



**1 Cwm Clydach Cottages, Dyffryn Road,
Neath, Neath Port Talbot, SA10 7YY**

Bat Survey Report for Mrs A. Phillips



***A European Protected Species Licence will not be required
for this development to be undertaken***

**Government and CIEEM guidelines were followed in
relation to the COVID-19 pandemic**

Report type	Bat Survey Report
Report reference	IG20221CwmClydachCottages
Site	1 Cwm Clydach Cottages, Dyffryn Road, Neath, Neath Port Talbot, SA10 7YY
Grid reference	SS 74069 99263
Client	Mrs A. Phillips
Date(s)/time(s)/type(s) of survey(s)	Scoping survey: 1 st May 2022 Dusk activity survey: 1 st May 2022 between 20:25 and 22:40 Dawn activity survey: 14 th May 2022 between 03:50 and 05:30
Surveyor details	Preliminary Roost Assessment (PRA) survey: Undertaken by DKEcology on 29th November 2021 Dusk activity survey: Mr Iestyn Evans, Natural Resources Wales Licence number S090713/1; Mr Pete Watts; and Mr Greg Evans Dawn activity survey: Miss Ceri Daugherty, Natural Resources Wales licence number S089483/1; Mr Greg Evans; and Mr Mike Jones
Architect	Cwm Planning & Design Ltd

Version	Status	Changes	Name	Position	Date
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Executive summary

- ✧ 1 Cwm Clydach Cottages (the property) consists of a traditional 19th Century semi-detached stone cottage with a slate roof and forms part of a row of isolated cottages. The cottage would have originally been single storey, but the loft has been converted to create a bedroom with two dormer windows and two modern rendered cement block single storey extensions have been constructed on the south and west elevations; both fitted with slate roof tiles. A small porch is located over the door on the east elevation. The house was assessed externally and internally with the main house being generally in good condition; however, a number of potential roost sites were noted mainly via raised tiles, gaps in chimneys, gaps in the porch, raised flashing and joins around extensions and dormer windows. The eaves throughout were well sealed with only a small number of access points noted. A number of storage areas remain in the roof of the house but access to these areas is limited. A small loft space exists above the west extension with some potential access points leading into the loft area. A number of external lights were noted on the property.
- ✧ On 29th November, DKEcology undertook a daytime bat scoping survey (PRA) of the property. No bats or their signs were found but the property was considered to have moderate potential to support roosting bats and a moderate risk of bats using the features present. Following recommendations made in that report, I&G Ecological Consulting Ltd undertook a dusk activity survey on 1st May 2022, and a dawn activity survey on 14th May 2022. The weather conditions present at the property were conducive to bat activity and access was available to all parts of the property.
- ✧ This report summarises the findings of the PRA and confirms the findings of the activity surveys, completed in accordance with current best practice (Collins, J. (Ed.) 2016) and current government and CIEEM guidelines in relation to the COVID-19 pandemic. They were conducted by experienced, licensed ecologists and experienced assistants.
- ✧ The property is located approximately 2km north of Neath and 200m north of the village of Rhydding. **It is within favourable bat habitat but is not within 2km of any site which is designated for its bat interest.**
- ✧ During the activity surveys, no bats were seen to either leave or enter the property but up to two species of bat: **Common pipistrelle** and **Soprano pipistrelle** were using the surrounding environment for foraging and commuting, but no bats were seen to leave or enter any part of the property. **There are therefore currently no bats using the building**, it receives no ecological protection under wildlife legislation, and there are no ecological constraints to the proposed works.
- ✧ **No evidence of bats, nesting birds, or signs of owl activity** were discovered. Biodiversity enhancement measures are required to be submitted to ensure the development complies with the Environment (Wales) Act 2016 and PPW (Edition 11, February 2021). Recommendations are as follows. All locations will be provided on the plans to be submitted (see appendix 7 for examples and siting advice):
 - ✧ **Recommendation 1 (Enhancement):** 1 x Beaumaris Woodstone (or similar) Bat Box to be affixed to the southern elevation of the property. See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](https://www.bats.org.uk/putting-up-your-box-bat-boxes/) for siting advice.
 - ✧ **Recommendation 2 (Enhancement):** Prior to works commencing, 1 x small-holed nest box and 1 x open-fronted nest box to be affixed to mature trees within the curtilage of the property.

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1. Introduction

1.1 Scope and purpose of survey

1.1.1 Any sign of use of a site by bats is enough to confirm that the space has ‘bat interest’ and is enough to confirm the importance of the location to bat species. All species, as well as their resting places, are protected by law and the site is protected even when bats are not present. See appendix 1 for an introduction to bat surveys, including the aims of the scoping survey, appendix 2 for an overview of the legislation, and appendix 3 for information on roost types and survey timings. Appendix 4 lists all surveyors who undertake work for I&G Ecological Consulting Ltd and includes their experience.

1.1.2 This report confirms the results of, and conclusions and recommendations from, the surveys undertaken. It aims to provide the local planning authority with sufficient information to enable a full assessment of the potential ecological impacts of the proposed development. The CIEEM Guidelines for Ecological Report Writing (2017) state that it is important that the structure and content of a report should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. This report has therefore been written in line with these guidelines.

1.1.3 For the purposes of this survey report, the site boundary is defined as the building(s) and surfaces within the overall site footprint.

1.2 Site characteristics and proposed works

1.2.1 The PRA reported that 1 Cwm Clydach Cottages (the property) is located approximately 2km north of Neath and 200m north of the village of Rhydding and forms part of a row of isolated cottages set within an east facing bank adjacent to a minor road. It is set within the River Clydach valley and is immediately surrounded by an extensive open area of improved wet rush pasture to the west with some mature hedgerows. In addition, the well wooded banks of the River Clydach are just to the south of the property –which includes some areas of ancient woodland – while the River Clydach itself lies approximately 120m to the south. This wooded river valley provides good connectivity both north and south, particularly to the north where the river runs for several kilometres and provides access to more extensive areas of upland habitat suitable for supporting most bat species. A large area of woodland lies approximately 300m to the west, and there are numerous tributary streams within 2km of the site. The village of Bryncoch separates the river corridor from more extensive areas of habitat to the east to some degree. To the south apart from the River Clydach corridor connectivity is limited to suburban gardens and parks as you move into the northern suburbs of Neath and development along the main A465.

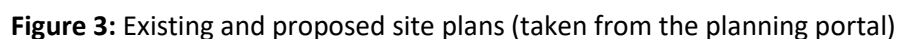
1.2.2 The property is subject to proposed plans for a single storey rear extension. Figure 1 on the following page is an aerial view of the property, figure 2 is of the wider environment around the property, and figure 3 shows the existing and proposed site plans. Additional plans are included in Appendix 5.



Figure 1: Aerial view of the property which is outlined in red (from Apple® Maps)



Figure 2: Map showing the wider environment. The property is indicated by a blue dot. (from Apple® Maps)



2.1 Methods

2.1.1 A 2km search area is used which covers the predicted zone of influence of the proposed development. Multi-Agency Geographic Information for the Countryside (MAGIC) and Lle are both used to establish the proximity of National and International Statutory Designations, particularly in relation to designations for bat interest. Species searches are also conducted through the Local Records Centre (LRC) where appropriate. An online search of planning applications at the property is undertaken to understand its planning history, especially relating to bats.

2.2.1 The property is not within, adjacent to, nor within 2km of any sites which are designated for their ecological significance. Within 2km are 29 Ancient Semi Natural Woodland sites, 34 Restored Ancient Woodland Sites (RAWS), 13 Plantations on Ancient Woodland Sites, and three Ancient Woodland Sites of Unknown Classification; the closest being a RAWS 70m to the east. There are no Wildlife Trust Sites, Local or National Nature Reserves while details Sites of Importance for Nature Conservation for Neath Port Talbot can only be sourced via an LRC search (see 2.2.2). Section 4.1.2 of the PRA states that other areas of interest include an area of ancient woodland Cwm Dyffryn Woods lies approximately 500m to the south-west. Craig Gwladys Country Park 1.8km north-east along the River Clydach, and Gnoll Country Park which is known to support a number of bat species. Local Nature Reserves beyond 2km include Cwm Du Glen and Glanrhyd plantation and the Cwm Clydach RSPB reserve 3km and 4km to the north-west. In addition, the Afan Forest Park – which forms part of the National Forest for Wales – lies 5km to the south-east.

2.2.2 An LRC data search was not undertaken due to the small size, low predicted impact, and nature of the development. The overall impact on biodiversity is likely to be localised and of low significance and current proposals suggest no land will be lost or linear features severed. It is considered very unlikely that the development will have any impact outside the footprint of the works. The data search results would be considered unlikely to impact on the decision-making process as appropriate well-staffed surveys were undertaken at optimum times of year. This approach is consistent with the CIEEM Guidelines for Accessing and Using Biodiversity Data (2020). Section 4.1.3 of the PRA report states that a National Biodiversity Network (NBN) search of publicly accessible records returned a number of priority species within 2km of the site, but no records of any priority species within the boundaries of the property itself. There are a number of records of five different bat species including **Common pipistrelle (*Pipistrellus pipistrellus*)** (19 records), **Soprano pipistrelle (*Pipistrellus pygmaeus*)** (15 records); both 160m and 180m to the east. In addition there are two records for **Daubenton's (*Myotis daubentonii*)** 1.9km to the south, four records for **Serotine (*Eptesicus serotinus*)**, and 15 records for **Noctule (*Nyctalus noctula*)**; the closest being 160m to the east. There are also a number of records of bird species, with roof nesting species within 2km of the site including House sparrow (*Passer domesticus*), House martin (*Delichon urbicum*), Swallow (*Hirundo rustica*), Swift (*Apus apus*), Blue tit (*Cyanistes caeruleus*), Wren (*Troglodytes troglodytes*), Starling (*Sturnus vulgaris*), Pied wagtail (*Motacilla alba*), Robin (*Erithacus rubecula*), and Blackbird (*Turdus merula*). Section 4.1.4 states that there is no record of historical use of the property by bats.

2.2.3 An online search found the following two previous planning applications for the property: Application P2021/0865 for a proposed single storey rear extension was withdrawn on 1st February 2022. A Preliminary Roost Assessment Survey was produced for this application and information relating to bats is included in this Bat Survey Report. Application N1988/0820 for a house was refused on 10th January 1989.

3. Field survey methods and results

3.1 Methods

3.1.1 A PRA was undertaken on 29th November 2021 by DKEcology to identify Potential Roost Features (PRF), and the survey was undertaken by Debbie Kearsley-Evans.

3.1.2 In relation to survey limitations, many of the UK species of bat are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor. Section 3.3.3 of the PRA states that all of the external and internal areas of the property were examined adequately for signs of potential bat access points, as well as signs of droppings and staining. In addition, two activity surveys were subsequently undertaken in good weather conditions to provide confidence in the results, and to understand how bats are using the surroundings. Therefore, using the equipment available to them all areas were thoroughly surveyed to maximise effectiveness.

3.1.3 An anabat was not deployed as there were no bats or their signs.

3.1.4 The dusk activity survey was undertaken on 1st May 2022, and the surveyors were Iestyn Evans, Pete Watts, and Greg Evans. Sunset was at 20:38, the survey started at 20:25 and ended at 22:40. The weather remained dry throughout the survey with 70% cloud at the start of the survey, humidity was 95%, there was a light south-westerly breeze of 2mph, and the temperature started at 10.8°C and ended at 10.1°C.

3.1.5 The dawn activity survey was undertaken on 14th May 2022, and the surveyors were Greg Evans, Ceri Daugherty, and Mike Jones. Sunrise was at 05:24, the survey started at 03:50 and ended at 05:30. The weather remained dry throughout the survey with 65% at the end of the survey, humidity was 90%, there was light south-westerly wind of 3mph, and the temperature started at 11.9°C and ended at 12.7°C.



3.1.6 Figure 4 shows the position of surveyors during the activity surveys. Each surveyor had a Magenta 5 or an Elekon Batscanner bat detector to assist in identification and detection of bats and their behaviour.

Figure 4: Surveyor positions during the activity surveys (from Apple® Maps)

3.2 Survey results

3.2.1 Section 4.2 of the PRA report states that the property consists of a traditional 19th Century semi-

detached stone cottage with a slate roof and forms part of a row of isolated cottages. The cottage would have originally been single storey, but the loft has been converted to create a bedroom with two dormer windows and two modern rendered cement block single storey extensions have been constructed on the south and west elevations; both fitted with slate roof tiles. A small porch is located over the door on the east elevation. It has two chimneys, one on each gable although only the south gable chimney is in use. A flue pipe is also fitted in the roof of the west extension. The main house is generally in good condition with solid well pointed stone walls throughout and well-sealed eaves on all sides apart from one or two gaps on the corners of the west elevation. Most of the potential crevice access/roost points noted were on the roof of the main house around the chimneys; particularly the north chimney, dormers and the areas where the extensions joined onto the house. These included raised lead flashing, gaps at the base of the dormer windows, raised ridge tiles on the dormers, raised roof/hanging tiles, gaps in mortar on the main roof ridge tiles, gaps in the north chimney brickwork and around the base of both chimneys. A number of gaps were also noted in the soffits and timbers of the porch. A number of solar panels are mounted on the west elevation of the main house. Both extensions are constructed of solid rendered cement block/brick and the eaves are well sealed throughout apart from two gaps in the soffits on the corners of the south elevation extension and one over the door on the west elevation. Generally the tiles of both extensions are well sealed apart from a small number of raised tiles around the base of the flue on the west elevation and under raised lead around the join between the two extensions. A small loft area approx. 4.8m x 1.4m x 0.4-0m in height is located above the west extension. With red brick gable walls, approx. 300mm of rock wool insulation and the roof lined with bitumastic felt. Daylight was noted at the apex of the north gable. Cobwebs were noted on both gable walls and the roof apex of the loft. No signs of use of the loft by bats were noted during the survey. Although there is no longer a loft space in the house, five separate small storage areas have been created along the

west and east eaves and within both the north and south gable walls ranging in size from 0.1 to 0.9 cubic metres. All have either boarded/carpeted floors, well pointed stone walls and plaster board ceilings and are dry and well-sealed. Apart from a few gaps in the ceilings of all but one of the storage areas which enable access to the area below the tiles although access to the roof tiles themselves is prevented, as insulation boards have been fitted between the tiles and the ceiling plaster boarding throughout. Cobwebs were noted across most of the gaps within the ceiling boards. No signs of use of any of the storage areas by bats was noted. Four external lights were noted in total mounted at the eaves, with lighting on all elevations of the house and string lighting along the east eaves of the house. A streetlight is located along the minor road approximately 12m east of the house. **No live or dead bats or their signs (e.g., droppings, urine stains or smells) were found anywhere either externally or internally.** As a result of the findings, it was considered that the property had **moderate** potential to support roosting bats, and a **moderate** risk of bats using the features present. There were **no bats** using the building at the time of the survey. Site survey images are reproduced in appendix 6.

3.2.2 Figure 5 shows the flight lines of bats detected and the times they were detected. The species of bats detected during the surveys, and the nature of their activity follows.

Figure 5: Aerial map showing the flight lines of bats detected (from Apple® Maps)



01/05/2022: Sunset was at 20:38, the survey started at 20:25 and ended at 22:40
14/05/2022: Sunrise was at 05:24, the survey started at 03:50 and ended at 05:30

- ***P. pygmaeus***: Bats were detected foraging and commuting to the front and side of the property on both surveys, with the earliest activity on the dusk survey being 35 minutes after sunset, and the latest activity on the dawn survey being 41 minutes before sunrise,
- ***P. pipistrellus***: On the dusk survey an individual bat was detected foraging and commuting along the boundary to the rear of the property, with the earliest activity being 38 minutes after sunset and sporadic activity continuing until 71 minutes after sunset. No activity was detected on site during the dawn activity but calls were heard to the west between 75 and 52 minutes before sunrise.

3.2.3 **Activity summary**: No bats were seen to leave or enter any building at the property, nor fly across any part of it but bats of two species (***P. pipistrellus*** and ***P. pygmaeus***) were using the surroundings for foraging and commuting, with activity generally being low.

3.2.4 **No evidence of nesting birds** was found and **no signs of owl activity** were discovered.

4. Interpretation, conclusions and recommendations

4.1 Interpretation and conclusions

4.1.1 The results for each at species were interpreted as follows:

- ***P. pygmaeus***: There are no sites within 2km that are designated for bats, but there are publicly accessible records within 2km. No bats or their signs were found either externally or internally, and no bats were seen to either enter or leave the property. However, bats were detected foraging and commuting to the front and side of the property on both surveys, with the earliest activity on the dusk survey being 35 minutes after sunset, and the latest activity on the dawn survey being 41 minutes before sunrise. The evidence as a whole therefore suggests that this species is using the area as part of its foraging and commuting habitat.
- ***P. pipistrellus***: There are no sites within 2km that are designated for bats, but there are publicly accessible records within 2km. No bats or their signs were found either externally or internally, and no bats were seen to either enter or leave the property. However, on the dusk survey an individual bat was detected foraging and commuting along the boundary to the rear of the property, with the earliest activity being 38 minutes after sunset and sporadic activity continuing until 71 minutes after sunset. In addition, while no activity was detected on site during the dawn activity calls were heard to the west between 75 and 52 minutes before sunrise. The evidence as a whole therefore suggests that this species is using the area as part of its foraging and commuting habitat.

4.1.2 Using the findings of the desk study and field surveys, it is **concluded that the property is located within favourable bat habitat** and presently has **moderate** potential to support bats. Up to two species of bat (***P. pipistrellus*** and ***P. pygmaeus***) were using the surroundings for foraging and commuting, **but bats are not currently using the property. It is therefore considered that proposed development will not have a negative impact upon the favourable conservation status of the bat species using the area.** The localised scale of the proposed development also suggests that the impact on the local ecology and it is anticipated that the proposed enhancements detailed in 4.2 will result in a positive impact and net gain for biodiversity.

4.1.3 There are not considered to be any survey limitations which would impact upon the findings and recommendations of this report.

4.2 Recommendations

4.2.1 Enhancement measures will be required to help meet obligations within the Environment (Wales) Act 2016 and Planning Policy Wales 11th Edition (February 2021); as well as to compensate for the loss of roosting opportunity. Excellent long-term enhancement can be delivered by implementing measures outlined within appendix 7. Proposed **enhancements** are as follows:

- ✦ **Recommendation 1 (Enhancement):** 1 x Beaumaris Woodstone (or similar) Bat Box to be affixed to the southern elevation of the property. See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](https://www.bats.org.uk/putting-up-your-box-bat-boxes-bat-conservation-trust) for siting advice.
- ✦ **Recommendation 2 (Enhancement):** Prior to works commencing, 1 x small-holed nest box and 1 x open-fronted nest box to be affixed to mature trees within the curtilage of the property.

4.2.2 This ecological report will remain valid for a period of 18–24 months from the date of the last survey i.e. **until the period between 14/11/2023 and 14/05/2024 (CIEEM, 2019)**. A further scoping survey may be required to update the site information if planning is not obtained or works do not commence within a two year period following the activity survey, especially if the property has fallen into disrepair.

5. Outline method statement for planning

5.1 Outline method statement for planning

5.1.1 **No bats** were detected utilising the property and there are no restrictions on the timing of the work in relation to bats. Where proposed plans involve works to the roof(s) extra care will be taken at wall tops and when stripping any part of the roof(s). All materials are to be lifted and not slid as – despite a negative survey – bats can still be found in these areas. **If bats are found at any stage, all works will stop and a qualified ecologist called for advice and guidance.** As no bats or bat signs were detected at the property, no monitoring is proposed (Mitchell-Jones, 2004 – figure 4, page 39).

5.1.2 Current **lighting** plans for the site are not known but should any be proposed they must ensure that exterior lighting is kept to a minimum to prevent any adverse impacts on bats. In particular, external lighting around the recommended enhancement must be carefully designed to avoid any impact upon bats (Institution of Lighting Professionals, 2018). If an external lighting scheme is proposed for this application a plan will be produced that demonstrates compliance with the lighting principles outlined within the guidance referenced above. This lighting plan must be agreed by the Planning Ecologist.

5.1.3 Where **external lighting** is necessary, this should utilise a number of key design points to limit any impact, as follows: Low level lighting pointed towards the ground; LED bulbs to be used of 2700 Kelvin (*p.18 of the lighting guidelines referenced above*) and below (warm white light and not daylight); use of light shields and hoods to direct the light downwards and prevent vertical and horizontal light spill; and use of passive infrared (PIR) motion sensors on timers to ensure lights only come on when necessary.

Appendix 1: An introduction to bat surveys

A note on bat surveys

✎ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Bats are the only mammal capable of true flight. They are notoriously difficult to survey for as they cannot be heard unaided and are difficult to see due to their nocturnal behaviour. They are also small and can live in the smallest of crevices, so may often be overlooked because of their size.

✎ Wales has relatively high numbers of most of the species that occur in Britain; the rural landscape with its abundance of wooded areas, river valleys and hedgerows means that buildings are commonly used as roosting sites by bats. This is particularly the case for older buildings (typically with stone walls and slate roofs) that are located close to good feeding areas, on the edge of settlements, or that are rarely disturbed.

✎ Bats may also change their resting and feeding places regularly throughout the year, depending on the time of year and weather conditions. Thus, other signs of use are also looked for such as their droppings or signs of feeding.

✎ To gain an understanding as to how bats are using a building, a survey may also involve dusk and/or dawn observations which may need to be repeated at different times throughout the year.

✎ The search buffers implemented as part of the survey are considered to more than adequately cover the predicted zone of influence of the proposed development. The reasons for the site designations have also been considered when discussing potential impacts on the biodiversity of these sites. If the sites are designated for their bat or bird interest, this will be mentioned.

✎ Survey methodologies are implemented as appropriate, based on the surveyors' assessment of the site features and with particular reference to the advice in Bat Surveys for Professional Ecologists: Good practice guidelines, 3rd edition (Collins, J. (Ed.), 2016) & The Bat Workers' Manual, 3rd edition. (Mitchell-Jones, A.J., & McLeish, A.P. (Ed.), 2004). Reports are written with reference to the CIEEM (2015) Guidelines as well as BS42020.

✎ A PRA visit (scoping survey) is used to identify all potential access and egress points for bats in the building, and to identify crevices and possible dwelling places. Internal and external inspections are aided using powerful binoculars and close-focussing monoculars, as well as ladders, high powered Cree flashlights and head-torches. We also have thermal imaging cameras and night vision devices at our disposal as well as full spectrum photographic cameras which can photograph a bat in complete darkness with an infrared flash. Exploitable crevices are also endoscoped with either a hand-held digital scope or a smart phone compatible scope. Digital thermometers and hygrometers are also at our disposal.

✎ The survey consists of a visual inspection of the interior and exterior of the building for evidence of bat use, including droppings, smells, feeding remains, staining, and scratching around roost exit and entry points. Potential features conducive (but not necessarily predictive) to bat presence include voids in the stonework, wooden beams, any associated rot holes, gaps behind soffits or within walls and fascia boards, raised tiles, any raised render, and any sufficiently large crevices. The general condition of the building is

examined, including the structure of the roof, condition of walls, the potential for disturbance, and the position of the building in relation to connectivity to good bat habitat.

✧ If positive bat signs are discovered, or the construction style suggests cryptic bats *may* be present, an Anabat SDII or Anabat Express is deployed within the space of the building surveyed. These commonly record all bats from within and to the exterior of a building as they have extremely sensitive microphones so clusters of calls or high frequency of calls over short periods that are repeated (not just a vocal (Chatty) bat passing the microphone once on a foraging /socialising expedition) may indicate a presence within the building. Supporting evidence is then needed to make a decision, such as bats seen during surveys, droppings and feeding signs as well as building suitability for a given species. For example, we have had clear sonograms for Serotine bats (*Eptesicus serotinus*) from a loft space deployed recorder where no gaps existed anywhere and no droppings from serotines were present. These large bats must have been present elsewhere on site or use the site for foraging.

✧ The outcomes have been used to specify whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed works.

✧ If positive signs of bat activity are found then it will be necessary to assess whether a licence is needed at all (damage and disturbance to the roost and harm to bats can be avoided through thoughtful and planned working practices), or whether a licence is recommended as damage, disturbance or harm are unlikely to be avoided.

Appendix 2: Overview of the legislation

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- ✧ There is a risk that works could result in the damage or destruction of a bat roost or roosts, the disturbance of bats, and the potential killing or injury of bats, sufficient survey effort (where indicated) helps to minimise this risk.
- ✧ All wild birds, their nests, eggs, and dependent young are afforded protection under the Wildlife and Countryside Act 1981 (as amended), with the bird nesting season generally from 1st March until 31st August.

Technical Advice Note (TAN) 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- ✧ Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long- term perspective;
- ✧ Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- ✧ Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- ✧ Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- ✧ Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ✧ Ensure that all material considerations are taken into account, and decisions are informed by adequate information about the potential effects of development on nature conservation;
- ✧ Ensure that the range and population of protected species is sustained;
- ✧ Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.

✧ Bats are listed under Schedule 5 and 6 of the Wildlife and Countryside Act 1981 and protected under sections 9 and 11 (as amended by the Countryside and Rights of Way (CROW) Act 2000).

✧ The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat are protected under this legislation as well as others.

✧ The Conservation of Habitats and Species Regulations 2017 – (regulation 43) fully protects all bats and their roosts, making it **an offence to deliberately kill, injure or capture** (take) bats; *to deliberately disturb bats; damage or destroy bat roosts* or resting places (this is considered an ‘Absolute Offence’ as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost/resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.

✧ For any offence to occur a derogation or **European Protected Species (EPS) licence** must be gained from Natural Resources Wales. To gain an EPS Licence, they must be satisfied that;

i. granting the licence would not be detrimental to the Favourable Conservation Status (FCS) of the populations of species concerned within its natural range;

ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment; and

iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce, the need for any adverse impact to the species.

Bats are also protected by;

✧ Appendix III of the Bern Convention.

✧ Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe).

✧ Natural Environment and Rural Communities Act 2006 (in England).

✧ The Environment (Wales) Act 2016: specifically, Sections 6 (*places a duty upon Local Authorities to enhance biodiversity and the **resilience of ecosystems***) and 7 (*Creating local biodiversity lists and a duty to take steps to **maintain and enhance biodiversity***).

✧ All bats are listed in Annex IV of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and are therefore designated as *European Protected Species*. These *protected* species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone. There are also biodiversity obligations to be met within the Well-being of Future Generations (Wales) Act 2015 [WFG] and the seven well-being goals which include an emphasis on socio-economic resilience as well as protecting culture, heritage and the Welsh language. One Act does not take precedence over the other.

✧ Planning Policy Wales (11th Ed.) also emphasises the importance of ensuring – wherever possible – a net gain to biodiversity from any development. Future Wales (The National Plan 2040) highlights in the 10th of 11 outcomes that the aim is for a “Wales where people live...in places with biodiverse, resilient and connected ecosystems”. Highlighting the importance for creating and enhancing resilient and diverse eco-systems.

Appendix 3: Types of bat roost and survey timings

As the mitigation guidelines state: The presence of a significant (important) bat roost... can normally be determined on a single visit at any time of year; providing that the entire structure is accessible and that any signs of bat activity have not been removed by others. The table below shows the applicability of survey methods. The table has been reproduced from Bat Mitigation Guidelines (table 5.2) (2004).

Season	Roost type	Inspection	Bat detectors and emergence counts
Spring (Mar – May)	Building	Suitable (signs, perhaps bats)	Limited, weather dependent
	Trees	Difficult (best for signs before leaves appear)	Very limited, weather dependent
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June – August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited: use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September – November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey?
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December – February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

The table below shows the recommended survey timings and is reproduced from the Good Practice Guidelines (table 7.1) (3rd Edition, 2016). This is for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of the surveys between May and August ^b	May to September ^a with at least two of the surveys between May and August ^b

^a September surveys are both weather and location dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

The table below shows the recommended minimum number of surveys to be carried out according to roost potential. It is reproduced from the Good Practice Guidelines (table 7.3) (3rd Edition, 2016).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry ^a (structures). No further surveys required (trees)	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn ^b

^aStructures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (as noted in section 5.2.9 of the guidelines). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see table 7.1 above) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Roosts required by bats

Hibernation sites (hibernacula). Sheltered areas with relatively stable winter temperatures.

Underground cavities, caves, mines, cellars, hollow trees and cavities and crevices in buildings or similar structures are examples.

Nursery roosts (maternity roosts). Places usually warm, where adult females of a colony gather to give birth and rear their young. These are often traditional sites with a history of such use and include roof voids, walls, soffit boxes, hollows and cracks/splits in trees and cavities in bridges and similar structures.

Night roosts/feeding perches. Places where bats may gather at night away from the day roost after initial feeding. These places are often quite exposed and may not be suitable for day roosting. They are often recognisable by deposits of droppings and insect remains.

Intermediate/dispersal roosts. Sites where small numbers of bats may gather after hibernation before taking up residence in the nursery roost. Bats may return to these sites after dispersal from the nursery roost and before entering hibernation.

Mating/male roosts. Places that an individual male may defend from other males and to which he will attempt to lure females. These will include small holes/cavities in trees, stonework, caves, mines and buildings.

Access, size of roost space and structure

- *Crevise-dwelling bats* (such as Soprano pipistrelles) can crawl into roosts via small gaps in the range of 15–20mm high by 20–50mm wide. The roost area should maintain a crevice of this approximate size gap that the bats can roost between. The area this roost provision covers can be small but about 1m² would be useful for summer nursery roosts. The height of entry can be from 2–7m.

- *Roof-void dwelling bats* require similar dimensions to access the roost but typically need timber joists or beams on which to roost. The height of entry can be from 2–7m.

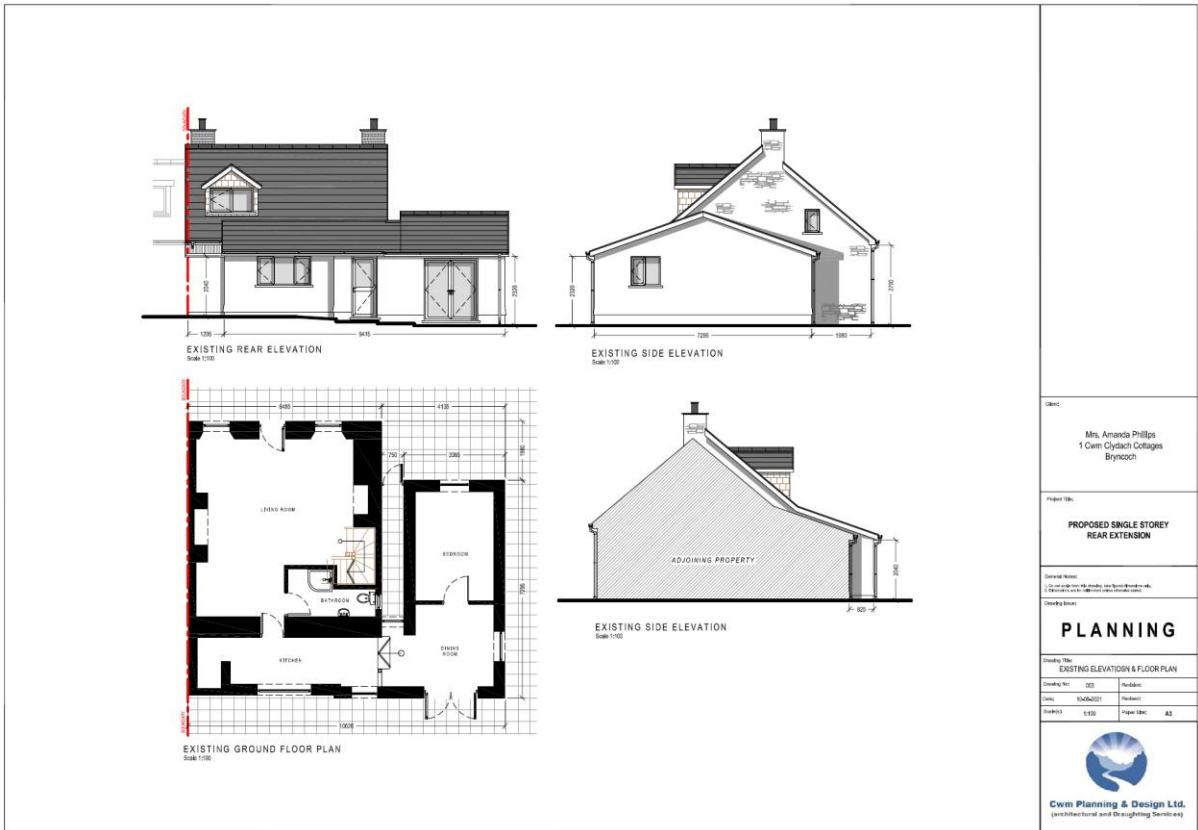
- *Bats needing a flying area* require the same access dimension as mentioned above, 15–20mm (h) x 20–50mm (w) situated over 2m in height. The roosting area should not be trussed, to allow flight, and should ideally (wherever possible) be of similar dimensions to the roost being replaced.

- *Horseshoe bats* need a larger access so that they can fly (instead of crawl) directly into the roost. Lesser horseshoe bats need an access of 300mm (w) x 200mm (h), while greater horseshoe bats need 400mm (w) x 300mm (h). As above, the roosting area should not be trussed, to allow flight, and should again (where possible) be of similar dimensions to the roost being replaced.

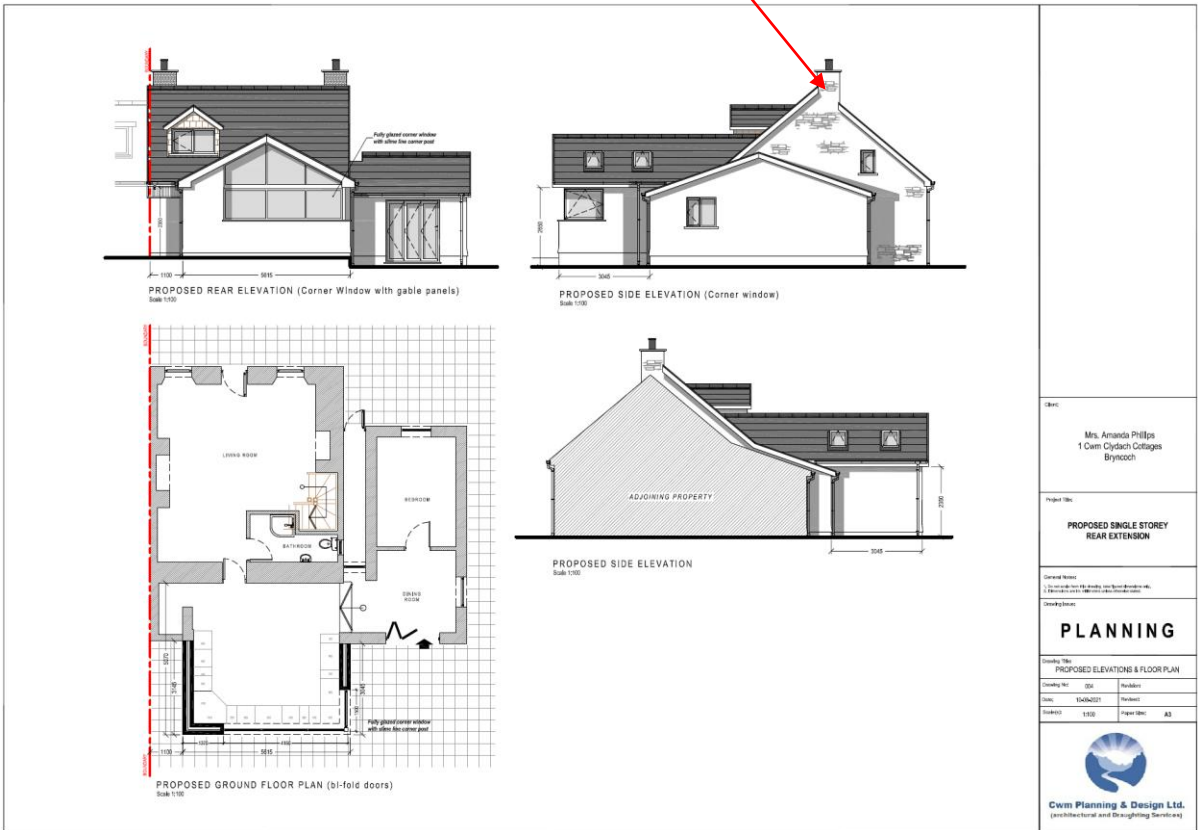
Appendix 4: List of surveyors

Surveyor	Licence	Experience/background
Mr Glyn Lloyd-Jones	Bats	Glyn has assisted/worked with many other licensed bat surveyors as well as local bat groups over the past years. He possesses both a Bachelor's (with honours) and Master's degree in the biological sciences and is a member of the Royal Society of Biology. He has worked for EAW, NRW and CCW for over a decade and has gained significant experience of working for regulators and conservation bodies. He has also held a bat licence in England & Wales since 2013 and has undertaken many badger, tree and herpetofaunal surveys. Natural Resources Wales Licence number S088445/1. I&G were shortlisted for a roost award by BCT in 2021.
Mr Iestyn Evans	Bats	Iestyn has extensive experience in conservation, habitat improvement and management and has also worked with and assisted other licensed bat workers for many years. He has also helped with local bat group surveys and assisted in data gathering for the Beacon for Bats project undertaken by the Vincent Wildlife Trust. Iestyn has also assisted the Glamorgan Bat Group and will also help supervise and mentor (if needed) members of the newly incarnated Carmarthenshire Bat Group. Natural Resources Wales Licence number S090713/1.
Miss Ceri Daugherty	Bats	Ceri worked at Team Leader level within the SNCO for Wales for many years, dealing with customers and negotiating with landowners. She also has practical conservation management experience as both a Countryside Ranger and a conservation volunteer. She possesses a Master's degree in Environmental Impact Assessment and a Bachelor's degree (with honours) in the natural sciences. She is a member of the Carmarthenshire Bat Group. Natural Resources Wales Licence number S089483/1.
Mr Pete Watts	Trainee	Peter provides survey support with his keen eye for detail and vigilance. He has accompanied I&G Ecological Consulting Ltd on many surveys and is becoming a valuable and experienced surveyor.
Mr Greg Evans	Trainee	Greg attends dusk and dawn surveys to provide extra monitoring for possible entry and exit points for bats. He is currently building his experience in this area and is a keen amateur natural historian with an enthusiasm and affinity for bats.
Mr Mike Jones	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Mike provides an excellent and reliable service
Ms Sharon Doherty	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Sharon provides an excellent and reliable service.
Ms Wendy Larcombe	Assistant	Wendy has an Honours degree in Environmental Biology and over 17 years' experience working in conservation, including as a Planning Ecologist and a freelance Ecologist. She has a wide range of experience, which includes extended Phase 1 habitat surveys, building assessment for bats, bat/barn owl surveys, summer roost counts (Gower), and winter roost counts (Black Mountains). She has undertaken a range of training including bat ecology and surveying and is a valued member of the team.

Appendix 5: Site plans



Above: Existing elevations. **Below:** Proposed elevations. **Biodiversity Enhancements:** The proposed location for the bat box on the south elevation is shown by a red arrow.



Appendix 6: Site survey images taken from Appendix 1 of the PRA



East elevation of the house



West elevation of the house and extensions



South elevation of the house



South elevation of the south extension



Neighbouring gardens to the north east



Edge of woodland along the south boundary



Area of wet rush pasture to the west



Rear garden and woodland looking south

External views of the property



Inside storage cupboard B



Inside meter cupboard E



Loft above the west extension



Inside storage cupboard D



Inside Storage cupboard A



Bedroom in the converted loft

Internal views of the property



Gap in plasterboards in west eave storage area



Gaps leading to the area below the roof tiles in storage area D



Gap above storage area D



Uneven slates around the south chimney



Gaps in north chimney and under lead flashing



Slipped tiles on the house porch



Gaps leading into the porch roof



Tight eaves on the house



Raised hanging tiles on the south gable



Gaps where dormer windows join with the roof



Raised lead and tiles along join with the south and west extensions



Uneven slates around the flue on the west elevation



Gap in soffit on the west elevation of the house



Exposed tile edges gaps in render on north side of the west extension

Potential access and roosting opportunities

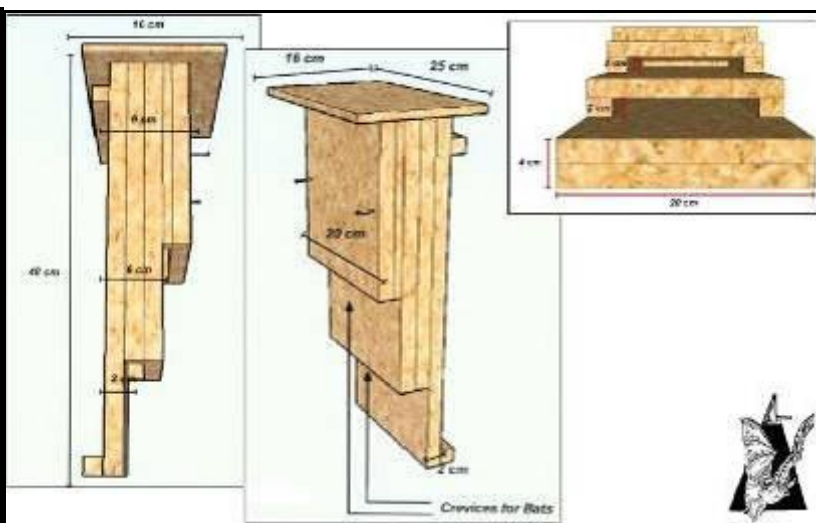
Appendix 7: Roost compensation & enhancement measures



Top: From left to right, the in-wall Schwegler 1FE, the tree mounted 1FF and the multi season 1WQ. The bottom image shows the 1FR in situ.

Middle: The Schwegler 2F is a general-purpose bat box is suitable for most situations and is an ideal starter bat box. The spherical interior of the roof area provides an ideal roost for bats. If it is not occupied by bats after a number of years , it is easily converted to a bird box simply by changing the front panel (additional cost applies). Providing accommodation for large number of bats, this box offers good value for money and can be used to help with their conservation. The front cover can be removed for inspection and cleaning.

Bottom: The Vincent Pro bat box (left) and the Kent Bat Box (right)





Left: The Beaumaris bat box is made entirely from Woodstone, a robust material comprising concrete and wood fibres. This means that, not only does the box have excellent insulating properties maintaining a more consistent temperature throughout the year, it also provides excellent protection from predators. The Beaumaris box has a single narrow cavity which makes it suitable for crevice roosting bats such as the common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Brandt's bat and whiskered bat. The interior of the box has a rough surface for bats to cling to and the front of the box features a subtle but attractive imprint of a bat in flight. Suitable for attaching to external walls and available in two sizes: the Midi and the Max.

Right: The Harlech Woodstone bat box offers excellent insulation with a minimum of condensation for roosting bats. Ideally you should site at least 2 to 3 boxes which should be erected facing in different directions to account for temperature changes of the day. WoodStone® is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats. **Specifications:** Height 24cm x width 19cm x depth 18cm; Weight 4.4kg; Colour: Black with White front panel; Hook for hanging; Removable front panel for inspection / cleaning; 10 Year Manufacturers Guarantee.



Examples of sparrow terraces. Siting advice can be found at [Where To Put A Bird Box | Nestboxes - The RSPB](#)



Examples of nest boxes and swallow cups. Siting advice can be found at [Where To Put A Bird Box | Nestboxes - The RSPB](#)



Appendix 8: I&G Ecological Consulting Ltd legal disclaimer

This report was prepared by I&G Ecological Consulting at the instruction of, and for use by, our client(s) named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. I&G Ecological Consulting excludes to the fullest extent lawfully permitted, all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however, exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

We confirm that in preparing this report, we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, and prevailing site conditions.

Advice in this report is based on the judgement of I&G Ecological Consulting and the interpretation of data gathered during the course of their survey on the property named in this document. ***Until payment has been received, this report remains the intellectual property of I&G Ecological Consulting and can be withdrawn from the planning process at our request. You are also not covered by any of our indemnity or liability insurance until the report has been paid for in full.***

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All work undertaken in this report is the sole responsibility of I&G Ecological Consulting.

Appendix 9: References, bibliography and sources of information

- Bat Conservation Trust, 2010. Bats in Buildings. *Bats and the Built Environment Series: Volume 1*.
- British Standards Institute, BS42020:2013. Biodiversity. Code of practice for planning and development. London, UK.
- British Standards Institute, BS8596:2015. *Surveying for Bats in Trees and Woodland*. London, UK.
- CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Ed*. The Bat Conservation Trust. London.
- Council of Europe, 1979. *Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention)*. Strasbourg.
- Council of Europe, 1979. *The Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention)*. Strasbourg.
- Dietz, C., von Helvesen, O., Nill, D., 2009. *Bats of Britain, Europe and Northwest Africa*. A. & C. Black, London.
- DKEcology, 2021. *Preliminary Roost Assessment for 1 Cwm Clydach Cottages*. DKEcology. Swansea.
- HM Government, 2000. *Countryside and Rights of Way (CRoW) Act*. HMSO. London.
- HM Government, 2009. *Environmental Damage (Prevention and Remediation) Regulations*. HMSO. London.
- HM Government, 2006. *Natural Environment and Rural Communities Act*. HMSO. London
- HM Government, 2010 (as amended 2017). *The Conservation of Habitats and Species Regulations*. HMSO. London.
- HM Government, 1981. *The Wildlife and Countryside Act 1981 (as Amended)*. HMSO. London.
- Institution of Lighting Professionals, 2018. *Bats and Artificial Lighting: Bats and the Built Environment Series. Guidance Note 08/18*. ILP, Rugby.
- Lle. Retrieved from <http://lle.gov.wales/home>
- MAGIC. Retrieved from <https://magic.defra.gov.uk/>
- Mitchell-Jones, A.J., 2004a. *Bat Mitigation Guidelines*. English Nature, Peterborough.
- Mitchell-Jones, A.J., & McLeish, A.P. Ed., 2004. *3rd Edition Bat Workers' Manual*. English Nature, Peterborough.
- Mitchell-Jones, A.J., Cooke, A.S., Boyd, I.L., Stebbings, R.E., 1989. Bats and remedial timber treatment chemicals a review. *Mammal Rev.* **19**, pp 93–110.
- Morris, P.A., 1993. *A Red Data Book for British Mammals*. The Mammal Society, London.
- Waring, S. D., Essah, E. A., Gunnell, K., Bonser, R. H. C., 2013. Double Jeopardy: The Potential for Problems when Bats Interact with Breathable Roofing Membranes in the United Kingdom. *Architecture and Environment*.

Welsh Government, 2021. Planning Policy Wales. 11th ed. Retrieved from https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Welsh Government, 2021. Future Wales: the national plan 20:40. Retrieved from https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Welsh Government, 2016. *Environment (Wales) Act*. Welsh Government. Cardiff.

Welsh Government, 2009. *Technical Advice Note (TAN) 5, Nature Conservation and Planning*. Welsh Government. Cardiff.

Welsh Government, 2003. *List of Species and Habitats of Principal Importance for the Conservation of Biological Diversity*. Welsh Government. Cardiff.

Williams, C., 2010. *Biodiversity for low and zero carbon buildings: a technical guide for new build*. RIBA Pub., London.