



**Former Bryn Siriol Day Centre
Cymer**

Bat and Nesting Bird Survey Report

July 2020

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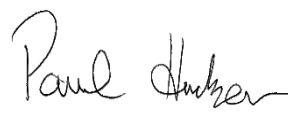
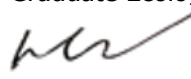
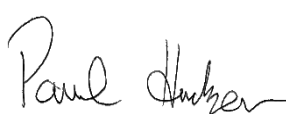
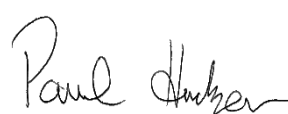
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DOCUMENT CONTROL

Former Bryn Siriol Day Centre, Cymer Bat and Nesting Bird Survey Report				
Revision	Date	Prepared by	Checked by	Approved by
1.0	20 July 2020	Jenny Smith Graduate Ecologist 	Ashley Dale Graduate Ecologist 	Paul Hudson MCIEEM Principal Ecologist 
2.0	29 July 2020	Harri Williams Graduate Ecologist 	Paul Hudson MCIEEM Principal Ecologist 	Paul Hudson MCIEEM Principal Ecologist 

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Summary

Brief and Site Location	This report presents the findings of a bat and nesting bird survey of a detached building, known as the Former Bryn Siriol Day Centre, located at Margam Street, Cymer, SA13 3ED (Ordnance Survey Grid Reference: SS 8604 9611).
Proposed Works	The client intends to purchase the former day centre and is planning a change of use.
Survey Methodology	The survey comprised the following: • A preliminary bat roost assessment of the building searching for signs of bats and nesting birds; • One dusk emergence survey of the building; and • One dawn re-entry survey of the building.
Results of Preliminary Bat Roost Inspection	No signs of bats were found during the internal and external inspection of the former day centre. The former day centre is located within an area providing low-quality foraging and commuting habitat for bats.
Suitability of the Building to Support Roosting Bats	The former day centre was assessed as having moderate suitability to support roosting bats.
Results of Dusk Emergence and Dawn Re-entry Surveys	No bats were recorded emerging from or re-entering to the building during the dusk emergence and dawn re-entry surveys.
Evidence of Nesting Birds	There was some very old nesting material within the north-western corner of the void.
Requirements for Additional Survey	None required.
Licensing Requirements for Bats	None required.
Recommendations and Precautionary Measures	Detailed recommendations are given in Section 6 of this report. These include precautionary methods and guidance for action to take if bats are found during the works.

1. Introduction

1.1. Brief

This report presents the findings of a bat and nesting bird survey of a detached building, known as the Former Bryn Siriol Day Centre, located at Margam Street, Cymer, SA13 3ED (Ordnance Survey Grid Reference: SS 8604 9611).

The building is situated within the boundary of Neath Port Talbot County Borough Council.

1.2. Site Description

The building is located at the northern boundary of the village of Cymer. To the south and south-west is the remainder of the village. To the north and north-east, beyond the village boundary are areas of woodland and scrub. The surrounding landscape is rural, with the nearest large town being Maesteg, approximately 3km to the south.

The location of the building is shown on Plan 1: Location Plan.

1.3. Proposed Works

The client intends to purchase the former day centre and is planning a change of use, however, architectural plans have not been finalised at the time of writing. A planning application has been submitted under reference P2020/0338.

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK species of bat are designated as 'European Protected Species'. Their breeding sites or resting places¹ (roosts) are fully protected under the Wildlife and Countryside Act 1981² (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018³, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019⁴.

Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

¹ Resting places are defined as 'areas that are essential to sustain an animal or group of animals when they are not active' (Anon 2007).

² <https://www.legislation.gov.uk/ukpga/1981/69>

³ <http://www.legislation.gov.uk/uksi/2018/1307/contents/made>

⁴ EU Exit – The European Union (Withdrawal) Act 2018 (the EUWA) will end the supremacy of EU law in UK law, will convert directly applicable EU legislation (in particular, EU Regulations and Decisions) as it stands at the moment of exit into domestic law, and will preserve legislation previously made in the UK to implement EU obligations. The legislation will generally have the same effect that it had before the UK left the EU, unless or until it is changed by Parliament. In some cases, there may be changes in referencing and guidance as a result of secondary legislative amendments.

1.4.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs (with certain limited exceptions⁵) are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁶ (as amended) and the Countryside and Rights of Way Act 2000⁷. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have extra levels of protection including protection from disturbance whilst nest building and disturbance of dependant young.

1.5. Survey Scope

The survey comprised the following:

- A preliminary bat roost assessment which included a survey for nesting birds;
- One dusk emergence survey of the building; and
- One dawn re-entry survey of the building.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey;
- Provide an interpretation of the survey results;
- Determine the need for further targeted surveys on site; and
- Provide suitable recommendations in line with planning policy and wildlife law including potential licencing requirements, mitigation, compensation and enhancement measures.

⁵ Details of the exceptions are available at <https://bit.ly/2KiQTFH>

⁶ <https://www.legislation.gov.uk/ukpga/1981/69>

⁷ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

An assessment of the site and surrounding area was carried out, including existing habitats, from maps and aerial photographs. A Geographic Information System (GIS) dataset, obtained from NRW was used to search for statutory and non-statutory conservation designated sites for bats within 10km. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A search of the local planning portal was undertaken to look for other sites within the same postcode area which have had bat surveys submitted as a part of their planning application.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search was made of the exterior and interior of the building looking for features that bats could use for entering/exiting and roosting⁸. In addition, a search was made 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 7th July 2020 by Paul Hudson⁹ MCIEEM (NRW Licence Number: S088190/2) accompanied by Jenny Smith^{10/11}.

A high-powered torch (Clulite), an endoscope (Ridgid Micro CA-300) binoculars and a ladder were available for use, as appropriate during the survey.

2.2.2. Assessment of Bat Roost Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 2). The assessment was based on the relative abundance and quality of potential roost sites; and the habitat features within both the site and the surrounding landscape, suitable for roosting, foraging and commuting bats.

2.2.3. Dusk Emergence and Dawn Re-entry Surveys

The evening dusk emergence survey commenced 30 minutes prior to sunset, and continued until 90 minutes after sunset.

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

⁹ Paul graduated with a degree in Environmental Biology from Reading University and a Postgraduate Diploma in Conservation Management from the University of East Anglia. He has worked within ecological consultancy since 2000 and has been involved in bat work since 2001. He holds licences to disturb bats in both Wales (S088190/1) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at <http://linkd.in/19aGTf4>.

¹⁰ Jenny graduated from Cardiff University with a First class degree in Biological Sciences in 2020, during which she studied modules on biodiversity, ecology and conservation. She is in her first season of working as a Graduate Ecologist and is undergoing training with Acer Ecology in basic bat ecology, bat survey techniques (including preliminary roost assessments and dusk emergence/dawn re-entry surveys) and bat sound analysis.

¹¹ Jenny accompanied Paul Hudson and helped with the external building inspection. She did not enter the building during the survey.

The dawn re-entry survey commenced 90 minutes before sunrise and continued for 15 minutes after sunrise.

Three surveyors undertook the dusk emergence and dawn re-entry surveys. Surveyor details can be found in Appendix 5. The surveyors were all equipped with Elekon Batlogger M bat detectors.

Surveyors were positioned at viewpoints where they had good sight of all elevations of the buildings, so that all potential roosting features could be observed to detect any bat emerging from, or re-entering, the building. Bat activity nearby was recorded to help ascertain flight lines.

In accordance with Section 2.6.1 of the Bat Conservation Trust's Bat Surveys for Professional Ecologists (Collins, 2016) surveys were undertaken during nights with temperatures above 10°C at sunset and during mornings where the previous sunset temperature was above 10°C. The surveys were also undertaken in the absence of rain and strong wind (5.4 m/s or greater, which is equivalent to 13 mph or Beaufort 4).

2.2.4. Survey for Nesting Birds

A visual search was undertaken for active bird nests, as well as any signs which might indicate either past or current nesting, such as guano, singing birds, birds carrying nesting material, food items, faecal sacs and calling chicks.

2.2.5. Constraints

General Temporal Constraints

An ecological survey can only identify what was present on site at the time it was conducted. However, habitat usage by species can change over time.

Data Search

A Local Records Centre (LRC) data search was not undertaken due to the relatively small size 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 are considered unlikely to impact on the decision-making process and therefore a LRC search has not been undertaken.

This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2016) which states that works to a single dwelling may not require a LRC search where: there is no requirement for any other preliminary survey (e.g. for habitats or other protected species) other than nesting birds or barn owls; and no trees likely to be used by roosting bats are to be affected (e.g. felling, pollarding, crown reduction, limb removal).

3. Results

3.1. Desk Study

3.1.1. Bat Roosts Reported in Planning Applications Within the Same Postcode

The search on the planning portal returned no records of bat roosts within the same postcode area as the proposed development.

3.1.2. Protected Sites

The location of protected sites is shown in Plan 2: Protected Sites.

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

No SACs that have been specially designated for bats lie within 10km of the building.

Other Protected Sites Within 2km

There are no statutory designated sites such as SACs, SSSIs, National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) either within the proposed development site or within 2km of the building.

Non-statutory Protected Sites

Ancient Woodland Sites

There are 21 areas of Ancient Semi-Natural Woodland (ASNW)¹², 15 Plantations on Ancient Woodland Sites (PAWS)¹³, and three Ancient Woodland Sites of Unknown Category¹⁴, located within 2km of the site. The nearest area of ancient woodland is an unnamed area of ASNW 0.1km to the north-west of the site.

Protected Sites Summary

Given the small scale of the proposed development, the localised nature of the proposed works, as well as the limited scope for impacts outside of the footprint of the proposed works, no adverse impacts to the protected sites are likely to occur. These sites are not mentioned any further in this report.

¹² Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

¹³ Plantation on Ancient Woodland Sites (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50 percent non-native conifer tree species.

¹⁴ Ancient Woodland Site of Unknown Category (AWSU) – woodlands which may be ASNW, PAWS or PAWS. These areas are predominantly in transition and existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

3.2. Field Study

3.2.1. Ecological Context of Site

Lighting

The site is assessed as being within Zone E3¹⁵ (Institute of Lighting Professionals, 2012) as there are some streetlights are present on Margam Street which generate extensive artificial lighting, somewhat decreasing the quality of foraging and commuting bat habitat¹⁶.

Site and Surrounding Habitats

The building is situated at the northern boundary of Cymer, in a suburban area with high-density housing to its south and south-west. To the north and north and east, beyond the boundary of the village are areas of woodland which may provide foraging opportunities for bats. Additionally, there is a small open area of grassland to the south-east with small clusters of trees and a low level of artificial lighting. The building is poorly ecologically-connected to these areas and the wider landscape however, due to the lack of suitable commuting routes surrounding it, and the relatively high level of lighting and noise the building is likely to experience at night. The surrounding areas therefore provide poor-quality foraging and commuting habitat for bats.

3.2.2. Building Description from the Perspective of Bat Habitat

The following table summarises the key features of the building.

Table 1: Key Features of Building

Building Type	The building is a two-storey detached former day centre which has not been in use for approximately seven years. There are two flat-roofed sections (western and southern elevations) with flat roof (Photos 1-5).
Roof	The roof is pitched and constructed from slate with clay ridge tiles. The main part of the roof is hipped, although there is a flat roofed at the front (eastern elevation) which is flat with parapets, the roof of which was not inspected at the time of the survey (Photos 1 and 2). There are some localised gaps and lifted tiles within the roof and the hipped ridge tiles have almost all lifted with gaps present towards the slate tiles. There are also gaps at the end hip tiles where the cement has weathered away (Photos 6-8). The flat roofed sections both have bitumen felt roof, although there are gaps present at the edges of the bitumen. On the flat roofed section on the northern elevation there are plastic fascias. These have failed in a corner of the roof with a small gap present potentially allowing access into the space behind the fascias (Photos 9-11). There is also a clock tower projecting out of the roof. This has louvered vents giving access into the internal parts of the clock tower (Photo 1).

¹⁵ E3: Suburban lighting zone, with medium district brightness.

¹⁶ Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

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External Walls	The exterior walls of the main part of the building are of stone with decorative quos at the edges of the walls. These are mostly in good condition, although some minor cracks were present (Photo 12).
Windows	The majority of the windows has been boarded with timber, which is mostly close-fitting, although there are small gaps around some of the edges of the timber boarding (Photo 13). The windows on the northern elevation are glazed. The flat roofed section has walls constructed of horizontal timber panels, one of which has become dislodged potentially providing access into the interior (Photo 14).
Roof Void	The roof void is relatively small and quite cluttered. The roof is supported on traditional, rough sawn timbers, with associated timber purlins, rafters and struts. The rafters are attached to a ridge board at the apex and to the ceiling joists at the base. The clock tower void had an internal ladder and was accessible internally. The clock tower void is very cluttered (Photos 15).
Roof Lining	A lining of plastic material is present between the roof covering and the wooden rafters (Photo 16).
Insulation of Void	Fibreglass insulation is present in the roof void (Photo 15).
Security Lighting	No security lights are present on the building's exterior.

Table 2: Photos Showing the Building and its Features

Photo 1: Eastern Elevation



Photo 2: Northern Elevation



Photo 3: Western Elevation



Photo 4: Partial Southern Elevation



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Photo 5: Open Access at Southern Elevation



Photo 6: Raised Slate Tiles



Photo 7: Lifted Hip Tiles



Photo 8: Eroded Cement on Hip Tile End



Photo 9: Gap in Bitumen Felt



Photo 10: Access Via Broken Fascia



Photo 11: Damaged Soffit Box



Photo 12: Gaps in Masonry



Photo 13: Gap in Boarded Window



Photo 14: Slanted Horizontal Timber Panel



Photo 15: Fiberglass Insulation in Void



Photo 16: Gash in Plastic Lining of Roof



3.2.3. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats in the Former Bryn Siriol Day Centre

There are numerous potential access points for bats to gain entry into the interior via various raised tiles, eroded cement mortar at ends of hip tiles, gaps between windows and boards, ground-level open access at the Southern elevation of the building, gaps and cracks in the masonry, gaps in fascia boards and soffit boxes and damaged wooden panels, as shown in the photos in Table 2.

Potential Roosting Sites for Bats in the Former Bryn Siriol Day Centre

The following potential roost sites were recorded:

- R1 – Underneath the single-story area of the Southern elevation part of the building (see Photo 5), which could allow roosting by direct-access species;
- R2 – Under raised roof tiles (see Photos 6 and 7), which could also allow roosting by crevice-dwelling species;
- R3 – Internal parts of the building accessed via lifted roof tiles, gaps in hip tiles, gaps in fascia boards, open soffit boxes, and gaps between windows and boards (see Photos 6 – 8, 10, 11 and 13) potentially providing access into the loft voids, basement or other parts of the building;
- R4 – Between external walls and Bitumen felt (see Photo 9);

- R5 – Within open soffit boxes (see Photo 11);
- R6 – Gaps in masonry created by eroded mortar (see Photo 12); and
- R7 – Internal parts of the single-story area of the building via broken wooden panels (See Photo 14).

3.2.4. Evidence of Bats

No evidence of bats was found during the preliminary roost assessment.

3.2.5. Dusk Emergence and Dawn Re-entry Surveys

The results of the dusk emergence and dawn re-entry surveys are summarised below.

Table 2: Summary of Conditions During Dusk Emergence and Dawn Re-entry Surveys

	Survey 1	Survey 2
Date	12 th July 2020	28 th July 2020
Sunset/Sunrise Time	21:30	05:33
Start Time	21:00	04:03
Finish Time	23:00	05:48
Start Temperature		15°C
Sunset Temperature	18°C	
Rain	None	None
Wind¹⁷	0	1
Cloud Cover	7/8 oktas	2/8 oktas

Table 3: Summary of Dusk Emergence and Dawn Re-entry Surveys Results

	Survey 1: Dusk Emergence	Survey 2: Dawn Re-entry
Emergences/ Re-entries	No bats emerged from the building or interacted closely with the building.	No bats returned to roost within the building or interacted closely with the building.
Commuting/ Foraging Routes	No noteworthy commuting routes were identified.	No noteworthy commuting routes were identified.
Bat Activity¹⁸	Overall, low levels of bat activity were recorded comprising two species: common pipistrelle (<i>Pipistrellus pipistrellus</i>) and soprano pipistrelle (<i>Pipistrellus pygmaeus</i>). Occasional common pipistrelle contacts were heard from 21:58 until the end of the survey. In addition, a single common pipistrelle foraged around the streetlight to the south of the building from 22:24 until 22:30. Soprano pipistrelle contacts were heard infrequently from 22:30 until 22:48.	Overall, low levels of bat activity were recorded. Common pipistrelle was the only species recorded. A single bat foraged around the streetlight to the south of the building from 04:44 to 04:48 but otherwise only very occasional contacts were recorded.

¹⁷ Estimated on site using the Beaufort scale.

¹⁸ Activity thresholds have been quantified using personal judgement according to past experience of surveying similar sites.

3.2.6. Nesting Bird Survey

No signs of birds having recently nested were found during the survey within or on the exterior of the building. There was some very old nesting material within the north-western corner of the void but this had clearly been deposited several years previously and the shape of the nest had completely disintegrated.

4. Evaluation

4.1. Summary of Field Work

The preliminary roost assessment and dusk emergence/dawn re-entry surveys found no evidence of bats roosting within the former day centre.

4.2. Potential for Summer Roosts

The building was assessed during the initial preliminary roost assessment survey as having moderate suitability for use by crevice-dwelling bats; moderate suitability for use by roof-void dwelling bats; and low suitability for use by direct access species (horseshoe species). Full justification of the assessment can be found in the Appendix 2B. This assessment was used to determine the number of dawn re-entry and emergence surveys required (see Appendix 3).

4.3. Potential Winter Roosts

It is possible that the building could be used by crevice-dwelling hibernating bats, but this is considered highly unlikely¹⁹, due to the following factors:

- The lack of direct evidence of bats found using the building during the preliminary roost inspection²⁰ and during the dusk emergence and dawn re-entry survey;
- The absence of any underground or subterranean features;
- The internal and external walls of the building are generally well-mortared lacking deep penetrating crevices suitable for entry by bats; and
- The building is in a relatively exposed position. The building is not shaded by any tall structures to the south (i.e. large trees/ buildings). They are therefore likely to be subject to direct sunlight throughout the winter months for much of the day and would therefore be unlikely to provide the stable, cool temperatures and humidity regime that would ordinarily be required by hibernating bats.

4.4. Birds – Interpretation of Nesting Bird Survey

The lack of apparent recent nesting or the presence of old nesting materials indicate that it is unlikely the building is utilised by nesting birds.

¹⁹ There is limited research on where pipistrelle bats hibernate, but current evidence suggests that they may hibernate adjacent to their breeding roosts in secure locations such as cavity walls that have relatively stable temperatures. Other individuals disperse to roost in small numbers in more exposed locations such as around window frames. In exposed locations pipistrelle bats typically hibernate as one or two individuals. Often there are often no obvious external signs of their presence (JNCC, 2004). Because of the highly exposed location of hibernation sites used by some individuals, it is therefore very difficult to completely rule out hibernation use by this species in almost any building that has some very shallow crevices, openings or gaps.

²⁰ Due to the low levels of activity of bats in hibernation sites relatively few droppings are produced.

5. Impact Assessment

5.1. Potential Impacts of Development on Bats

Based on the conclusion that bats are highly unlikely to be using the building as a roost site, no negative direct or indirect impacts on bats are anticipated.

5.2. Potential Impacts of Development on Birds

Based on the conclusion that birds are not currently nesting in the building, no negative direct or indirect impacts on birds are anticipated.

6. Required Actions

6.1. Licensing Requirements for Bats

The survey results indicate that the house is not currently being used as a roost by bats and so a European Protected Species (EPS) licence will not be required.

6.2. Precautionary Measures

Given the lack of any evidence of any use by bats, it is highly unlikely that the development proposals will have any impact on bats or their roosts. No precautionary timing restrictions on works are necessary. However, it is not possible to rule out bat use entirely, and there is also a risk of an offence being committed if active birds' nests are present. The following recommendations are made to minimise risks to bats and birds:

- It will be clearly understood that in the event of any bats being found, the contractor must halt works (if bats are encountered, the bat will be carefully covered over again), and appropriate advice will be obtained from a suitably qualified bat consultant or Natural Resources Wales and, if necessary, a bat development licence obtained before work can resume;
- If any active bird nests are found these will be protected, along with an appropriate buffer zone of 10m, until the nesting is complete, and the young have fledged²¹;
- Contractors will check for the possible presence of bats on the undersides of roofing tiles, ridge tiles, fascias, soffits and bargeboards etc. as they are lifted off; and
- The services of an appropriately qualified and licensed ecological consultant will be available on an 'on-call' basis at all stages of the works to deal with any unexpected encounters with bats or nesting birds. Contact details of such will be held on site. Acer Ecology Ltd. could be retained to provide this support.

6.3. Ecological Enhancement for Bats

The Environment (Wales) Act 2016, Planning Policy Wales (Edition 8, January 2016), TAN 5 Nature Conservation and Planning (2009) and Biodiversity supplementary planning guidance stipulate that development projects minimise ecological damage and contain elements of ecological enhancement. Ecological enhancement measures could be provided within the proposal and could include the retention of any unused areas of roof void in a suitable condition for use by roosting bats with suitable access points etc. Fascias, soffits and gutter-plates etc. could be left with small gaps beneath to allow access by bats behind them²², and/or purpose-built bat roosting boxes could be installed (Appendix 4), either on the exterior of the building or incorporated directly into the structure of the walls.

²¹ Some bird species, especially raptors and owls remain dependent upon the nesting site after fledging and so depending upon the species the nest site may need to be protected for a period of time after fledging.

²² This approach will only be acceptable if breathable membrane will not be installed within the building or the fascia, soffits etc. or the fascias, soffits etc. will be installed in a way where there is no potential for bats to gain access to the breathable membrane.

In addition, consideration²³ will be given to using landscaping and garden design night flying invertebrates. Plant species that provide a rich source of nectar should be used. Suitable species include flowering herbs such as lavender (*Lavendula* spp.), violets (*Viola* spp.); or shrubs such as flowering currant (*Ribes sanguineum*), privet (*Ligustrum vulgare*), forsythia (*Forsythia* spp.), dogwood (*Cornus sanguinea*), berberis (*Berberis* spp.), pyracantha (*Pyracantha* spp.) and ceanothus (*Ceanothus* spp.).

6.4. Longevity of Report

Bat Surveys for Professional Ecologists (Collins, 2016) states that the survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factors²⁴. It is considered that if development works do not begin within eighteen months (CIEEM, 2019) to two years of the date of this report, an update survey may be required in accordance with guidance in BS 42020:2013²⁵ and CIEEM (2019), to determine if conditions and evidence of bat use has changed since described in the current report.

²³ Landscaping provision is considered an enhancement that would be desirable but the mitigation scheme will still be acceptable if this is not implemented. As a result, it is not considered appropriate to use enforceable language stating that this will definitely be implemented.

²⁴ The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken; and are additional surveys likely to provide information that is material to a decision, the design of mitigation measures, or specific advice relating to a proposed activity.

²⁵ 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).

7. References

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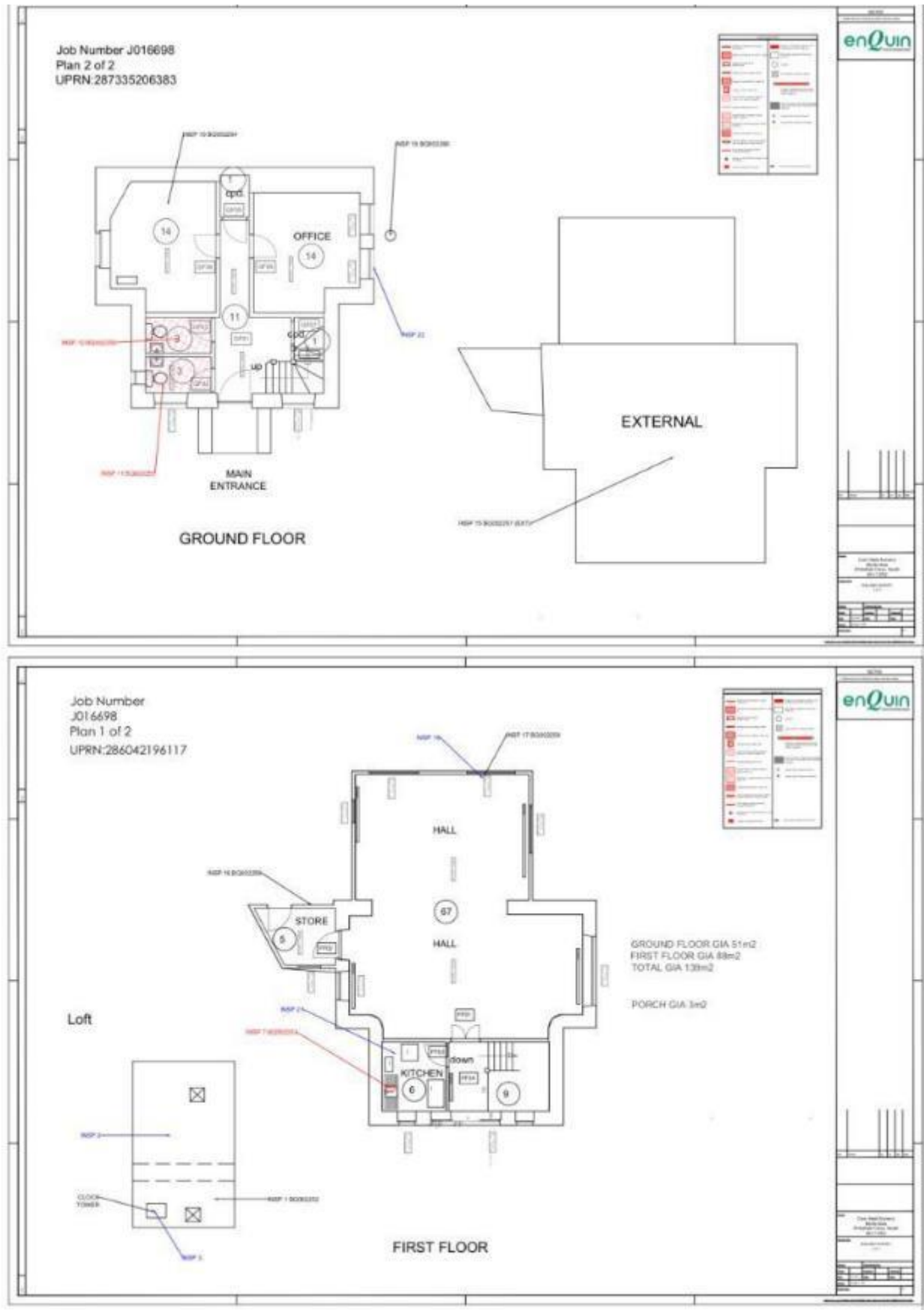
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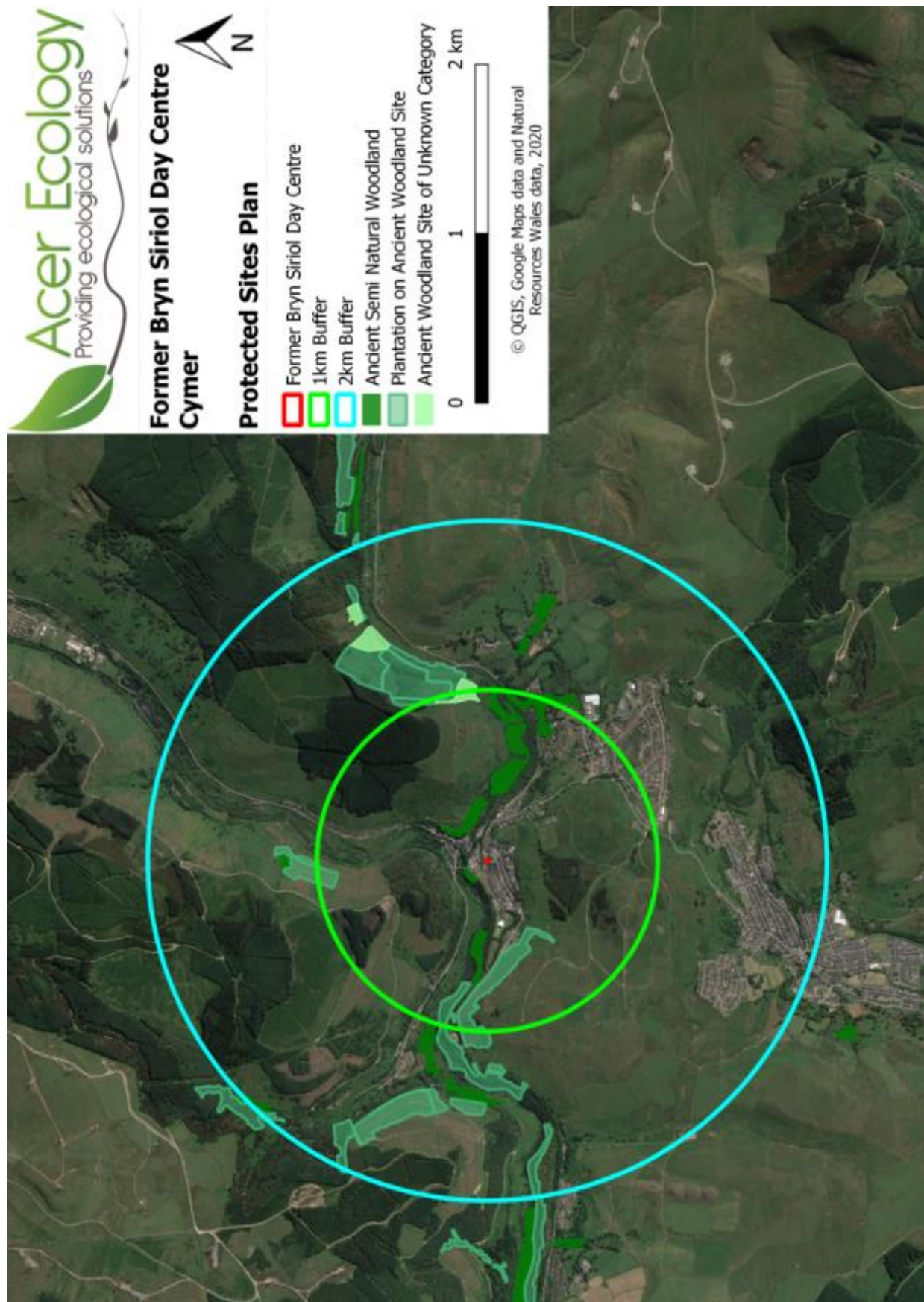
Drawing 1: Existing Site Plans



Plan 1: Location Plan



Plan 2: Protected Sites Within 2km



Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. All of them are small, nocturnal, flying, insectivorous mammals that are under conservation threat and many having undergone massive population declines over the last century. Some species, such as common and soprano pipistrelle (*Pipistrellus pygmaeus*) are relatively common and widespread in the UK, while others, such as greater horseshoe (*Rhinolophus ferrumequinum*) bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts may be in a variety of habitat types including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or a breeding site or resting place (their roosts) are fully protected under the amended Wildlife and Countryside Act 1981 through inclusion in Schedule 5. The roosts are protected irrespective of whether bats are present at the time. All bats are 'European Protected Species' and fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) [CHSAEU] Regulations 2019. These pieces of legislation make it illegal to deliberately or recklessly:

- kill, injure or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to affect significantly the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing “3 tests” are satisfied, that is:

1. the purposes of “preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment”;
2. there must be “no satisfactory alternative”; and,
3. the derogation is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Licences are issued by NRW, with NRW assessing Test 3, and the Local Planning Authority assessing tests 1 & 2 (where proposals are not subject to planning, then NRW alone will assess all three tests). Where Planning regulations apply, NRW will only issue a licence after determination of the planning application.

The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works, and to ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost), the timescale and schedule of works, the number, size and locations of bat access points to be provided, the type of materials to be used (roofing material, roof lining, fascias, soffits and bargeboards etc.), lighting proposals, action to be taken in the event bats are found during works and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Environment (Wales) Act 2016

The Environment (Wales) Act 2016²⁶ dictates that Local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions. The duty affects all public authorities and aims to raise the profile and visibility of biodiversity, to clarify existing commitments relating to biodiversity, and to make it a natural and integral part of policy and decision making. Part 1 Section 7 of the Act provides a list of the ‘*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*’. This includes seven bat species (soprano pipistrelle, barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteini*), noctule, brown long-eared, lesser horseshoe and greater horseshoe bats).

²⁶ <http://www.legislation.gov.uk/anaw/2016/3/contents>

Appendix 2A: Guidelines for Assessing Potential Bat Roosting Suitability and Determining Required Number of Dusk/Dawn Surveys

Suitability	Description of Roosting Habitat	Minimum Number of Dusk/Dawn Surveys Required ²⁷
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None.
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 ²⁸ 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 ²⁹ .	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
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 ³⁰ (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ³¹ . Surveys should be undertaken from May to September with at least one of the survey between May and August (Collins 2016).
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.	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. Surveys should be undertaken from May to September with at least two of the surveys from May to August (Collins 2016).
Confirmed Roost	Evidence of bats or use of bats found.	Minimum of two required to characterise the roost. If it is not possible to characterise the roost on the basis of two surveys, additional surveys may be required. In the event that no evidence of bat roosting is detected during the dusk and dawn surveys a third survey may be required. In this situation DNA analysis of the droppings may also be required.

²⁷ Adapted from Tables 7.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

²⁸ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²⁹ 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 urbanized environments.

³⁰ '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. Pre-maternity/collecting roosts are not included within Collins, 2016 and will be assessed on an individual basis.

³¹ Multiple surveys should be spread out to sample as much of the survey period as possible. It is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered only one visit.

Appendix 2B: Justification for Number of Surveys Undertaken

From the assessment made during the survey, the former day centre is assessed as having:

- Moderate potential for use by crevice-dwelling bats (*Pipistrellus* species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)). The former day centre has a multitude of potential access points and roosting features on various sections of the roof, masonry, fascia boards, soffit boxes and lifted lead flashing and Bitumen felt, which are likely to support high numbers of crevice-dwelling bats on a continuous basis (more than opportunistically). Some areas of the roof pitches are also southern facing and the unshaded roof would allow solar heating of the slate tiles on sunny days. The surrounding environment, however, is poorly ecologically connected to nearby grassland and trees and comprises of dense housing and other buildings, which is of low quality for commuting and foraging. Furthermore, as described in Section 3.2.1, artificial lighting also reduces the likelihood of bats using the area to forage or commute;
- Moderate suitability for use by roof-void dwelling bats² (long-eared species and large *Myotis* bats, such as Natterer's bat (*Myotis nattereri*) and serotine bats (*Eptesicus serotinus*)) because there are numerous access points into the roof void including underneath raised tiles, failed soffit boxes, gaps in the louvered vents on the bell tower, and gaps in windows on the second floor. The traditional wooden roof frame with large beams and mortise joints also enhances suitability. Furthermore, the unshaded roof would allow solar heating of the slate tiles on sunny days. Whilst the poor-quality of the surrounding habitat makes it less likely that the building supports a roost of high conservation status (see Appendix 3) this cannot be ruled out entirely; and
- Low suitability for use by direct-access species requiring a large access point and large roost space (lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*) bats)), as there are no large enough access points into the building for these species. There is, however, access underneath the single-story part of the building at the Southern elevation to a potential roost space which could be used by individual bats opportunistically. This potential roost site is only likely to provide enough space, shelter and protection for low-level use by low numbers of bats. This feature is considered unlikely to be suitable for maternity use. Additionally, the significant presence of artificial lighting (to which these species are very intolerant) further reduces the suitability for direct-access species.

Acer Ecology

Appendix 3: Guidelines for Assessing Bat Habitat Suitability

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.

Appendix 4: Schwegler 2F Bat Box

Schwegler 2F General Bat Box



The Schwegler 2F General Bat Box is the standard and most popular bat box. Ideal for summer roosts and is constructed of woodcrete, providing a breathable, stable temperature within and is suitable for long-term mitigation projects.

Position: Ideal for trees, should be mounted on tree trunks at a height of 3m – 6m. Can be positioned in clusters of three, with each box facing west through a south-eastern aspect to provide a variety of micro habitats.

Height: 33cm.

Diameter: 16cm.

Weight: 4kg.

Selection of Trees

Selected trees should ideally be a minimum of 500mm diameter at the height of fixing. Trees should not be obviously unstable or badly rotted. The timber and bark at the point of fixing should be sound.

Position of Boxes on Trees

Boxes should be mounted on tree trunks, rather than on boughs or branches. The mounting location should not be heavily shaded. Boxes should be mounted vertically on the tree.

Bat boxes should be mounted a minimum of 3m from the ground, and ideally placed in clusters of three.

The entrance to the box should be clear of obstructions and obstacles in the flight-path towards it. An 'open airspace' of about 3m square should be preserved in front of and below the entrance, and elsewhere any overhanging branches should be at least 1m away.

The mounting location should be readily and safely accessible by ladder, but not accessible by someone climbing up the trunk or onto an adjacent tree or wall etc.

Some lower branches may need to be trimmed below the box to remove ready handholds or footholds for would-be tree-climbers (as well as any small branches crowding the entrance).

As far as possible, boxes should be placed in locations which are not conspicuous from the ground, so as not to attract unwanted attention from passers-by. This objective is assisted by selecting locations which are not visible/accessible from public footpaths, byways etc.

Double Roost Panel

An internal double front panel creates roosting opportunities for crevice-inhabiting bats such as common and soprano pipistrelles.



Bat Box Availability

The 2F bat box is available from a number of suppliers including Jacobi Jayne (www.jacobijayne.com), NHBS (www.nhbs.com) where it retails at approximately £35.95+VAT.

Appendix 5: Surveyor Experience

12th July 2020

Paul Hudson MCIEEM - Paul graduated with a degree in Environmental Biology from Reading University and a Postgraduate Diploma in Conservation Management from the University of East Anglia. He has worked within ecological consultancy since 2000 and has been involved in bat work since 2001. He holds licences to disturb bats in both Wales (S088190-2) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at <http://linkd.in/19aGTf4>.

Natasha Rose is a first class honours graduate of Environmental Conservation science at the University of Wales Trinity Saint David. She is now in her second season of bat survey work including bat box inspections, dusk emergence and dawn re-entry surveys, transect surveys and sound analysis.

Ffion Jones – Ffion recently graduated from a degree in Conservation and Ecology at the University of Exeter. As part of her degree, she undertook an Ecological Consultancy module where she learnt about bat surveys, bat ecology, and bat calls. She has undertaken training with Acer Ecology, including bat ecology, emergence/re-entry surveys and transect surveys and is in her second season of bat survey work. Further details of her qualifications and experience can be found at <https://www.linkedin.com/in/ffion-jones-17ab63197>.

28th July 2020

Paul Hudson MCIEEM - see above.

Ffion Jones - see above.

Megan Fowler - Megan graduated with an Undergraduate Masters in Zoology with Climate Change from Bangor University in 2019. She is currently involved with training within Acer Ecology, focusing on dusk emergence and dawn re-entry surveys. Megan has also been involved with bat field work in Mexico, accumulating over 40 hours of mist-netting and transect surveys.