

Penyllan House
3 Penyllan Street, Overton-on-Dee,
Nr. Wrexham LL13 0EE

Bat Survey with Mitigation Plan

For: Carolyn May, Nola Millward and Geoffrey Freestone

Agent: Andrew Munro

July 2015 (Revised October 2015)

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1.0 INTRODUCTION

1.1 Background – Gerald Longley

Gerald Longley, Ecological Consultant, has been commissioned to undertake a bat survey at Penyllan House, 3 Penyllan Street, Overton, LL13 0EE. National grid reference SJ3727041722. He has two decades of experience of wildlife surveying and, prior to working as an independent ecological consultant, held posts as Conservation Officer with Montgomeryshire Wildlife Trust and Head of Shrewsbury Countryside Unit.

1.2 Background – This Survey

The applicant proposes to convert the existing house, former shop and outbuildings, which are all attached, into dwelling units. The request for this bat survey comes from the applicant's and the planning team's need to ensure that if the existing building is being used by protected species, notably bats or nesting birds, their conservation needs are met and the law is not broken.

Under the law, a bat roost is any structure or place used for shelter or protection. "Structure" could be any building, wall, well, cave or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost may be protected whether the bats are present or not. A full citation of the law with regard to bats and birds is given in the Appendices.

1.3 Report Summary

Bat Survey with Mitigation Plan Penyllan House, 3 Penyllan Street, Overton, LL13 0EE



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A Bat Survey based on Bat Conservation Trust guidelines (BCT, 2012) was carried out by Gerald Longley at Penyllan House, 3 Penyllan Street, Overton, LL13 0EE. The survey consisted of a preliminary roost assessment (27 February 2015) then a thorough daytime inspection followed by one pre-dawn, two evening bat activity surveys and a passive bat monitoring survey between 02 June and 13 July 2015. Works to convert the house, former shop and outbuildings, which are all attached, into dwellings are proposed.

15 common and 2 soprano pipistrelle bats, 2 brown long-eared bats, 2 whiskered bats and 2 Natterer's bats were found to be roosting in the hayloft of the barn (outbuilding 1), mainly entering through the square gap in the south wall. 1 common and 2 soprano pipistrelle bats were found to be roosting in the former shop, entering through a gap in the verge mortar on the south gable. All numbers are approximate.

These surveys establish that the hayloft of the barn (outbuilding 1) and the former shop at Pen Y Llan House are bat roosts and the bats' presence is therefore a material consideration for any planning application.

One pair of swifts was recorded nesting under the eaves of the former shop on the east side. Active nests of all bird species are protected by law.

It is recommended that:

1. The presence of roosting bat colonies is a constraint to the proposed conversion works. If works were to go ahead without approved mitigation, it is likely the bats could be negatively affected, especially if works were carried out in the spring or summer.
2. For the works to be carried out, a Mitigation (European Protected Species) Licence concerning the bats will need to be applied for from Natural Resources Wales, once planning consent has been granted.
3. A Brief Bat Mitigation Plan, including a Method Statement, has been drawn up and is presented in this report. It includes such matters as:
 - a) Timing of works on house etc. – 01 October to 30 April. (But see also Rec. 4 regarding bird nests). The Dedicated Bat Building can be built any time but must be complete by 30 April in the same "window" as the works on the house, barn etc.
 - b) Worker/contractor induction on bat presence.
 - c) Contingency for discovering bats.
 - d) Provision of a replacement Dedicated Bat Building and bat boxes on trees.
 - e) Applicant to provide the Mitigation details on their Planning Application drawings.
4. Works must not take place once the swifts are nesting, usually in the period March to September, or they must be safely excluded prior to this period in the year works are to start.
5. Provision must be made to replace the lost nest site. One 17A Schwegler Swift Nest Box (Triple Cavity) should be placed under the eaves of the east wall of the former shop as part of the works.

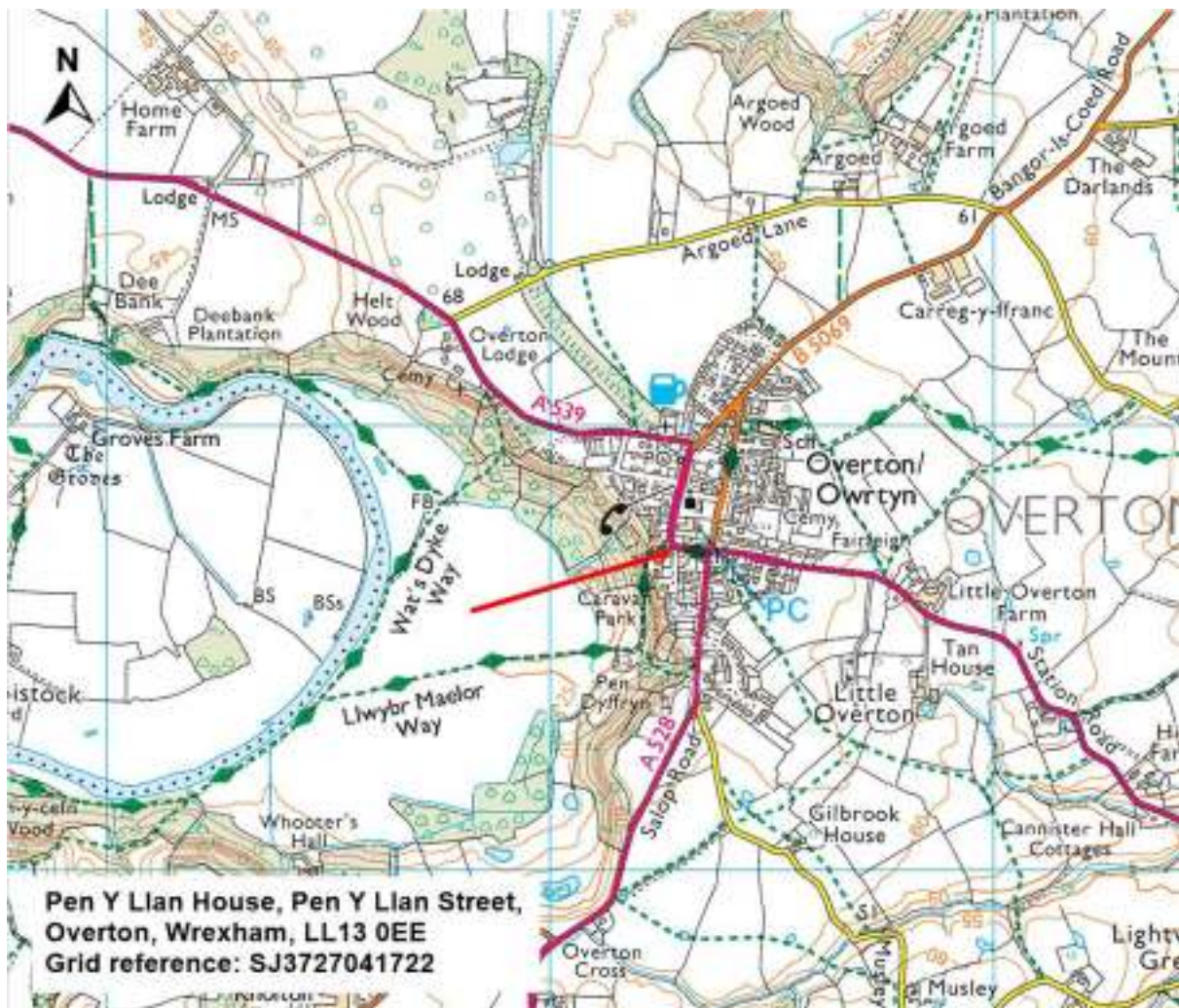
2.0 METHODOLOGY

2.1 Aims of the Survey

- To establish the actual or likely presence or absence of bat roosts and/or bat species in the building.
- To establish the presence of any nesting birds in or on the building.
- To make recommendations accordingly.

2.2 Desk Study

Maps and aerial photographs were scrutinised to assess the surrounding habitat at a crude level. This looked for any semi-natural habitat that may be of value to wildlife, particularly bats, for example ponds, hedges, parkland, wetland, and woodland with interconnecting habitat links. Searches were made for statutory designated sites coincident with or adjacent to the area of search and existing records of the keynote species within two kilometres.

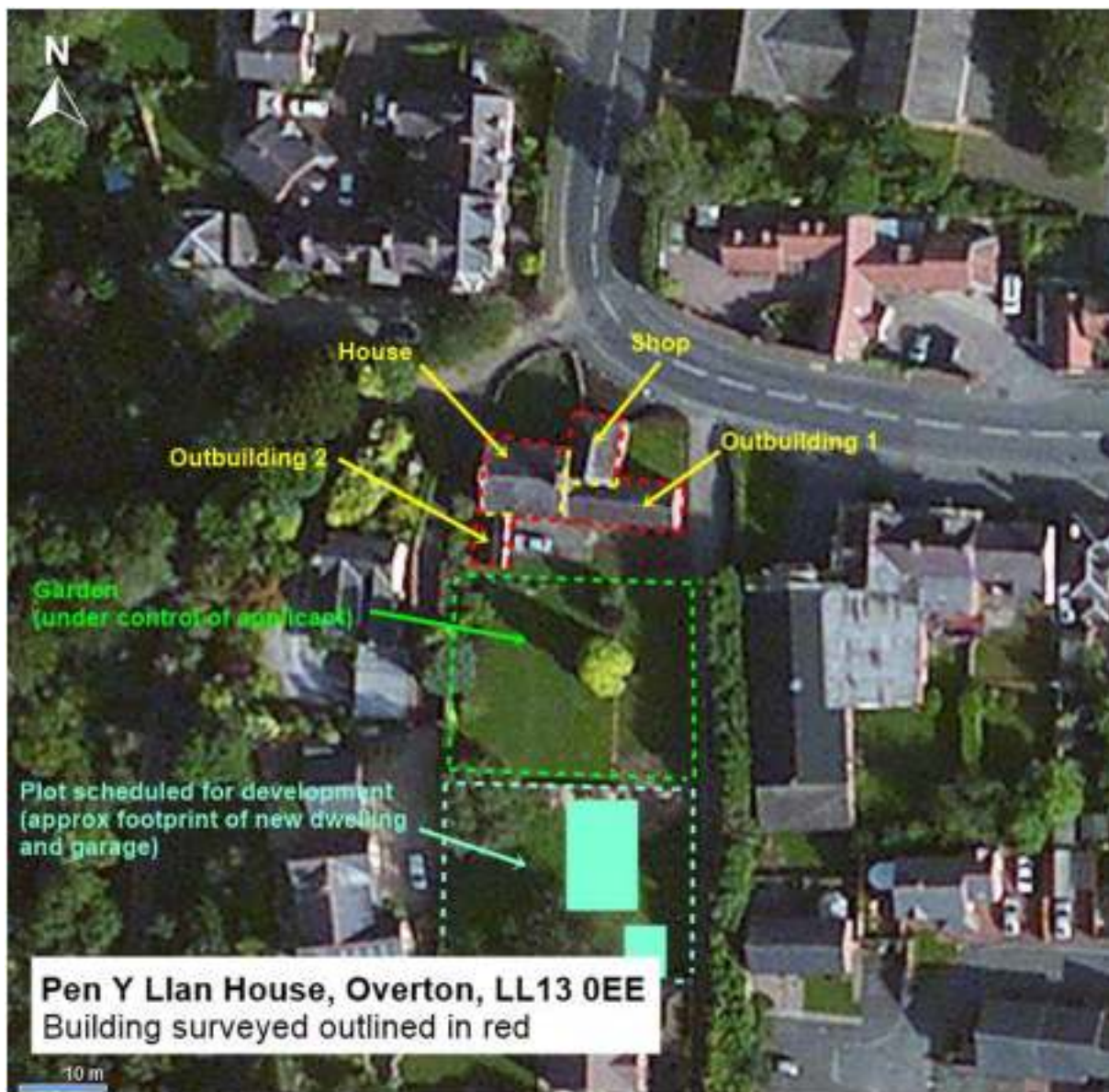


2.3 Site Surveys

The site surveys were designed by Gerald Longley using standard techniques based on the guidance and information in Bat Conservation Trust Bat Surveys (2012).

The surveys consisted of a preliminary roost assessment then a thorough daytime inspection followed by one pre-dawn and two evening bat activity surveys (not necessarily in that order), and passive monitoring for five and a half nights. See the Appendices for a full list of equipment used. The pre-dawn bat detector survey looked for possible re-entry to the building by bats and the evening activity surveys looked for emergence from the building. The visits also provided a check to assess whether nesting birds used the building. The surveyors were Gerald Longley (Natural Resources Wales (NRW) bat licence 61438:OTH:CSB:2014), Mary Thornton (NRW bat licence 59260:OTH:CSB:2014), Thomas Longley and Sam Rigg.

The external and internal survey of the building included an assessment for potential for nesting birds and bats and a search for evidence, such as pellets, dead bats, prey remains, droppings, urine marks and staining. Close-focusing binoculars were used immediately below potential roost areas. Droppings around the bases of and/or stuck to walls, on shelves, wall plates, purlins, etc. were searched for with the aid of a high-powered torch. Holes and cracks in the walls, purlins, beams, etc. and behind any cladding were inspected with the colour video endoscope where they could be safely reached.



3.0 RESULTS

3.1 Desk Study

No records for bats were found for the site itself.

Common pipistrelle bats have been recorded in the same kilometre grid square as Pen Y Llan House (1991) and at other locations within 2km of the building. Brown long-eared bats have also been recorded within 2km (2011). Whiskered bats have been recorded in the same ten kilometre grid square as the site (SJ34)(2004) and soprano pipistrelle bats in the adjacent ten kilometre grid square to the east (SJ44)(2011).

No statutory protected wildlife site was coincident with the site. The nearest SSSI was the River Dee (Afon Dyfrdwy), approximately 0.65km west at the nearest point. Cloy Brook Pastures SSSI was approximately 2km northeast of Pen Y Llan House.

No barn owl records were found in the 2km buffer.

It should be noted that a lack of records found for a particular species in a particular location does not confirm that the species is absent.

3.2 Site Surveys

The building

Pen Y Llan House and associated, connected buildings are Grade Two Listed. The house dates from the early 19th with the former shop building a possible later (Victorian) re-building or re-modelling of a former malt house on the site (CADW).

The house, former shop and outbuildings were all of solid brick with slate roofs, except for the small, single storey outbuilding 2 which had been rendered and painted and had a corrugated sheet roof.

The house had two storeys with bedrooms in the attic space making a third storey. Windows had been installed in each of the gable ends making the attic a light space. The beams of the wooden framed roof had been painted white. Some sections of the roof had been boarded beneath the tiles and other sections had bitumastic felt visible under the tiles. The roof had a single ridge with brick chimney stacks and stone coped gables at each end. The pitches of the roof faced north and south. Gaps under ridge tiles and roof tiles on both north and south roof elevations were potential access points for bats.

There was a small cellar under part of the house, accessed by an internal door. There was no access to the cellar from outside so no potential access for bats.

The former shop building was set forward of the house. It was another two storey building with a hipped roof to the front (north) and a gable to the rear. There was an attic above the ceiling of the second storey room. Gaps under ridge tiles and missing verge mortar on the south facing gable were potential access points for bats.

Outbuilding 1 was a barn used as a storage area with a hayloft above which was divided into three by brick walls which did not reach the ridge. The timber A-framed slate roof had no felt under the tiles. The A-frame and purlins were large timbers with cracks and crevices suitable for roosting bats. The roof had a single ridge with pitches facing north and south. Brickwork inside the hayloft also offered potential roosting sites with cracks in and between bricks

where mortar was missing or bricks crumbling. A square hole in the south wall of the hayloft offered excellent access for bats and birds. The lower storey of the barn was also divided into three sections; two accessed by doors and the third an open fronted area.

Outbuilding 2 was a small, single storey extension on the south side of the house. It had a corrugated sheet roof and did not have features that would make it attractive to bats as a roosting site.

The surroundings

Features of the landscape around the site are shown on the aerial photograph below. Solid yellow lines indicate good habitat connectivity (i.e. vegetation links). The best links were to the south and south west with moderately good connectivity north along a line of street trees but this area was very well lit by streetlamps.



Pen Y Llan House was on the southwest side of the village of Overton. The main A539 was immediately to the north with buildings and gardens beyond. Immediately to the south was the garden of Pen Y Llan House, an area of infrequently mown grass with scattered trees. Beyond this was another grassy plot where planning permission had been granted for the construction of a dwelling and associated garage. A tall conifer hedge ran north-south along the edge of the lane south of the house providing a good vegetation link with woodland beyond the village. A narrow strip of houses and gardens lay immediately to the west with woodland linked to the River Dee just beyond.

The landscape around Overton was mostly improved pasture with hedgerows, trees and larger areas of woodland, mainly along the River Dee. The river and woodlands offered excellent foraging habitat for bats.

The east side of the property was lit from a sodium lamp on a neighbouring house during the night. The north side was well lit from an adjacent all night street light.

Preliminary Roost Assessment – 27 February 2015

No bats or signs of bats were found on the outside of any of the buildings.

A small number of bat droppings were found on the floor of the hayloft in outbuilding 1. Droppings were small and fine textured and did not appear to be recent.

No bats or signs of bats were found inside the house, including the attics and cellar, or the shop. The attic above the shop was not accessed as the hatch was too small to get through.

Daytime Inspection – 02 June 2015

No bats or signs of bats were found on the outside of any of the buildings.

Small numbers of two types of bat droppings were found scattered on the floor of the hayloft in outbuilding 1. Small, fine textured droppings typical of pipistrelle bats were mixed with larger, coarser textured droppings more typical of brown long-eared or Natterer's bats. Some of the droppings appeared fresh suggesting that the hayloft was in use by bats at the time of the inspection.

No bats or signs of bats were found inside the house or the shop. Again, the attic above the shop was not accessed.

There was an active swift nest under the eaves of the shop on the east side.

First Evening Emergence Survey

02 June 2015 – 20.15 to 22.30 (sunset 21.28 BST)

A largely overcast, mild, dry evening with a light westerly breeze after a windy day and rain the previous day. 12°C. 6/8 oktas. Three surveyors were placed so as to attempt to view all elevations.

From 21.31 until 21.53 approximately 15 common pipistrelle bats (*Pipistrellus pipistrellus*)(45KHz) emerged from the square hole on the south wall of the hayloft in outbuilding 1. Most of the bats flew away south along the conifer hedge after making a few passes around the garden.

At 21.38 and 21.50 approximately two soprano pipistrelle bats (*Pipistrellus pygmaeus*)(55KHz) emerged from a gap in the verge mortar on the south facing gable of the shop and flew away to the south.

At 21.57 a very quiet bat emerged from the square hole in the south wall of the hayloft. This was identified as a brown long-eared bat (*Plecotus auritus*) from subsequent analysis of its Anabat file on AnalookW W.

During the survey approximately two noctule (*Nyctalus noctula*) bats were recorded passing overhead towards the river and common and soprano pipistrelles were recorded making passes around the garden to the north and along the lane to the west of the house. No bats were recorded emerging from the house.

Dawn survey

17 June 2015 – 03.31 to 05.01 (sunrise 4.45 BST)

A mild, still and cloudy morning. 10°C. 7/8 oktas. Three surveyors were placed so as to attempt to view all elevations.

At 03.50 a single brown long-eared bat was recorded entering the hayloft in outbuilding 1 through the square hole in the south wall.

At 03.58 approximately two soprano pipistrelle bats entered the hayloft in outbuilding 1 through the square hole in the south wall.

At 04.23 and until 04.31 approximately 5 common pipistrelle bats entered the hayloft in outbuilding 1 through the square hole in the south wall.

A single noctule was recorded passing overhead at 04.22. Common and soprano pipistrelle bats were recorded on the north side of the house but did not enter the house.

Second Evening Emergence Survey

13 July 2015 – 20.38 – 22.30 (Sunset 21.32 BST)

A warm, cloudy evening with a slight southerly breeze. 17.5°C. 6/8 oktas. Two surveyors were placed so as to attempt to view all elevations.

At 21.49 a single common pipistrelle bat emerged from a gap in the verge mortar on the south facing gable of the shop and flew away to the south.

At 22.06 a single *Myotis* sp. bat emerged from the square hole in the south wall of the hayloft. This was identified as most likely a whiskered bat (*Myotis mystacinus*) from subsequent analysis of its Anabat file on AnalookW W.

Noctule bats were recorded passing overhead at 21.58 and 22.02. Passes by soprano pipistrelle bats on the north side of the house were recorded at 21.58 and 22.02 and common pipistrelle bats were recorded feeding around the garden on the south side of the house from 22.13 to 22.14. No bats were recorded emerging from the house.

Passive survey

05 June 2015 (approx. 21.00) – 07 June 2015 (23.41) and 08 June 2015 (approx. 21.00) – 11 June 2015 (approx. 05.00)

An Anabat SD2 bat detector was used to carry out passive monitoring in the hayloft of outbuilding 1 for five and a half nights (dusk to dawn) during the survey period. The detector batteries ran out during the night of 07 June (last recording 23.41) so activity for the remainder of that night and the dawn period for 08 June was not recorded. The detector was located on the floor of the eastern section of the hayloft with the microphone directed away from the large square hole in the south wall.

Numbers of recordings each night for different bat species are in table 1. Five different bat species were recorded using the barn. They were common pipistrelle, soprano pipistrelle, brown long-eared, Natterer's (*Myotis nattereri*), and whiskered bats. Where pipistrelle bats were recorded calling around 50KHz it was not possible to determine whether they were common or soprano pipistrelles so they were recorded at genus level only (*Pipistrelle* sp.).

The most activity each night was from common and soprano pipistrelles. The maximum number of common pipistrelle recordings in one night was 20 and the maximum number of soprano pipistrelle recordings in one night was 45. Recordings of brown long-eared bats (max. 3) were made on five of the survey nights. Natterer's bats (max. 4) were also recorded

on five of the survey nights and whiskered bats (max. 2) were recorded on three of the survey nights.

Table 1: Passive bat survey 05/06/2015 (evening) – 11/06/2015 (dawn), excluding part of the night of 07-08/06/2015.

Penyllan House, 3 Penyllan Street, Overton, LL13 0EE

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Date (times of first and last recording)	Bat species	No. recordings
05/06/2015 (21.05) – 06/06/2015 (04.25)	Common pipistrelle	20
	Soprano pipistrelle	9
	Pipistrelle sp.**	15
	Brown long-eared	1
	Natterer's	4
06/06/2015 (21.47) – 07/06/2015 (02.20)	Common pipistrelle	4
	Soprano pipistrelle	16
	Pipistrelle sp.	2
	Brown long-eared	3
	Natterer's	3
	Whiskered	1
07/06/2015 (20.59) – 07/06/2015 (23.41)*	Common pipistrelle	7
	Soprano pipistrelle	8
	Pipistrelle sp.	2
	Brown long-eared	1
	Whiskered	1
08/06/2015 (21.14) – 09/06/2015 (04.55)	Common pipistrelle	8
	Soprano pipistrelle	10
	Pipistrelle sp.	17
	Brown long-eared	1
	Natterer's	3
09/06/2015 (21.18) – 10/06/2015 (01.30)	Common pipistrelle	13
	Soprano pipistrelle	11
	Pipistrelle sp.	19
	Natterer's	3
10/06/5 (21.35) -11/06/205 (04.13)	Common pipistrelle	12
	Soprano pipistrelle	45
	Pipistrelle sp.	21
	Brown long-eared	2
	Natterer's	1
	Whiskered	2

*incomplete night's recording as detector batteries went flat.

**pipistrelle calls at 50KHz only identified to genus level.

See 8.0 SITE PICTURES for entry and emergence points

3.3 Constraints of this survey

As with all wildlife surveys conducted, the data collected is only a representation of the species and species presence markers found during the actual dates of the survey. There are other seasons and many species are mobile or transitory.

The weather and dates for the surveys were ideal.

The attic above the shop was not accessed as it only had a tiny hatch so details of the roof frame structure and other internal features were not recorded. The age of the building means

that the roof was not of trussed construction so there would be room for bats to fly inside. Bats were recorded emerging from the shop attic roof during the two evening surveys so it was established that bats were roosting in this part of the building even though no search for signs in the attic could be made.

The passive survey was slightly shortened (by half a night) due to the batteries in the detector going flat. Relative levels of activity and numbers of species recorded do not differ greatly between all the nights and it is not considered that this gap made a significant difference to the survey conclusions.

Evidence for some crevice-dwelling bats, e.g. *Myotis* species, can be difficult to find. Brown long-eared bats are notoriously difficult to pick up on a bat detector as they call very quietly or not at all. They are also difficult to see during evening emergence, as it is getting very dark when they emerge. All counts of bats should be regarded as good estimates rather than precise numbers.

During the passive survey it is possible for a single bat to be recorded more than once, particularly in the case of species like brown long-eared and *Myotis* bats which make passes around the inside of the roost building to sample light levels before emerging. The number of recordings gives an indication of relative levels of activity rather than actual numbers of bats.

3.4 Interpretation/evaluation of survey results

The hayloft of outbuilding 1 was the most favourable for bats of the different parts of the building making up Pen Y Llan House. There was good access for bats with many potential roosting sites in large roof timbers and internal brickwork. There was no felt on the underside of tiles and a large opening on one wall which made it slightly cool and possibly a little less favourable for bats.

Relatively small numbers of five species of bat were found to be using the hayloft. Common pipistrelles were the most numerous with a maximum count of approximately 15 emerging in one of the evening surveys. A small number of soprano pipistrelles (less than 5) were also using the hayloft. A single brown long-eared bat was recorded on two of the survey visits and small numbers (max. count in one night of 3 records) of brown long-eared recordings were made on five of the six passive survey nights suggesting that the hayloft is used regularly as a roost by a very small number of them; perhaps only one, although brown long-eared bats can be very quiet and there may have been activity by them that was not picked up by the bat detector. Small numbers (max count in one night of 4) of Natterer's bat recordings were also made on five of the six passive survey nights suggesting that the hayloft is used regularly as a roost by 2 bats. A single whiskered bat was recorded emerging from the hayloft and small numbers of recordings (max. 3) on three of the six nights of the passive survey suggest that the hayloft is occasionally used as a roost by one or two of them. These were all considered to be summer roosts.

The house itself, with bedrooms and windows in the attic, was not favourable for bat species requiring flying space. Gaps under roof and ridge tiles offered potential access points and roosting places for pipistrelle bats but no bats were recorded emerging from or entering the house during the surveys.

Gaps in verge mortar and under ridge and roof tiles of the former shop were access points for bats and small numbers (less than 5 of each) of both common and soprano pipistrelles were recorded emerging from the building. These were considered to be summer roosts.

The same individual bats may have been using both the former shop roof and the hayloft at different times.

There was an area of moderately good bat foraging habitat in the area immediately south of Pen Y Llan House. Part of this area has planning permission for the construction of a house and garage so will be lost as foraging habitat. There were good links for bats along hedgerows and trees to woodland around Overton and towards the River Dee.

15 common and 2 soprano pipistrelle bats, 2 brown long-eared bats, 2 whiskered bats and 2 Natterer's bats were found to be roosting in the hayloft of the barn (outbuilding 1), mainly entering through the square gap in the south wall. 1 common and 2 soprano pipistrelle bats were found to be roosting in the former shop, entering through a gap in the verge mortar on the south gable. All numbers are approximate.

These surveys establish that the barn and hayloft (outbuilding 1) and the former shop at Pen Y Llan House are bat roosts and the bats' presence is therefore a material consideration for any planning application.

One pair of swifts was recorded nesting under the eaves of the former shop on the east side. Active nests of all bird species are protected by law.

An assessment of the likely impact of the proposed works if they were to go ahead without mitigation is in section 6.

The Mitigation Plan approach is to provide larger, less disturbed and better designed bat habitat by providing a new, replacement dedicated bat building in the rear garden to the south of the house. A bat loft could have been designed and placed into a variety of places: in the main house, the hayloft or in the loft over the shop, none of these locations were either large enough (in the space over the shop) or in the case of the main house or hayloft were to be so disturbed and potentially very well lit, over the back yard and by the neighbouring community building that they were discounted as sub-optimal solutions.

The rear garden is a reasonably large garden and will be darker and nearer to the direction of dispersal of the bats which was down the hedged drive to the south. Dispersal to the north was virtually impossible with "all night" street lamps of the main road and much light spill from neighbouring premises. By providing a dedicated bat building in the garden it will be possible to have a larger and better designed bat loft and other bat habitat with little light spill onto it, less disturbed conditions and the simplicity and functionality of not sharing space with dwelling space. In addition meeting mitigation timing restrictions will be easier since the dedicated bat building can be built at any time and just needs to be complete by the 30 April in the winter/spring when works to the house etc. roofs take place.

On the negative side of course is that bats will be excluded from the shop roof and hay loft and will have to find, relocate to and start to use this new habitat being provided. Although this is drawback, the dedicated bat building approach is considered more favourable for the bats, given the small numbers of bats recorded and the fact that no maternity roost was confirmed, it is considered that this would retain Favourable Conservation Status, be commensurate mitigation and more straightforward to design and build.

4.0 RECOMMENDATIONS

The following is recommended:

It is recommended that:

1. The presence of roosting bat colonies is a constraint to the proposed conversion works. If works were to go ahead without approved mitigation, it is likely the bats could be negatively affected, especially if works were carried out in the spring or summer.
2. For the works to be carried out, a Mitigation (European Protected Species) Licence concerning the bats will need to be applied for from Natural Resources Wales, once planning consent has been granted.
3. A Brief Bat Mitigation Plan, including a Method Statement, has been drawn up and is presented in this report. It includes such matters as:
 - a) Timing of works on house etc. – 01 October to 30 April. (But see also Rec. 4 regarding bird nests). The Dedicated Bat Building can be built any time but must be complete by 30 April in the same “window” as the works on the house, barn etc.
 - b) Worker/contractor induction on bat presence.
 - c) Contingency for discovering bats.
 - d) Provision of a replacement Dedicated Bat Building and bat boxes on trees.
 - e) Applicant to provide the Mitigation details on their Planning Application drawings.
4. Works must not take place once the swifts are nesting, usually in the period March to September, or they must be safely excluded prior to this period in the year works are to start.
5. Provision must be made to replace the lost nest site. One 17A Schwegler Swift Nest Box (Triple Cavity) should be placed under the eaves of the east wall of the former shop as part of the works.

5.0 REFERENCES

1. AJ Mitchell-Jones. Bat mitigation guidelines. English Nature (2004).
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6.0 MITIGATION PLAN

Penyllan House, 3 Penyllan Street, Overton, Wrexham LL13 0EE

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Bat Survey

Former shop

Common pipistrelle (*Pipistrellus pipistrellus*) summer roost <5 bats (max. survey count 1 bat)

Soprano pipistrelle (*Pipistrellus pygmaeus*) summer roost <5 bats (max. survey count 2 bats)

Barn with hayloft (outbuilding 1)

Common pipistrelle (*Pipistrellus pipistrellus*) summer roost 15 bats

Soprano pipistrelle (*Pipistrellus pygmaeus*) summer roost <5 bats (max. survey count 2 bats)

Brown long-eared (*Plecotus auritus*) summer roost 2 bats

Natterer's bat (*Myotis nattereri*) summer roost 2 bats

Whiskered bat (*Myotis mystacinus*) summer roost 2 bats

Objective: To ensure the bats remain at a favourable conservation status.

Impact assessment (in absence of this mitigation plan)

Proposed works

It is proposed to convert the house, former shop and outbuildings into residential accommodation.

Short-term impacts: disturbance

Bats could be killed or abandon their roosts if conversion and restoration works start while they are present in spring and summer. If works start in the winter and are not completed by the following spring, the bats would have no roost to return to. Any bats hibernating in cracks in walls could be killed or injured if conservation and restoration works start while they are present during the winter.

Long-term impacts: roost modification

The bats would be permanently excluded and have to find new roosting habitat.

Long-term impacts: roost loss that is relevant

The hayloft roost would be lost as it would become part of a dwelling. Roosts under roof and ridge tiles would be lost when roofs were re-laid and repaired.

Long-term impacts: fragmentation and isolation

Any loss of linear features such as hedges or tree lines, loss of foraging areas such as infrequently mown grass, increased lighting, or severance of flight lines by roads would be negative.

Post-development interference impacts

The converted buildings will be dwellings and therefore used in a different way to the building now. There would be an increase in human activity, the garden area may be managed more intensively and there would be likely to be more lighting on and around the building.

Predicted scale of impact

The impact on the colonies of bats concerned would be high, but the impact on the numbers in the locality would be:

Natterer's bat - low
Whiskered bat - low
Brown long-eared bat – low
Common pipistrelle bat – low
Soprano pipistrelle bat – low

Land ownership – Pen Y Llan House is in the ownership of the applicants, Carolyn May, Nola Millward and Geoffrey Freestone.

Method Statement

Penyllan House, 3 Penyllan Street, Overton, Wrexham LL13 0EE

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Bat Survey

Former shop

Common pipistrelle (*Pipistrellus pipistrellus*) summer roost <5 bats (max. survey count 1 bat)

Soprano pipistrelle (*Pipistrellus pygmaeus*) summer roost <5 bats (max. survey count 2 bats)

Barn with hayloft (outbuilding 1)

Common pipistrelle (*Pipistrellus pipistrellus*) summer roost 15 bats

Soprano pipistrelle (*Pipistrellus pygmaeus*) summer roost <5 bats (max. survey count 2 bats)

Brown long-eared (*Plecotus auritus*) summer roost 2 bats

Natterer's bat (*Myotis nattereri*) summer roost 2 bats

Whiskered bat (*Myotis mystacinus*) summer roost 2 bats

In chronological order:

a) Timing of works

Carry out all the works to start and complete the renovation/conversion of the house, barn and former shop to include all roof stripping, repairs to timbers, laying slates/felt, repairs to (or construction of new) soffits and barge boards, repairs to verge mortar etc., work to remove, repair or replace ceilings, any rendering and removal of all scaffolding in a single period **01 October to 30 April**. This will avoid the high-risk period for bat colonies in spring and summer. Internal fitment works, once this is complete, can continue after this period. Works to take down or create new apertures in the brick-walls of the hayloft in outbuilding 1 will take place in **October, March or April only**, to avoid disturbance or harm to any hibernating bats.

Swifts may return to the nest site on the former shop in March and will need to be safely excluded to prevent them from building nests which may then obstruct or delay conversion works.

b) Worker/contractor induction on bat presence

Provide a "Tool Box Talk", Method Statement and summary sheet of guidance about bats in old buildings to site owners and all workers/contractors before works begin.

c) Creation of temporary roosts for any bats found during conversion

Erect at 3m to 4m height, prior to any works, three untreated timber bat boxes to BCT design, with a slot width 16 - 17mm on trees within 20m of the building. They will be primarily a safe, temporary roosting site for the licensed ecologist to place bats in if any are found at the searches prior to and during the works.

d) Contingency for discovering bats

A licensed bat ecologist will search the barn and hayloft (outbuilding 1) and former shop attic immediately prior to any work and, if bats are found, consider delaying the works until the bats are not present. The licensed bat ecologist will then provide a "watching brief" of any work to strip/dismantle the roof, repair/replace soffits/barge boards, etc. Any bats found that do not fly will be released immediately at the site into the bat boxes already erected. If this is not possible they will be rehabilitated at a suitable centre with later release at site.

e) New/existing bat roosting habitat
A new dedicated bat building

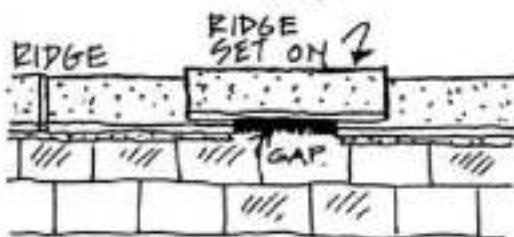
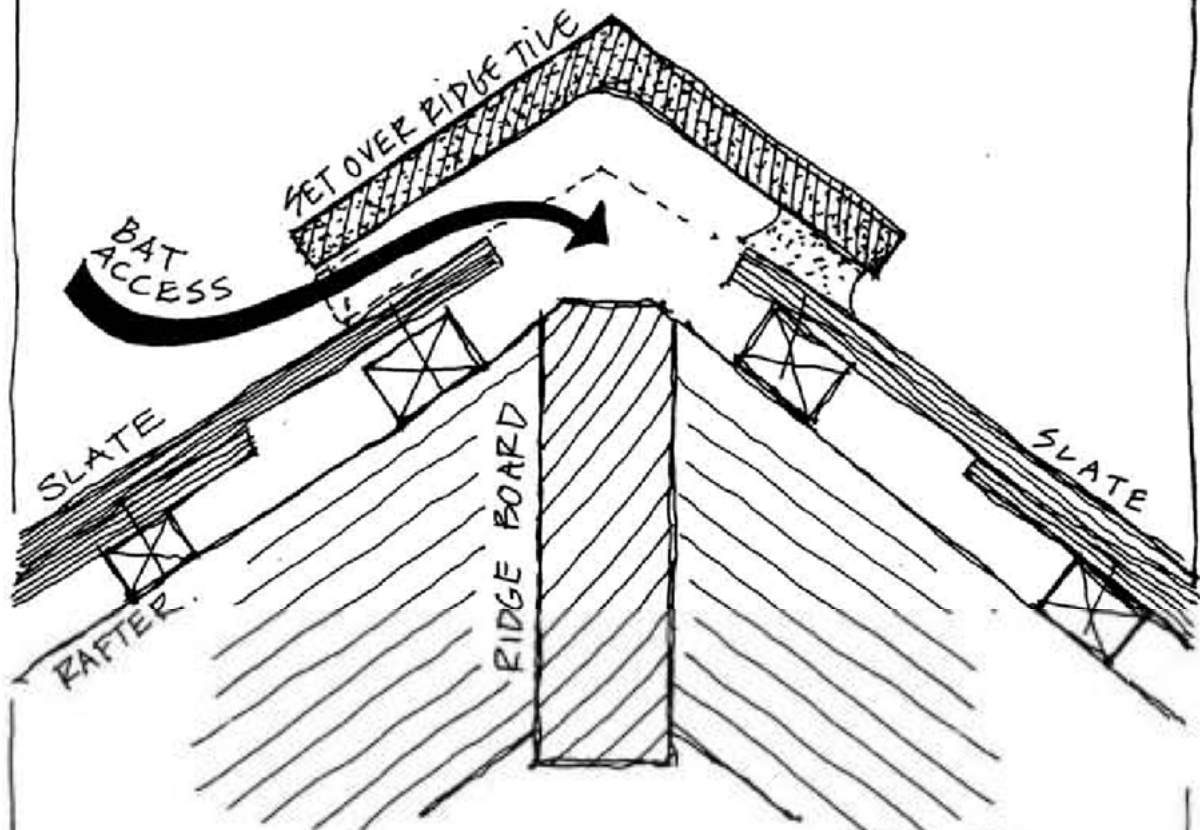
*A new Dedicated Bat Building for maternity and night roosting and possible hibernation for a range of species, with no human use will be provided.
(no storage, no electric power, no lighting, no solar panels or water installed)*

- (i) A new dedicated bat building is to be constructed for bats in the rear garden to the south of the house within 30m of the house. The design will provide an upper loft with a floor and “cool room” below with a range of temperature regimes within the building, but with a minimum afternoon, mid-summer attic apex temperature of 30°C. The attic will be subject to solar gain providing the energy for the warm conditions in the attic part; the ideal roof pitch for this is 52°. The lower room will be much cooler with a floor left as earth for moist conditions and can be further enhanced by digging it out below ground level to create a type of cellar, say even up to 2m to provide more stable temperatures in the winter (depending on footing depth).
- (ii) Of traditional gabled, “cut roof” construction with no trusses, the alignment of the roof ridge will be east-west. One roof pitch will have a southerly aspect to maximise solar gain to the attic space and ideally a roof pitch of 52°. New shrubs/scrub areas and hedges of native species must be planted to join to existing vegetation to enhance the flight lines for bats if there are not some existing. Tall tree species must not be planted as these will shade the roof and cause unwanted cooling. A list of suitable species is included in the appendices.
- (iii) It will have a minimum attic height of 2.8m with minimum internal dimensions of 5m long, and width between 4m (roof pitch 55° for 2.8m high attic) to 5m (52° degrees gives an attic height of 3.2m). Eaves’ height to the underside of the floor joists inside will be a minimum of 2.0m. It will ideally avoid having an A frame or similar to support its purlins and have a single, open attic. If the building is over 8m long it can have a hipped roof which focuses heat better.
- (iv) It is to be a permanent structure and will be constructed of stone, brick, block-work or a suitable timber frame clad inside with OSB board. All construction methods will be clad in horizontal timber weather boarding in Tanalyth E tanalised boards.
- (v) The pointing mortar work on the inside of the stone, brick or block work walls will, in around 20 places on each wall (i.e. 80 in total) above 1m height, be left out in small sections 150mm long and 100mm deep into the wall and mortar depth (not open to the exterior though). In timber framed construction provide four simple crevice bat boxes of 2m long boards fixed to the walls in the ground floor room at 1.6m height. A design for the latter is available separately.
- (vi) The roof will be constructed with a traditional cut and pitch method to form an unobstructed open space using tanalised (Tanalyth E), rough sawn/un-planed timbers to aid bats to hang and grip. Ancient timbers can be fixed in the roof structure with cracks, splits, open mortises, slots etc. in them, these do not have to be structural. It will ideally be roofed with slate (must be natural slate) but can be roofed with black or very dark clay tiles using traditional bitumastic roofing felt BS8747:2007

TYPE 1F under. Breathable 'Tyvek' type products must not be used. Ridge tiles will be dark or black coloured to absorb heat.

- (vii) To the underside of the rafters on both pitches fix 6 number rough sawn battens, about 25mm x 25mm in dimension, the length of the building. The highest placed within 100mm of the apex beam and the other 5 at approx. 200mm spacing down the roof pitches. The lower parts therefore have no underside battens.
- (viii) Three evenly spaced ridge tiles (more on buildings longer than 5m) will be "notched" to their lower edges to provide a slot 100mm long and an effective depth, when the ridge tile is in situ, of 20mm (and no larger or smaller) to both lower edges to provide access for bats under the ridge tiles, with a cavity left inside at this point. The ridge will be a mortared not "dry system" ridge. See Detail 4A below.

RIDGE TILE ACCESS DETAIL 4A



~ OPTION A ~

ROOF RIDGE SET ON TOP
OF GENERAL RIDGE TILES
TO FORM BAT ACCESS GAP.



~ OPTION B ~

MAINTAIN 20MM MORTAR
GAP. & LEAVE A SECTION
OUT.

~ OPTION C ~

RIDGE TILE CUT WITH A SLOT TO BOTH ITS LOWER
EDGES TO GIVE A 100MM LONG BY 20MM HIGH SLOT



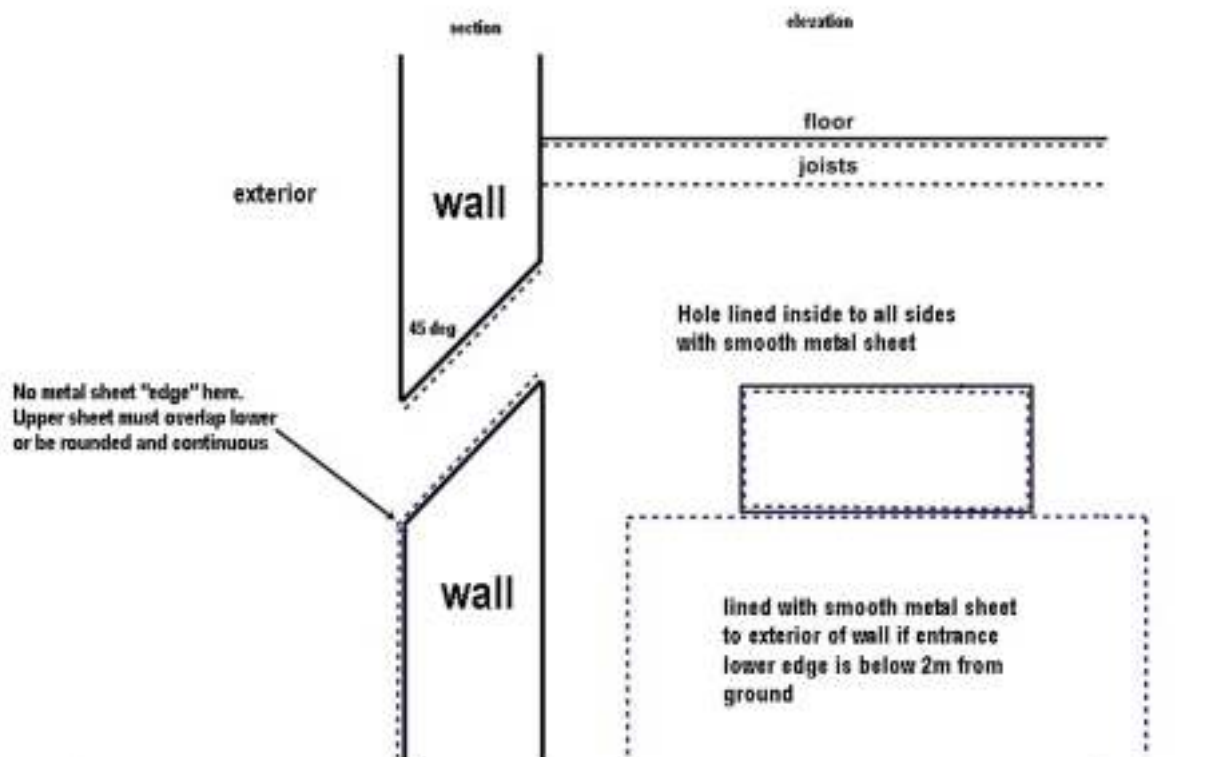
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The above information is for guidance only and may not be appropriate in all circumstances. If in doubt seek professional advice.
English Nature Cumbria Team, Juniper House, Mulvey Moss, Oxenholme Road, Kendal LA9 7RL. Tel: 01539 752900 Fax: 01539 752900 Email: cumbria@english-nature.org.uk

- (ix) A rectangular bat entrance/exit will be provided as a hole usually in the east facing wall. East is best but it must also be unaffected by artificial light spilling into it from outside or by window lighting elsewhere at the site so other elevations are possible. The entrance will be 500mm in width and 200mm in depth. It will be angled up through the wall at 45°. It will be installed with its upper edge at about 1.7m from ground level. If the eaves' height is greater than 2m it can be higher. It is to enter the interior in the ground floor room (not into the attic) just below the attic floor. To deter cats jumping/climbing in the entrance, the bat entrance will be lined to all 4 sides in smooth metal sheeting. The section of exterior wall below the bat entrance will also be covered in a smooth metal sheet 1m wide over the timber cladding from ground level bending into the entrance hole with no "edge" there. The sheet will be as smooth as possible with any sheet overlaps being upper sheet over lower sheet.

General arrangement of bat access through wall

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- (x) An alternative bat entrance/exit slot, intended to be used in an emergency if the main bat access is blocked by a predator for example must be provided in the opposite gable wall to the main entrance. A horizontal slot 300mm wide by 100mm high set with its upper edge 1.8m from the ground.
- (xi) A human load bearing ceiling/floor will be installed at eaves level with rough sawn/un-planed timber joists and OSB flooring. An access hatch, 600mm by 600mm without a hatch door, no safety rail above and no access ladder will be installed in the centre of the ceiling/floor to allow bat access to the attic and human bat monitoring access.
- (xii) A secure, lightless exterior door will be provided on one of the walls that does not have a bat access hole for human access to monitor bats. This door must be kept locked and will be labelled: "This building has no access. The door is locked. This building must not be used for any human purpose e.g. no storage. It is a Dedicated Bat Building."
- (xiii) The tanalised, horizontal exterior timber cladding will be on battens 50mm deep and will have holes, 20mm in diameter, at approx. 1m spacing, drilled up vertically at the bottom edge of a cladding board, at approx. 1.8m from the ground on each elevation to allow access for bats behind the cladding into the cavities between battens.
- (xiv) At the eaves and along the gables soffit boxes will be built with rectangular bat access slots at their wall edge about every metre. Similar slots will be made at the apex of the gables. All slots will be 100mm long and 20mm deep (and no larger) giving access to the soffit boxes and the wall tops. See Detail 7 below.
- (xv) It will have no lighting inside it or fixed to the outside of it and will have no exterior lighting within 10m of it at all and no exterior lighting directed at it at all. No electrical power will be wired in or supplied to the building or water supplied to it. It will have no human use, i.e. no storage, animal housing or any other human use.
- (xvi) It will have no solar panels of any sort placed over or on the roof or walls or contain any wiring, inverter or controller from any other panels nearby.
- (xvii) It will be completed to the satisfaction of the ecologist prior to any works on the building/structure it replaces and where bats are to be excluded from. All works will be carried out under a Mitigation Licence issued by Natural Resources Wales.

f) Providing clear details and connection to Planning Permission/Listed Building Consent

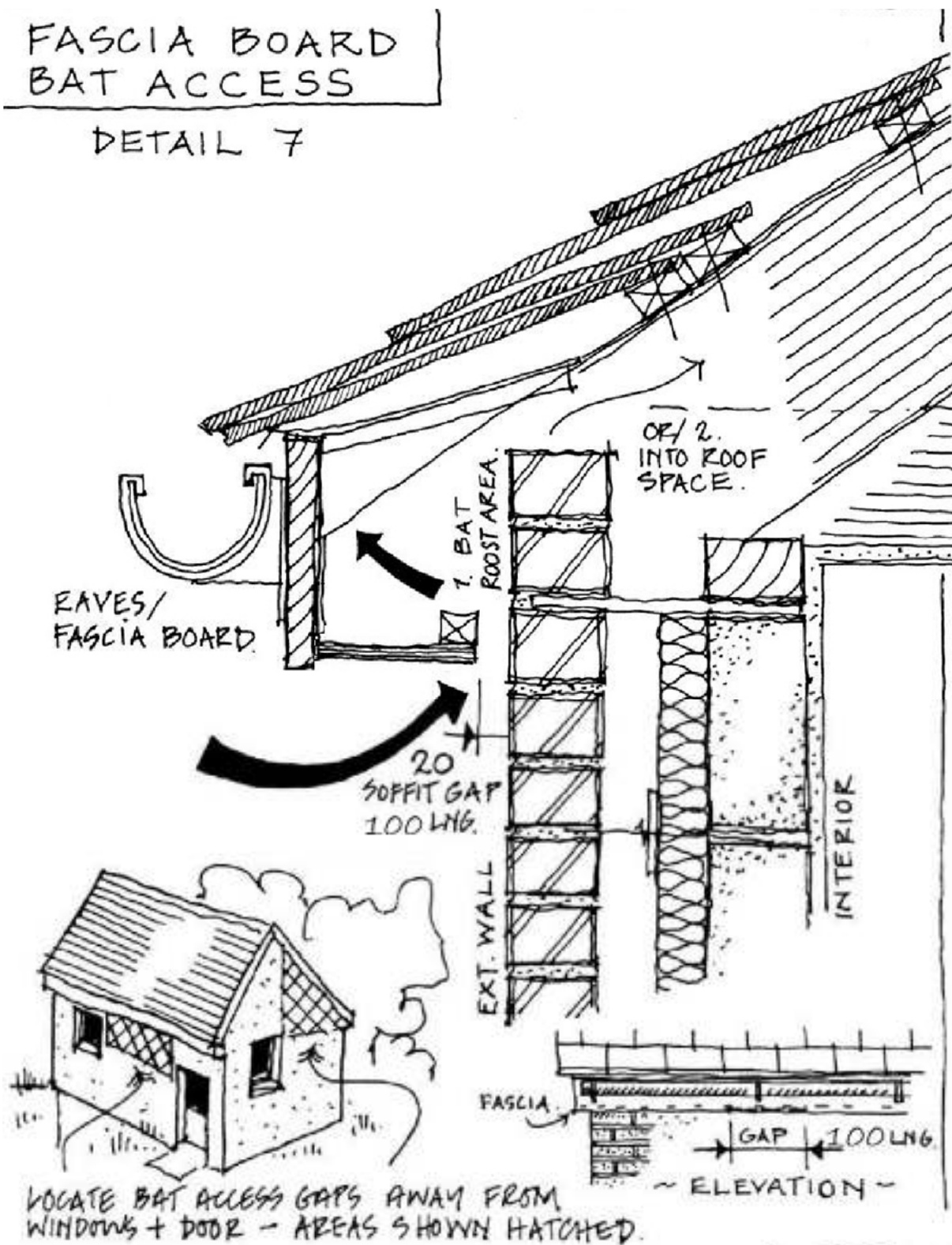
The applicant/surveyor/architect will include all bat mitigation specifications and details on their Planning or Listed Building Application plans and drawings.

g) Monitoring

As the works will take place under a Mitigation EPS licence issued by Natural Resources Wales monitoring will be: on completion of exclusion and building works, a report will be written and sent by the ecologist Gerald Longley to NRW including photographs of the mitigation works.

FASCIA BOARD BAT ACCESS

DETAIL 7



ENGLISH
NATURE

7.0 APPENDICES

7.1 Relevant Legislation

Bats – Legislation

All British bat species receive legal protection in the United Kingdom under the Wildlife and Countryside Act 1981 (WCA) (as amended). The WCA 1981 was amended by the Countryside and Rights of Way (CROW) Act 2000. All British bat species are listed under Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which makes it an offence to:

- Intentionally kill, injure or take a bat
- Possess or control any live or dead specimen or anything derived from a bat
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell a bat

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. As a result of the UK ratifying this directive, all British bats are also protected under the Conservation of Habitats and Species Regulations 2010. It makes it an offence to:

- Deliberately capture or kill a bat.
- Deliberately disturb a bat in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young, OR ii) the local distribution of that species.
- Damage or destroy a breeding site or resting place of a bat.

Under the law, a roost is any structure or place used for shelter or protection. This could be any structure, for example any building or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost may be protected whether the bats are present or not.

Birds - Legislation

Under Section 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally kill, injure, handle or remove any wild bird (with the exception of a few pest species); take or damage a nest whilst in use or being built; and take or destroy eggs. A person is not guilty of any offence if their action was the incidental result of a lawful activity and could not have been reasonably avoided.

A higher level of protection is afforded to those birds listed in Schedule 1 of the Act. It is an offence to disturb Schedule 1 species whilst it is building or sitting on a nest, in addition to damaging or destroying their nests or eggs.

It is not an offence to disturb non-Schedule 1 species whilst they are building a nest or sitting on it. However, an offence may be committed if the bird is driven away from a nest by prolonged disturbance which results in the failure of eggs or death of dependent young.

7.2 Field equipment used for the survey:

Escort mini temperature data logger
Silva compass
Leica 8 x 42 close-focusing binoculars
Cluson Clubman 1 Million candle-power lamps
Access Cam Pro-Sight colour video endoscope (1m probe).
Telescopic mirror
Suunto clinometer
3.8-metre extendable ladder
8m extendable ladder
Anabat SD2 bat detectors with GPS and HP iPaq PDAs (active monitoring)
AnalookW v3.7w (bat data analysis software)
Anapocket v2.5b (bat data analysis software)
Wildlife Acoustics EM3+ bat detector
Kaleidoscope v1.12 (sound analysis software)
Batbox Duet bat detector (frequency division and heterodyne bat detector)
SSF Bat2 bat detector (frequency division and heterodyne bat detector)
Two-way radios

7.3 Hedges and scrub areas - List of native shrubs/climbers to plant

Native Shrubs and Climbers		
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No. of Species	Scientific name	Common name
1	<i>Cornus sanguinea</i>	Dogwood
2	<i>Corylus avellana</i>	Hazel
3	<i>Crataegus monogyna</i>	Hawthorn
4	<i>Euonymus europaeus</i>	Spindle
5	<i>Frangula alnus</i>	Alder Buckthorn
6	<i>Ilex aquifolium</i>	Holly
7	<i>Ligustrum vulgare</i>	Wild Privet
8	<i>Lonicera periclymenum</i>	Honeysuckle
9	<i>Malus sylvestris</i>	Crab Apple
10	<i>Prunus padus</i>	Bird Cherry
11	<i>Prunus spinosa</i>	Blackthorn
12	<i>Rhamnus cathartica</i>	Buckthorn
13	<i>Rosa canina</i>	Dog rose
14	<i>Salix cinerea</i>	Grey Willow
15	<i>Sambucus nigra</i>	Elder
16	<i>Viburnum opulus</i>	Guelder-rose

8.0 SITE PICTURES





