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Cae Coch, Golly, Rossett

Protected Species Survey (Bats)

Cae Coch
Golly
Rossett
Wrexham
LL12 0AL

Produced by P J Ecological Solutions on behalf of Steffan Davies

July 2025

Version 1

Report by Matthew Whitehead
Reviewed by Paul Roberts

Executive Summary

Instruction

P J Ecological Solutions were commissioned by Mr Steffan Davies to undertake a protected species survey (bats) of the dwelling and associated redbrick barn, block-built barn and cowshed at Cae Coch, Golly, Rossett.

The survey was commissioned to inform a planning application for the demolition of the existing dwelling, block-built barn and cowshed, for the conversion and extension of the existing redbrick barn to a replacement dwelling, and for the construction of a new garage building in the place of the existing dwelling.

Results

The survey results indicate that at least one common pipistrelle bat and at least one whiskered/Brandt's bat are day roosting within the dwelling to be demolished.

The proposed works will result in the destruction of the identified roosts and, in the absence of mitigation, have the potential to disturb or cause harm to any bats which are present at the time. Suitable compensatory roosting opportunities will therefore need to be provided, and the works will need to be undertaken in accordance with suitable reasonable avoidance measures.

The survey results also indicate that neither the redbrick barn, the block-built barn, nor the cowshed currently support roosting bats.

Required Actions

A European Protected Species Mitigation License (EPSML) from Natural Resources Wales will be required before site works can commence.

As a requirement of the license, the works will need to be undertaken in accordance with pre-defined reasonable avoidance measures and suitable compensatory roosting opportunities will need to be provided for those to be lost. The reasonable avoidance measures and mitigation and compensation scheme detailed in Appendix 1 is considered suitable for the project.

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1 Introduction

P J Ecological Solutions were commissioned by Mr Steffan Davies to undertake a protected species survey (bats) of the dwelling and associated redbrick barn, block-built barn and cowshed at Cae Coch, Golly, Rossett, Wrexham, LL12 0AL (Grid Reference: SJ33615843; hereafter referred to as 'the site').

The survey was commissioned to inform a planning application for the demolition of the existing dwelling, block-built barn and cowshed, for the conversion and extension of the existing redbrick barn to a replacement dwelling, and for the construction of a new garage building in the place of the existing dwelling.

A preliminary roost assessment has been undertaken of each of the buildings, in addition to three bat emergence surveys of the dwelling, two bat emergence surveys of the redbrick barn, and one bat emergence survey of the block-built barn. The aim of these efforts/this appraisal is to:

- Identify potential and actual habitat and species constraints pertinent to the development proposals.

- Detail further survey requirements, licensing requirements, and/or reasonable avoidance measures which should be adhered to during the proposed works, as appropriate.

- Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site.

This report should be read alongside the document *Cae Coch, Golly, Rossett; Preliminary Ecological Appraisal* (P J Ecological Solutions, July 2025).

2 Method

2.1 Preliminary Roost Assessments

A preliminary roost assessment of the buildings was undertaken on the 08th of April 2025 by Paul Roberts UCert (NRW Bat Survey License Number: S094855/1) and Matthew Whitehead BSc (Hons) MRSB (NRW Bat Survey License Number: S095607/1), both of whom are experienced ecological consultants familiar with the local area. A detailed inspection of each building was carried out in accordance with the methodology prescribed within the Bat Conservation Trust's (BCT) Good Practice Guidelines (2023). Where appropriate, potential roosting features were accessed using a suitably tall ladder and inspected using a Clulite CB2-L2 high-powered torch and a Eazyview Tradesman fiberscope. Each building was then categorised in accordance with Table 4.1 of that document.

The inspections were undertaken in accordance with the advice provided in the document *Guidance on Ecological Survey and Assessment in the UK During the COVID-19 Outbreak (Version 4)*, produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2021).

2.2 Bat Emergence Surveys

Based upon the results of the above, three bat emergence surveys of the dwelling were undertaken, two bat emergence surveys of the redbrick barn were undertaken, and one bat emergence survey of the block-built was undertaken. The surveys were carried out in accordance with the methodology prescribed within *Bat Surveys for Professional Ecologists* (Bat Conservation Trust, 2023). The first two surveys, during which both the dwelling and redbrick barn were monitored, were undertaken by Paul Roberts and Matthew Whitehead using EchoMeter Touch 2 Pro and Pettersson M500-384 bat detectors, as well as Canon XA50, Sony FDR-AX100, Sony FDR AX-53 and Panasonic HC-VX980EB-K infrared cameras, each of which was connected to a Pettersson M500-384, Pettersson U384 or PeerSonic RPA3 bat detector (see Figures 2.1 and 2.2). The third survey, during which the dwelling and block-built barn were monitored, was undertaken by Matthew Whitehead using a Pettersson M500-384 bat detector, as well as Canon XA50, Panasonic HC-VX980EB-K and Nightfox Whisker infrared cameras, each of which were paired with a PeerSonic RPA3 bat detector.

The surveys were undertaken under the conditions detailed in Table 2.1.

Table 2.1: Details of the surveys undertaken.

Type of Survey	Date and Time	Weather Conditions at Sunset/Sunrise
Emergence Survey	02nd May 2025 20.10 – 22.13	Sunset Time: 20.43; 12°C, Dry, Negligible Wind, 00% Cloud Cover
Emergence Survey	02nd June 2025 20.59 – 22.59	Sunset Time: 21.29; 13°C, Dry, Light Breeze, 10% Cloud Cover
Emergence Survey	09th July 2025 21.00 – 23.06	Sunset Time: 21.36; 17°C, Dry, Negligible Wind, 00% Cloud Cover



Figure 2.1: A 1:500 map view showing the positions of the surveyors/equipment during the surveys (dwelling shown in red; redbrick barn shown in green; block-built barn shown in blue; cowshed shown in yellow).



Figure 2.2: The field of view of each of the cameras used at the darkest part of the survey (Top Left: Camera 1 – the Canon XA50; Top Right: Camera 2 – the Sony FDR-AX100; Botton Left: Camera 3 – the Sony FDR-AX53; Bottom Right: Camera 4 – the Panasonic HC-VX980EB-K. All footage was reviewed in real-time using the open-source PotPlayer software. All sonograms were manually reviewed using the SonoBat 30 UK bat call analysis software.

The surveys were undertaken in May, June and July, in dry and calm conditions, when the temperature at sunset was above 10°C, all of which is in accordance with the good practice guidelines provided in Section 7 of the BCT's *Bat Surveys for Professional Ecologists* (2023). The surveys commenced at least 30 minutes before sunset and continued until at least 120/90 minutes after sunset. As such there are no limitations associated with the timing and weather conditions of the surveys.

N.B: Bat emergence surveys can only give a snapshot of bat behaviour at the time of the survey. As the potential of the site for roosting bats may change over time, it is recommended that bat surveys are updated after two years if development has not yet commenced.

3 Results

3.1 Preliminary Roost Assessments

A description of the dwelling is provided in Table 3.1, below.

Table 3.1: The dwelling.

Exterior Fabric and Features	
Structure	• The dwelling is a detached two-storey rectangular structure which features a symmetrically pitched open gable roof, the apex of which runs from northwest-to-southeast. A single-storey flat-roofed extension adjoins the dwelling's southwest side elevation.
Walls	• The dwelling's walls are faced in a coat of smooth render and are in a good state of repair, with no notable cracks or crevices or areas of lifted render present anywhere.
Roof	• The dwelling's roof is constructed of slate tiles and features angled ridge tiles and is in a moderate-to-poor state of repair. It is intact but features numerous cracked, slipped or lifted slates and some obvious gaps in the mortar along the ridge. The flat-roofed extension is felted.
Soffits, fascias and bargeboards	• The building features wooden fascias and soffits along each side elevation, which have suffered extensive weather damage in places, and features wooden bargeboards fitted directly to the rendered walls, which also appear rotted in places.
Windows, doors, and other points of access	• The building's windows and doors are all present and intact and provide no opportunities for bats to access the building's interior main; however, the damaged areas of the building's roof and roofline will likely provide opportunities for bats to access the building's soffit boxes, wall tops, and roof void.
External lighting	• There is no artificial light spill onto any part of the building or immediate its surrounds.
Vegetation upon or immediate to the building	• There is no significant vegetation growth onto or immediate to any part of the building.
Interior Fabric and Features	
Structure	• The building is a well-maintained and currently occupied family dwelling, with no opportunity for bats to access the interior main; however, there is a small roof void above the first-floor area, which features sloping ceilings, into which opportunities for bats to access are likely present.
Roof Structure, Roof Lining and Roof Void	• The building's roof void extends the length of the building but, due to the sloping ceilings above the dwelling's first floor area, does not extend the width between the eaves or the drop between the apex of the roof and the eaves. The roof is supported by a traditional cut timber frame and is lined with bituminous felt.
Light Penetration and Weather proofing	• The roof void is a generally dark and weatherproof area; however, significant light penetration could be seen at one gable end, where the wall top has been damaged.
Evidence of Roosting Bats	
Evidence of bats or bat roosts	• No evidence of roosting bats was found during the internal or external inspection of the dwelling.

A description of the redbrick barn is provided in Table 3.2, below.

Table 3.2: The redbrick barn.

Exterior Fabric and Features	
Structure	• The redbrick barn is a detached single-storey outbuilding which features a symmetrically pitched open gable roof, the apex of which runs from northeast-to-southwest. A lean-to extension adjoins the length of the building's northwest side elevation and small single-storey flat-roofed extension adjoins each gable.
Walls	• The walls of the barn are constructed of exposed modern brick and are in a moderate state of repair, with a small number of gaps and crevices in the mortar joints which could be utilised by any crevice-roosting bat species.
Roof	• The roofs of the barn are variously constructed of corrugated cement-bonded asbestos sheeting and corrugated metal sheeting and are in a good state of repair, with no damaged or missing sheets present anywhere.
Soffits, fascias and bargeboards	• The building does not feature any dedicated roofline features (fascias, soffits, bargeboards, etc.); however, the corrugated sheeting from which the building's roofs are constructed are moulded over the wall-tops along each verge and eave, with notable gaps present in places.
Windows, doors, and other points of access	• There are no windows or doors fitted within any of the points of pedestrian or light access into the building, providing 'fly-through' access into each of the building's interior spaces.
External lighting	• There is no artificial light spill onto any part of the building or immediate its surrounds.
Vegetation upon or immediate to the building	• There is no significant vegetation growth onto or immediate to any part of the building.
Interior Fabric and Features	
Structure	• The interior of the building comprises a single open space which is open to the roof, with further, smaller such spaces present within the lean-to extension and within each flat-roofed extension. Due to the absence of fitted windows and doors, there is 'fly-through' access into each interior space. There are no roof voids separate to these spaces.
Roof Structure, Roof Lining and Roof Void	• The roofs of the building are supported by timber and steel frames and are unlined. There are no roof voids separate to the interiors main.
Light Penetration and Weather proofing	• Due to the absence of fitted windows and doors, there is significant natural light and draught ingress into all of the building's interior spaces.
Evidence of Roosting Bats	
Evidence of bats or bat roosts	• No evidence of roosting bats was found during the internal or external inspection of the building.

A description of the block-built barn is provided in Table 3.3, below.

Table 3.3: The block-built barn.

Exterior Fabric and Features	
Structure	• The block-built barn is a detached rectangular structure which features a symmetrically pitched open gable roof, the apex of which runs from northeast-to-southwest. It is open sided to the southeast. The remains of a concrete block lean-to extension are present along the building's northwest elevation.
Walls	• The walls of the barn are constructed of hollow concrete block to a height of ~2m, above which they are constructed of corrugated metal sheeting, with a ~300mm overlap of the two material surfaces. The walls are unrendered and unlined and are intact. The building is open sided to the southeast.
Roof	• The roof of the barn is constructed of corrugated cement-bonded asbestos sheeting and is intact.
Soffits, fascias and bargeboards	• The barn does not feature any dedicated roofline features (fascias, soffits, bargeboards, etc.); however, the corrugated sheeting from which the building's roofs are constructed are moulded over the wall-tops along each verge and eave.
Windows, doors, and other points of access	• The barn does not feature any windows or doors but is open sided to the southeast.
External lighting	• There is no artificial light spill onto any part of the building or its immediate surrounds.
Vegetation upon or immediate to the building	• There is no significant vegetation growth onto or immediate to any part of the building.
Interior Fabric and Features	
Structure	• The building's interior comprises a single open space which is open to the roof and is open sided to the southeast.
Roof Structure, Roof Lining and Roof Void	• The building's roof is supported by a steel frame and is unlined. There is no roof void separate to the interior main.
Light Penetration and Weather proofing	• Due to the open-sided nature of the barn, the building's interior space is naturally well lit and completely exposed to prevailing weather conditions.
Evidence of Roosting Bats	
Evidence of bats or bat roosts	• No evidence of roosting bats was found during the internal or external inspection of the building.

A description of the cowshed is provided in Table 3.4, below.

Table 3.4: The cowshed.

Exterior Fabric and Features	
Structure	• The cowshed is a detached single-storey rectangular structure which features a shed roof, the apex of which runs from southeast-to-northwest. It is open sided to the northeast.

Walls	• The walls of the cowshed are constructed of concrete panels to a height of ~1.5m and from spaced vertical wooden slats above.
Roof	• The roof of the cowshed is constructed of single metal sheeting.
Soffits, fascias and bargeboards	• The barn does not feature any dedicated roofline features (fascias, soffits, bargeboards, etc.).
Windows, doors, and other points of access	• The cowshed does not feature any windows or doors but is open to the northeast.
External lighting	• There is no artificial light spill onto any part of the building or its immediate surrounds.
Vegetation upon or immediate to the building	• There is no significant vegetation growth onto or immediate to any part of the building.
Interior Fabric and Features	
Structure	• The interior of the cowshed comprises a single open space, which is open-sided to the northeast.
Roof Structure, Roof Lining and Roof Void	• The building's roof is supported by a steel frame and is unlined. There is no roof void separate to the interior main.
Light Penetration and Weather proofing	• Due to the open-sided nature of the barn, the building's interior space is naturally well lit and completely exposed to prevailing weather conditions.
Evidence of Roosting Bats	
Evidence of bats or bat roosts	• No evidence of roosting bats was found during the internal or external inspection of the building.

Summary: Numerous potential roosting features were identified within the roof and roofline of the dwelling, which have evidently been present for some time. Access to the building's dedicated roof void is also apparent. As such and given the good surrounding habitat, the dwelling was categorised as having high potential to support roosting bats.

Numerous potential roosting features were identified within the roofline and walls of the redbrick barn, although these were noted to be fewer and less suited than those within the dwelling. The building also features several partitioned interior spaces; however, these are subject to significant natural light ingress and are exposed to prevailing weather conditions. As such, the redbrick barn was categorised as having moderate potential to support roosting bats.

No potential roosting features were identified within the block-built barn, apart from where the wall surfaces overlap. As such, the block-built barn was categorized as having only low potential to support roosting bats.

No potential roosting features were identified within the cowshed. As such, it was categorised as having negligible potential to support roosting bats.

Photographs showing the above features and findings are included below (see Figures 3.1 to 3.13).



Figure 3.1: The front (northeast) elevation and northwest gable of the dwelling to be demolished.



Figure 3.2: The rear (southwest) elevation and southeast gable of the dwelling to be demolished.



Figure 3.3: The construction and condition of the dwelling's roof and roofline.



Figure 3.4: The short roof void above the dwelling.



Figure 3.5: The northeast gable and northwest side elevation of the redbrick barn.



Figure 3.6: The southwest gable and southeast side elevation of the redbrick barn.



Figure 3.7: Potential roosting features within the redbrick barn's walls and roofline.



Figure 3.8: The interior of the redbrick barn.



Figure 3.9: The northeast gable and southeast side elevation of the block-built barn.



Figure 3.10: The overlap between the block-built barn wall surfaces.



Figure 3.11: The block-built barn interior.



Figure 3.12: The cowshed.



Figure 3.13: The cowshed interior.

3.2 Bat Emergence Surveys

02nd of May 2025: During the first emergence survey, during which both the dwelling and redbrick barn were monitored, a single common pipistrelle bat (*Pipistrellus pipistrellus*) was observed emerging from the southeast gable of the dwelling, at 21.09, and a single whiskered/Brandt's bat (*Myotis mystacinus/Brandtii*) was observed emerging from the same verge, at 21.25. No other bats were observed emerging from the dwelling or redbrick barn on this occasion.

During the survey, further common pipistrelle bats were recorded foraging around the site and its surrounds, almost constantly, from 21.04 onwards, and the same or further whiskered/Brandt's bat were recorded in the vicinity of the site at 21.30, at 21.36, at 22.06, and at 22.12. In addition, soprano pipistrelle bats (*Pipistrellus pygmaeus*) were recorded in the vicinity of the site on a total of nine occasions, between 21.09 and 21.59, and a common noctule bat (*Nyctalus noctula*) was recorded in the vicinity of the site at 21.59.

No other bats were recorded or observed during the survey.

02nd of June 2025: During the second emergence survey, during which both the dwelling and redbrick barn were monitored, no bats were observed emerging from the dwelling or redbrick barn.

During the survey, common pipistrelle bats were recorded foraging around the site and its surrounds, almost constantly, from 21.34 onwards; soprano pipistrelle bats were recorded in the vicinity of the site at 21.39, 21.43, at 21.48, at 21.50, and at 22.20; a whiskered/Brandt's bat was recorded in the vicinity of the site at 22.10; an indeterminate species *Myotis* bat was recorded in the vicinity of the site at 22.13; Daubenton's bats (*Myotis daubentonii*) were

recorded in the vicinity of the site at 22.20 and at 22.30; and a further indeterminate species *Myotis* bat was recorded in the vicinity of the site at 22.37.

No other bats were recorded or observed during the survey.

09th of July 2025: During the third emergence survey, during which both the dwelling and block-built barn were monitored, a single whiskered/Brandt's bat was observed emerging from the ridge of the dwelling, at 22.24. No other bats were observed emerging from the dwelling or block-built barn on this occasion.

During the survey, common pipistrelle bats were recorded foraging around the site and its surrounds, almost constantly, from 21.48 onwards; soprano pipistrelle bats were recorded in the vicinity of the site at 21.57, at 22.50, at 22.52, at 22.54, at 22.57 and at 23.06; common noctule bats were recorded in the vicinity of the site at 22.15 and at 23.03; brown long-eared bats (*Plecotus auritus*) were recorded in the vicinity of the site at 22.18 and at 22.41; whiskered/Brandt's bat were recorded in the vicinity of the site at 22.24 at 22.32, at 22.39, at 22.46, and at 22.52; an indeterminate species *Myotis* bat was recorded in the vicinity of the site at 22.57; and Daubenton's bats were recorded in the vicinity of the site at 23.00, at 23.03 and at 23.08.

No other bats were recorded or observed during the survey.

The areas of the dwelling from which the bats were emerging are shown on Figure 3.14, below. Notable bat activity recorded around the site is shown on Figure 3.15, below.



Figure 3.14: The areas from which the common pipistrelle bat and whiskered/Brandt's bat(s) were observed emerging (in red and blue, respectively).



Figure 3.15: The bat activity recorded during the nighttime bat walkover surveys (notable foraging activity shown in green, notable commuting activity shown in yellow.

4 Evaluation

All species of British bat are afforded full protection under Schedule 5, Section 9 of the *Wildlife and Countryside Act 1981* (as amended), and under Schedule 2 of the *Conservation of Habitats and Species Regulations 2010* (as amended). Under these acts, it is an offence to deliberately or recklessly disturb, capture, injure or kill bats; impair their ability to survive, breed, reproduce, hibernate or migrate; affect significantly the local distribution or abundance of the species to which they belong; or damage or destroy a breeding site or resting place of that species.

The survey results indicate that at least one common pipistrelle bat and at least one whiskered/Brandt's bat are day roosting within the dwelling to be demolished.

The proposed works will result in the destruction of the identified roosts and, in the absence of mitigation, have the potential to disturb or cause harm to any bats which are present at the time. Suitable compensatory roosting opportunities will therefore need to be provided, and the works will need to be undertaken in accordance with suitable reasonable avoidance measures.

***A bat development licence from Natural Resources Wales will be required before site works can commence*.**

The survey results indicate that neither the redbrick barn, the block-built barn, nor the cowshed currently support roosting bats.

The surveys were not affected by any material limitations.

5 Impact Assessment

The proposed works will result in the destruction of the identified roosts and, in the absence of mitigation, have the potential to disturb or cause harm to any bats which are present at the time. Further, should any new artificial lighting associated with the development be allowed to spill onto any of the hedgerows, treelines or other linear features around the site, or onto the compensatory roosts to be created, or onto flightlines thereto/therefrom, their utility for roosting, foraging or commuting bats could be adversely affected.

Common pipistrelle bat populations are showing signs of recovery across both the UK and Wales specifically, and whiskered/Brandt's bat populations are believed to be stable across both the UK and Wales specifically (NBMP, 2024). As such, and due to the low number of bats involved, the loss of the identified roosts, even in the absence of mitigation/compensation, would be expected to have an adverse ecological impact of only low local significance (see *Bat Mitigation Guidelines*, Table 6.1; English Nature, 2004).

6 Required Actions

6.1 Further Surveys

As the potential of the site for roosting bats/nesting birds may change over time, it is recommended that these surveys are updated after two years if development has not yet commenced. Should the proposals change significantly or change to affect areas outside those surveyed, further advice should be sought from a suitably qualified ecologist.

6.2 Mitigation, Compensation and Licensing Requirements (Bats)

At least one common pipistrelle bat and at least one whiskered/Brandt's bat are day roosting within the dwelling to be demolished.

The proposed works will result in the destruction of these roosts.

A European Protected Species Mitigation License (EPSML) from Natural Resources Wales will therefore be required before site works can commence.

As a requirement of the license, the works will need to be undertaken in accordance with pre-defined reasonable avoidance measures and suitable compensatory roosting opportunities will need to be provided for those to be lost. The reasonable avoidance measures and mitigation and compensation scheme detailed in Appendix 1 is considered suitable for the project.

As a requirement of the license, a suitably qualified ecologist will need to be appointed by the licensee as the licensed site ecologist for the duration of the project.

Appendix 1: Delivery Information (Bats)

6.3 Works to be Undertaken

6.3.1 Capture and Exclusion

***Provisions for Bats Displaced During the Works*:** To provide interim roosting opportunities/a place of safety into which any bats encountered during the works may be relocated, a Vivara Pro Beaumaris WoodStone Bat Box (Midi) is to be erected upon a suitable tree or other structure on-site (to be determined by the licensed ecologist) prior to the start of works. The box will be installed where it will be unaffected by the proposed works, at a height of ≥4m from ground level, away from any immediate clutter or artificial light spill, and out-of-reach of domestic cats or other terrestrial predators.

***Timing of Works*:** The removal of the dwelling's roof, roofline and roof structure, and any works within the dwelling's roof void, will be undertaken during favourable weather conditions and outside of the bat summer roosting period (that is, during the months of October – April), when bats are less likely to be present.

To avoid encountering torpid bats in roof structures, these works will be undertaken during periods when temperatures have not dropped below 8°C over four consecutive days and nights. Alternatively, should the works to the roof and the soft strip of the building be delayed until the winter period, when such favourable conditions are unlikely, the preceding autumn period will be used to make potential hibernation sites within the works area unfavourable for winter use.

N.B: As the surveys indicate that bats are not roosting within the redbrick barn, the block-built barn, or the cowshed, the works to these buildings may be undertaken without timing restrictions.

Site Induction and Toolbox Talk: The licensed ecologist or their accredited agent (hereafter referred to as 'the ecologist') will provide a 'toolbox talk' to all contractors involved with works which could affect bats, prior to the commencement of those works. All site workers will be briefed on the legal status of bats, the likely places to find them, the working practices required to minimise and avoid disturbing or causing harm to bats (e.g., the procedure required for removing roofing material, etc.) and the action to be taken if bats are encountered during the works. All site workers will be made aware that in the event of any bats being found or suspected when the ecologist is not on site, all works must cease in the affected area until appropriate expert advice has been sought from the ecologist or NRW. A copy of the NRW licence and the Bat Licence Method Statement will always remain available on site and a summary sheet of guidance will be given to the builders and contractors working on the site.

***Supervision of Works/Soft Strip*:** The ecologist will be in attendance during the removal of the dwelling's roof, roof structure and roofline features, and during any prior works within the building's roof void. Prior to the commencement of these works, the underside of each feature to be removed/otherwise modified will be inspected by the ecologist using a high-powered torch and endoscope, to determine whether any bats are present, as far as is possible.

Roofing material and/or associated timbers will be lifted off vertically, rather than rolled, and checked on its underside to ensure that no bats are clinging thereto prior to discarding/storing it. This will minimise the chance of any bats present being killed/injured. This work will be undertaken using hand tools only, (i.e., picks, crowbars, slate rippers, bow saws etc.).

The ecologist will remain available on an 'on-call' basis during all subsequent stages of the works to deal with any unexpected encounters with bats or nesting birds.

***Bat Exclusion*:** If, during the pre-commencement inspection, any cavities are encountered within which the absence of bats cannot be confidently determined, these will be fitted with one-way exclusion devices, so that bats can only exit and not re-enter the cavities. The excluder will remain in place over seven consecutive days and nights during which temperatures have not dropped below 8°C and then will be checked again immediately prior prised open and subsequently demolished/filled. The excluder will comprise either a plastic pipe with a 26mm bore, facing slightly downwards (to avoid water ingress), projecting at least 100mm from the wall, or a close-fitting Perspex sheet or a collapsible tube or bag fitted over the potential roost site. The exclusion devices will be fitted between October and April, when there will be no heavily pregnant females or dependent young present. Due to the nature of the building and the proposed works, it is considered unlikely that exclusion will be required.

***If Bats are Encountered*:** If bats are encountered during supervised works, works will stop allowing the bat to move of its own accord. If the bat fails to move away of its own discretion, the ecologist will capture the bat(s) with thin-gloved hands or a hand net and place the bat(s) in a draw string cloth bag. Removed bats will then be transferred into the pre-installed bat box (see above). This should allow the bat(s) to settle in a safe place for the remainder of the day, and to emerge safely in the evening. If a bat in torpor is encountered, it will be left be left undisturbed in-situ until spring if possible and only moved as a last resort. If it is necessary to move a bat in torpor, then this will be done when temperatures are above 8°C and to a hibernation box located nearby.

If a bat is discovered at other, unsupervised times when the ecologist is not present, work will cease immediately and the bat(s) will be covered by the last object removed (so long as there is no risk of crushing), and the ecologist will be consulted for advice and attendance at site. Associated and nearby coverings will also be replaced if the bat(s) is/are not completely or only just covered. Bat(s) which have not moved of their own accord by the arrival of the ecologist will be rescued by the ecologist using the method described above. If a grounded bat is found, it will be covered by a cardboard box until the ecologist arrives. Any injured bats found will be immediately taken into care. If it is not possible to contact the ecologist, the Natural Resources Wales Species Protection Officer must be contacted immediately, and their advice sought. Builders, contractors, and other unlicensed personnel are explicitly forbidden to handle bats.

6.3.2 Bat Roosts and Habitat

A1.1.2.1 In-Situ Retention of Roost(s)

The identified roosts will be destroyed by the proposed works.

A1.1.2.2 Modification of Existing Roost(s)

The identified roosts will be destroyed by the proposed works.

A1.1.2.3 New Roost Creation

To provide interim roosting opportunities/a place of safety into which any bats encountered during the works may be relocated, a Vivara Pro Beaumaris WoodStone Bat Box (Midi) is to be erected upon a suitable tree or other structure on-site (to be determined by the licensed ecologist) prior to the start of works. The box will be installed where it will be unaffected by the proposed works, at a height of ≥4m from ground level, away from any immediate clutter or

artificial light spill, and out-of-reach of domestic cats or other terrestrial predators. Post-completion of works, the box will be retained in-situ in perpetuity.

Compensatory roosting opportunities for common pipistrelle bats will be provided in the form of a 1 No. Vivara Pro IB VL 17 Bat Built-In Box, which will be incorporated into the walls of the proposed garage building, to be constructed upon the footprint of the dwelling to be demolished. The box will be installed at the apex of the southeast gable, ≥4m from ground level, away from any immediate clutter or artificial light spill, and out-of-reach of domestic cats or other terrestrial predators.

Compensatory roosting opportunities for whiskered/Brandt's bats will be provided in the form of a bespoke 'bat loft' to be created above the proposed garage building, which is to be constructed upon the footprint of the dwelling to be demolished. The loft will measure ≥5m in length (along the ridge), ≥4m in width (across the eaves), and ≥2.2m in height (from the loft floor to the underside of the ridge board). To ensure that there is suitable flight space and suitable perching opportunities within the loft, the garage roof will be supported by a traditional cut (truss-less) frame of rough-sawn timbers and will be lined with 1F bituminous felt. Internal roosting opportunities will be provided in the form of a 'Kent'-style bat box, to be erected upon the internal face of the southeast gable. Bat access to the loft will be provided by 2 No. ridge access tiles (100mm x 25mm access gap) and two points of gable verge access (100mm x 25mm access gap). Human access to the loft will be provided via a trap door-style access gap which will be kept locked. The loft will not be used for any purpose other than to provide bat roosting habitat.

A1.1.2.4 Maintenance of and/or Modification of New and Existing Habitat

No linear features (hedgerows, treelines, etc.) are to be removed or otherwise affected by the works and no new external lighting fixtures are to be installed as part of the proposed development. Should this change, an appropriate landscaping plan/sensitive lighting scheme will be submitted to the County Ecologist for approval prior to the commencement of works/the installation of any new fixtures. No hedgerows, treelines, etc. will be removed and no new lighting fixtures will be installed without the approval of County Ecologist.

6.3.3 Mechanisms for Ensuring Delivery of Mitigation and Compensation Measures

Delivery will be implemented by the owners of the site through a Natural Resources Wales European Protected Species licence, which will be issued conditional to the recommendations outlined in this report. To fulfil their reporting obligations under the Habitat Directive, the licensee will provide a report, no more than four weeks after the licence expires, detailing findings of any bats encountered during the works, together with the measures taken and outcomes in terms of recovery of and maintenance of the population.

Compliance monitoring will be undertaken by the ecologist as part of their responsibilities to the licensee. The ecologist will be responsible for (i) defining appropriate key performance indicators that will inform an inspection, (ii) defining what evidence will be required to inform inspections, (iii) determining the minimum number of assessment visits required to demonstrate compliance, and (iv) progressing required remedial or contingency actions identified during audit back to the developer and NRW. It will be the licensee's responsibility to ensure that suitable access to the site and suitable funds are made available for this work.

6.3.4 Mitigation Contingencies

The dwelling will be inspected immediately prior to the works to the roof to ensure that no bats are day roosting within the works area at the time. It is considered unlikely that any bats will be found during this inspection, due to the proposed timing of the works. If any bat species not previously recorded are found during the pre-works inspection, or at any other time, discussions will take place with an NRW Species Officer with regards how to proceed and to establish whether amendments to the license or additional roosting facilities will be required.

Additionally, reasonable avoidance measures will be adopted to avoid harm to nesting wild birds. The legal status of nesting birds in Wales and the procedure to follow if an active nest is discovered during the works will be included within the toolbox talk to be provided to all site contractors. If any active nests are found at time during the works, all works within 5m of the identified nest (or which might otherwise cause disturbance of harm to its occupants) will be discontinued and a suitable no-works zone will be established around the nest until it has been established that all the chicks have fledged. The delay caused by such an occurrence may require an amendment to the license, as the timing of works may be affected.

N.B: To avoid accidental harm to bats, any new roofs to be installed will be lined with 1F bituminous felt, and not any kind of breathable roofing membrane.

6.3.5 Biosecurity Risk Assessment

White Nose Syndrome: There have been a small number of confirmed cases of bats carrying the fungus which causes white nose syndrome (*Pseudogymnoascus destructans*). Effective measures of hygiene will be applied, such as washing hands and washing and disinfecting equipment used within the roost or when processing bats in the field before and after use. All mitigation works are to be undertaken within or immediately adjacent to the site itself and there is no requirement to move bats or other species off-site. If bats are discovered (alive or dead) which have symptoms of white nose syndrome then NRW will be notified immediately, and works will cease until such times as advice has been given by NRW.

Rabies: European Bat Lyssaviruses are known to exist in low endemic levels within the UK bat population. To control the risk of infection, the licensed ecologist and any accredited agents employed in a capacity which might require the handling of bats will be appropriately vaccinated against rabies. No one other than the licensed ecologist or their accredited agent will be involved in the handling of any bats.

SARS-CoV-2: Care must be taken to prevent the spread of the SARS-CoV 2 virus to the UK bat population. To reduce the risk of zoonotic spillover into the UK bat population, all mitigation works are to be undertaken in accordance with the advice provided in the document *Guidance on Ecological Survey and Assessment in the UK During the COVID-19 Outbreak (Version 4)*, produced by CIEEM (2021). In particular, no bat worker who has tested positive for COVID-19, who has symptoms of COVID-19, or who has recently been in contact with a person who has tested positive for COVID-19 or who has symptoms of COVID-19, will be allowed to enter any roosts or potential roosts, or to handle any bats. When entering a roost or handling bats, effective measures of hygiene must be applied, for example, washing hands and washing and disinfecting equipment used within the roost or when processing bats in the field before and after use. People coming into close proximity of bats or handling bats should wear single-use gloves (over handling gloves if needed) and cover their mouth and nose with an appropriate face mask.

A site-specific biosecurity risk assessment will be provided to the site contractors at the time of the toolbox talk and will be left accessible on-site throughout the course of the works. A log of biosecurity measures undertaken during the works will be kept.

6.4 Post-Development Site Safeguard

6.4.1 Habitat/Site Management and Maintenance

The licensee will ensure monies are secured for the site monitoring for a period of up to 5 years, and for post-development mitigation contingencies, as necessary. The licensee agrees to maintain the bat roosting features to be created. Management and maintenance (including remedial action) of the new bat roosting features will be the responsibility of the licensee. Any requirements for repairs or modifications to those features will be identified (by the ecologist) as part of the scheduled monitoring work. Should the buildings be sold, the purchasers must be made aware of the purpose of the bat roosting features and the legislation pertaining thereto. All documentation relating to the presence of bats will be retained by the licensee and passed on to any new owner in the event of the site being sold.

6.4.2 Population Monitoring, Roost Usage, Etc.

Future monitoring of the use of the site will be carried out by the ecologist in Years 1 and 3 post-completion of works. Internal inspections of the bat boxes and bat loft will be undertaken to search for evidence of roosting bats. If necessary, further emergence surveys will be undertaken.

6.4.3 Post-Development Mitigation Contingencies

The building to be modified supports a day roost for at least one common pipistrelle bat and at least one whiskered/Brandt's bat. Therefore, this mitigation scheme will be judged to have been successful once it has been established that these species are continuing to roost at the site.

If the above is not achieved, the design of the roosting provision and flightlines on-site will be re-examined and, following consultation with NRW, alterations made as necessary.

6.4.4 Mechanism for Ensuring Delivery of Post-Development Works

There is no Section 106 agreement. The applicant agrees to maintain the bat roosting features to be retained and created as detailed. Should the buildings be sold, the purchasers must be made aware of the purpose of the bat roosting features and the legislation pertaining to the roosts. Monitoring and reporting will be undertaken by the ecologist, following instruction by the applicant, who will bear ultimate responsibility therefor.