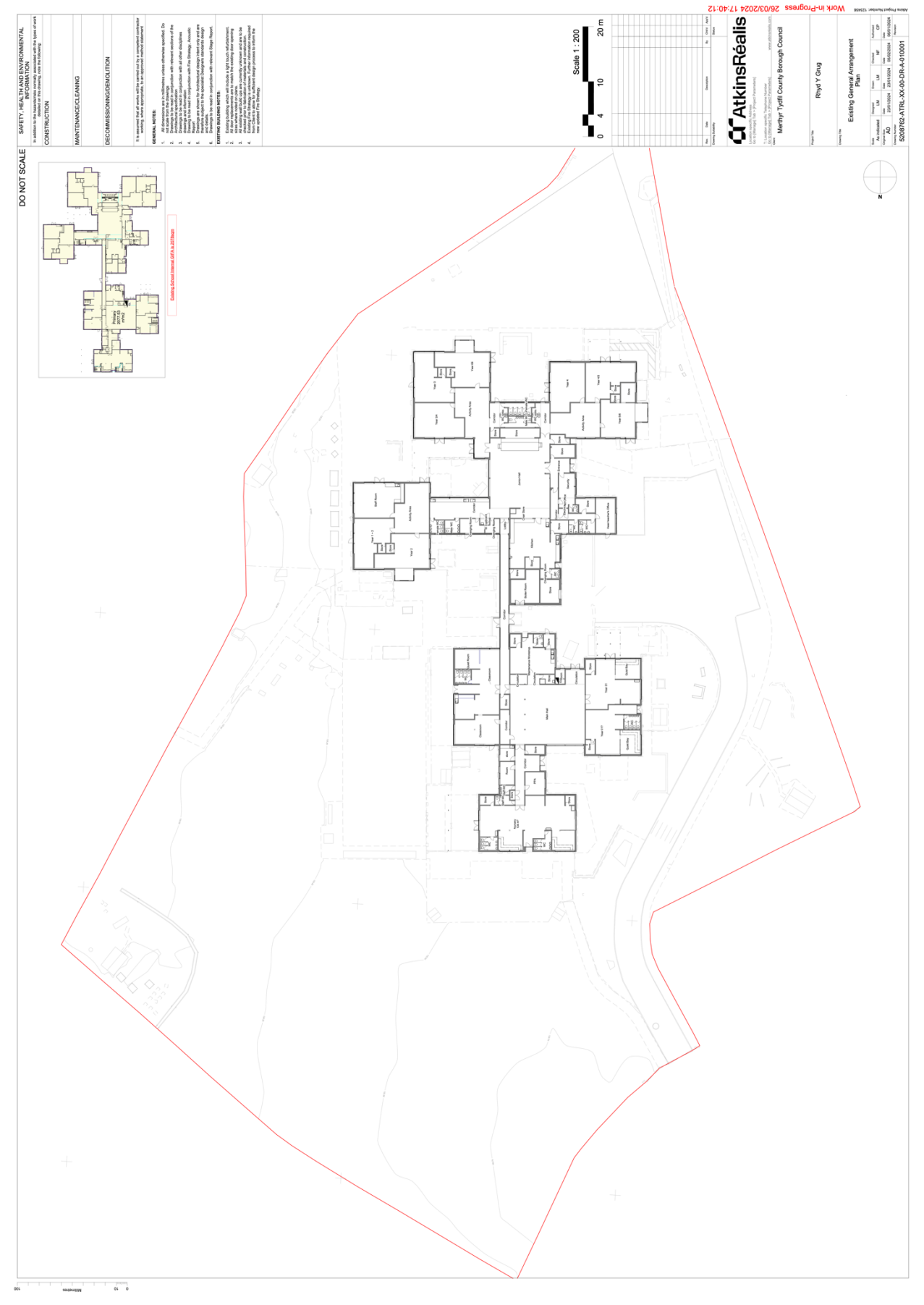
A variety of fence suppliers provide hedgehog-friendly fencing options, which can be easily incorporated at little or no additional cost. Hedgehog holes should be positioned to connect as much of the landscape as possible. In addition, where essential ground level changes may create barriers to movement (e.g. high kerbs, steps, terracing, sunken patios, gullies and drains), the landscaping should ensure sloped access/escape routes for ground dwelling species.

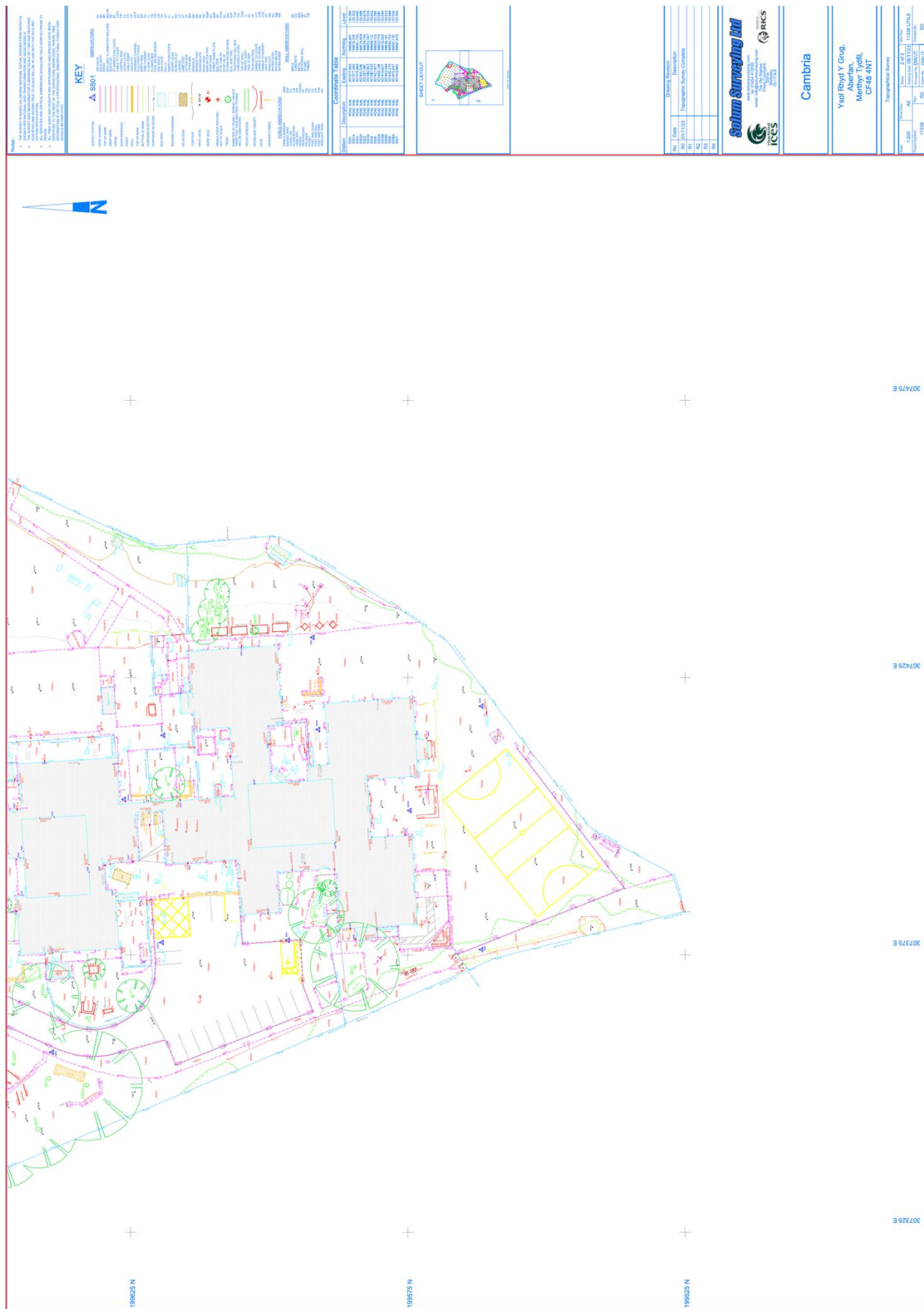


Photographs taken from <https://www.hedgehogstreet.org/wp-content/uploads/2022/08/PTES-BHPS-Hedgehogs-and-development-guide-2022.pdf>

Appendix 14: Existing Site Plan







Appendix 16: Historical Report Data

