



**50-52 Brecon Road,
Pontardawe**

Bat and Nesting Bird Survey

August 2023

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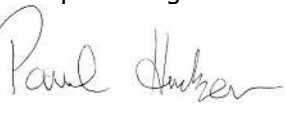
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DOCUMENT CONTROL

50-52 Brecon Road, Pontardawe Bat and Nesting Bird Survey				
Revision	Date	Prepared by	Checked by	Approved by
1.0	21 July 2022	Maggie Finlayson-Sykes Assistant Ecologist 	Daisy Smith Assistant Ecologist 	Paul Hudson MCIEEM Principal Ecologist 
2.0	22 November 2022	Daisy Smith Assistant Ecologist 	Ffion Jones Assistant Ecologist 	Paul Hudson MCIEEM Principal Ecologist 
3.0	3 August 2023	Isabel Humphries Assistant Ecologist 	Daisy Smith Assistant 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 two buildings and three garages, located at 50-52 Brecon Road, Pontardawe, Swansea, SA8 4LQ (Ordnance Survey Grid Reference: SN 72658 04572).														
Proposed Works	The proposed development works comprise the demolition of the existing shop front and demolition of the garages on the surrounding land situated at 52 Brecon Road. 50 Brecon Road will be fully refurbished.														
Survey Methodology	The survey comprised the following: • A preliminary bat roost assessment of the buildings, searching for signs of bats and nesting birds; • Three dusk emergence surveys of 50-52 Brecon Road; and • One dawn re-entry survey of 50-52 Brecon Road.														
Results of Preliminary Bat Roost Inspection	No signs of bats were found during the internal and external inspection of the buildings and garages. The site is within a moderate-quality area for foraging and commuting bats.														
Results of Dusk Emergence and Dawn Re-Entry Survey	The following roost is present: <table><tr><th>Bat Species</th><th>Maximum Count</th><th>Roost Type</th><th>Roosting Location/ Access Points</th><th>Importance of Roost</th></tr><tr><td>Common pipistrelle</td><td>One</td><td>Occasional Day Roost</td><td>Eastern elevation bargeboard of the house</td><td>Local</td></tr></table> A previous soprano pipistrelle maternity roost had been detected on the site with over 150 individuals, recorded from 2018 (Neil Price, <i>pers comm.</i>). The following reasons for the negative result in relation to the soprano pipistrelle maternity roost during the four surveys are: • The building/s are no longer in current use by soprano pipistrelle bats; • The building/s are in use in some years but not others.					Bat Species	Maximum Count	Roost Type	Roosting Location/ Access Points	Importance of Roost	Common pipistrelle	One	Occasional Day Roost	Eastern elevation bargeboard of the house	Local
Bat Species	Maximum Count	Roost Type	Roosting Location/ Access Points	Importance of Roost											
Common pipistrelle	One	Occasional Day Roost	Eastern elevation bargeboard of the house	Local											
Evidence of Nesting Birds	No evidence of past or current nesting by birds was noted either within or on the buildings' exterior.														
Predicted Impacts of Development on Bats	The development proposals i.e removal of the bargeboard where the roost was detected (without mitigation and compensation) would result in the permanent loss of a common pipistrelles day roost within the house. The demolition of the shop and internal refurbishment of the house are likely to have no impact on bats. No direct impacts on nesting birds are anticipated.														
Licensing Requirements for Bats	A bat licence from Natural Resources Wales will be required prior to stage 4 of the proposed works. The demolition of the shop and internal refurbishment of the house would not need to be subject to a bat licence.														
Required Actions	Detailed recommendations are given in Section 6 of this report, which include the following: • Applying for a bat development licence; • Precautionary measures to avoid and minimise potential impacts on bats during works; and • Bat roosting provision including an eaves bat roost.														

1. Introduction

1.1. Brief and Site Location

This report presents the findings of an update bat and nesting bird survey of two buildings and garages, located at 50-52 Brecon Road, Pontardawe, Swansea, SA8 4PD (Ordnance Survey Grid Reference: SN 72658 04572¹).

The buildings and garages are within the boundary of Neath Port Talbot City and County Council.

1.2. Site Description

The site proposed for development measures approximately 313ha in extent, and mainly comprises a house/ shop building with garage structures within the surrounding land. It is situated in an urban area, in the town of Pontardawe. Brecon Road lies immediately to the south-east of the site. Another residential dwelling lies to the south-west. Residential gardens both belonging to the property, and neighbouring properties lie to the north-east and -west. The wider landscape is largely suburban, with stretches of woodland approximately 0.2km to the north and east.

The site's location is shown on Plan 1: Location Plan.

1.3. Site History

A previous bat survey was undertaken on the site in 2018 by Neil Price. This found a soprano pipistrelle maternity roost with over 150 individuals emerging from the rear of the house (Neil Price *pers comm.*). At the time of writing, details of the access point or roosting location has not been provided.

1.4. Proposed Works

The proposed development works comprise the demolition of the existing shop front and the garages on the surrounding land situated at 52 Brecon Road. The old house situated at 50 Brecon Road is to be fully renovated and extended including the construction of a double garage. A planning application has been submitted under reference: P2022/0615².

Existing and proposed plans can be found in Drawings 1 and 2. Further details of the sequence of works is provided within Appendix 8.

1.5. Legislation and Planning Policy

1.5.1. Bats

¹ Latitude and Longitude: 51.725363, -3.8450897/ what3words: ///flick.mildest.sunset

² <https://planningonline.npt.gov.uk/online-applications/applicationDetails.do?keyVal=RF3Q51KZJ8300&activeTab=summary>

All UK bats are protected species. Their breeding sites or resting places³ (roosts) are fully protected under the Wildlife and Countryside Act 1981⁴ (as amended) and the Conservation of Habitats and Species Regulations 2017⁵ which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019⁶. Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

1.5.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions⁷) are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁸ (as amended) and the Countryside and Rights of Way Act 2000⁹. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have additional protection from disturbance during the breeding season, as do their nests, eggs and dependent young.

1.6. Survey Scope

The survey comprised:

- A daytime internal and external inspection of the buildings and garages, searching for signs of bats and nesting birds, and assessing the potential for bats to roost on site;
- Three dusk emergence surveys of B2; and
- One dawn re-entry survey of B2.

1.7. 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; and
- Provide suitable recommendations in line with planning policy and wildlife law, including potential licencing requirements, mitigation, compensation, and enhancement measures.

³ Resting places are defined as ‘areas that are essential to sustain an animal or group of animals when they are not active’ (Anon 2007).

⁴ <https://www.legislation.gov.uk/ukpga/1981/69>

⁵ <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

⁶ <https://www.legislation.gov.uk/ukdsi/2019/9780111179512>

⁷ Details of the exceptions are available at <https://naturalresources.wales/permits-and-permissions/species-licensing/list-of-protected-species/bird-licensing/bird-licences/?lang=en>

⁸ <https://www.legislation.gov.uk/ukpga/1981/69>

⁹ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

Maps and aerial photographs of the site and surrounding area, including existing habitats, were assessed. A search for statutory and non-statutory conservation designated sites for bats within 10km was undertaken using NRW Geographic Information System (GIS) data. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A local planning portal search was undertaken. This involved looking for other sites, within the same postcode area, which have previously had bat surveys submitted as a part of their planning applications.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search of the exterior and interior of the buildings and garages, was undertaken, looking for features that bats could use for entering/exiting and roosting¹⁰. 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 17th August 2021 by Ffion Jones¹¹ and Maggie Finlayson-Sykes. An update inspection was undertaken by Paul Hudson on 6th July 2022.

A high-powered torch (Clulite), 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 Survey

The evening dusk emergence surveys commenced 15 minutes prior to sunset, and continued until 90 minutes after sunset. The dawn re-entry survey commenced 90 minutes before sunrise and continued for 15 minutes after sunrise. Of the surveys conducted in 2022, the first dusk emergence survey was undertaken on August 30th 2022 by Ffion Jones, Maggie Sykes, Any Burns and Charley Kennedy. The

¹⁰ Bats can utilise gaps approximately 8mmx17mm in size (The Bat Conservation Trust, Cluster-flies leaflet mentions 8mm by 20mm whilst the Bats and Buildings leaflet states 9mm by 17mm).

¹¹ Ffion graduated with a degree in Ecology and Conservation from the University of Exeter during which she studied modules on biodiversity, ecological consultancy, and conservation. She is an Assistant Ecologist with Acer Ecology working and has two seasons experience of bat survey work. She is listed as an accredited agent on Paul Hudson's bat licence (S088190/8) and has undergone training with Acer Ecology in basic bat ecology and bat survey techniques (including preliminary roost assessments and dusk emergence/dawn re-entry surveys). Further details of her qualifications and experience can be found at <https://www.linkedin.com/in/ffion-jones-17ab63197>.

following dawn re-entry survey was undertaken on 22nd September 2022 by Daisy Smith, Jasmine Stemp, Frank Peake and Iwan Cleave. For the surveys undertaken in 2023, the first dusk emergence survey was undertaken on the 12th June 2023 by Charley Kennedy, Charlotte Ingram, Maggie Sykes, and Liza Ross. The second dusk emergence survey was undertaken on 6th July 2023 by Paul Hudson, Kira Everett, Kelsey Marshall and Jack Hole. Surveyor details can be found in Appendix 5. During the 2023 surveys, the surveyors were all equipped with Elekon Batlogger M bat detectors alongside a Nightfox Red infrared camera (i.e 4 in total) each supplemented with a Nightfox XB5 850nm Infrared LED flashlight. Infrared cameras were used because they are always on and not prone to distraction, and they aid in the detection of bats in low light levels from 45 minutes after sunset until 90 minutes after sunset. Video footage was subsequently viewed using VLC Media Viewer. Images of the footage recorded can be found in Section 3.2.6.

Surveyors were positioned at viewpoints where they had good sight of all elevations of the building, so that all potential roosting features could be observed to detect any bat emerging from, or re-entering the buildings. Bat activity near the buildings was also 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 13mph 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

Temporal Constraints

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

Evidence of Bats

Often bats leave no visible signs of their presence even on the inside of a building, particularly where there are hidden cracks, crevices and voids.

Data Search

A Local Records Centre (LRC) data search was not undertaken due to the low impact and small-scale nature of the development. Current proposals suggest no land will be lost or linear features severed. The overall impact on biodiversity is likely to be localised and of low significance. It is very unlikely that the development

will have any impact outside the footprint of the works. The data search results are considered unlikely to impact the decision-making process, and there is limited potential for key information to have been missed.

This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2020), which states that in low-impact/small-scale scenarios, such as a residential property demolition, a LRC search may not be required.

3. Baseline Ecological Conditions

3.1. Desk Study

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

The planning portal search¹² returned no bat roost records from a search of sites with the same postcode area as the proposed development.

3.1.2. Previous Bat Survey Undertaken on the Site

A previous bat survey was undertaken on the site in 2018 by Neil Price. This found a soprano pipistrelle maternity roost with over 150 individuals emerging from the rear of the house (Neil Price *pers comm.*). Details of the access point or roosting location has not been provided.

3.1.3. 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 site.

Table 1: Other Protected Sites Within 2km

Site Name	Description	Distance and Direction from Development Site
Frondeg SSSI ¹³	Frondeg is of special interest for its neutral grasslands, fen - meadows and wet grassland, which are host to several uncommon plant species. Such vegetation is now increasingly scarce in the lowlands, most having been lost to agricultural improvement. The fields to the east of the road support a fen-meadow community dominated by purple moor-grass (<i>Molinia caerulea</i>), sharp-flowered rush (<i>Juncus acutiflorus</i>) and compact rush (<i>J.conglomeratus</i>). Where the ground is particularly wet, such as along drainage lines, wet grassland communities with purple moor-grass and wild angelica (<i>Angelica sylvestris</i>) have developed. Amongst the rarer species to be found at Frondeg is the nationally scarce soft-leaved sedge (<i>Carex montana</i>). This is a local species found on limestone	1.5km to the north-west.

¹² <https://planningonline.npt.gov.uk/online-applications/searchResultsBack.do?action=back>

¹³ https://naturalresourceswales.gov.uk/media/666280/SSSI_1658_Citation_EN0019127.pdf

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	or mineral - rich soils, confined mainly to the New Forest area, south-west England and south Wales. Other notable plant species present include petty whin (<i>Genista anglica</i>) and whorled caraway (<i>Carum verticillatum</i>).	
Cefn Gwrhyd, Rhydyfro SSSI ¹⁴	Cefn Gwrhyd, Rhydyfro is an upland area supporting types of wetland habitats uncommon in the county. The most important of these is a species-rich valley mire in which common cottongrass (<i>Eriophorum angustifolium</i>), bog bean (<i>Menyanthes trifoliata</i>), marsh St John's-wort (<i>Hypericum elodes</i>) and bog asphodel (<i>Narthecium ossifragum</i>) are abundant; quaking bog communities dominated by common cotton grass and peat moss (<i>Sphagnum spp.</i>) and several small areas of species-rich soligenous mire. Surrounding areas are comprised of good examples of the damp acid grassland and drier heath communities to be found in the uplands of the county.	1.7km to the north.
Coed Cwm Du, Cilmaengwyn SSSI ¹⁵	A predominantly oak (<i>Sessile</i>) woodland with ash (<i>Fraxinus</i>), elm (<i>Ulmus</i>), birch (<i>Betula</i>) and alder (<i>Alnus</i>) locally abundant, and damp base rich flush area typical of such situations in the coalfield. Poorly drained wet meadows along the upper fringes of western slopes of the valley support stands of royal fern (<i>Osumunda regalis</i>).	2km to the north-east.
Cilybebyll SSSI ¹⁶	Cilybebyll is of special interest for its species-rich grasslands and wet pastures, which are host to several uncommon plant species. Such vegetation is now increasingly scarce in the Welsh lowlands, most having been lost to agricultural improvement. Notable plant species recorded at Cilybebyll include greater burnet (<i>Sanguisorba officinalis</i>), meadow thistle (<i>Cirsium dissectum</i>), royal fern, adder's-tongue (<i>Ophioglossum vulgatum</i>) and whorled caraway (<i>Carum verticillatum</i>), an Atlantic species characteristic of unimproved	2km to the east.

¹⁴ https://naturalresourceswales.gov.uk/media/649467/SSSI_0696_Citation_EN0014c5e.pdf

¹⁵ https://naturalresourceswales.gov.uk/media/653809/SSSI_0857_Citation_EN0018f14.pdf

¹⁶ https://naturalresourceswales.gov.uk/media/666184/SSSI_1656_Citation_EN0014d4d.pdf

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	pastures in the South Wales coalfield.	
Cwm Du Glen & Glanrhyd Plantation LNR ¹⁷	Cwm Du Glen is a gorge 1km in length, following the Upper Clydach River. Glanrhyd plantation lies above the gorge, on the old grounds of Glanrhyd House. The restored gardens feature a nature pond and tree trail.	1.1km to the west.
Swansea Canal LNR ¹⁸	Swansea Canal, built in 1796 to transport coal and other industrial materials, closed to commercial traffic in 1931. The site in Ynysmeudwy is now a Local Nature Reserve, owned by Neath Port Talbot Council. Now that the commercial traffic has gone, the canal buzzes with wildlife, including dippers (<i>Cinclus cinclus</i>) and otters (<i>Lutra lutra</i>). Beautiful demoiselle (<i>Calopteryx virgo</i>) is a very important species, and the canal is being managed to encourage its presence here.	2km to the north-east.

There is no mention of bats in any of the citations, however, the sites are likely to be used by several bat species for foraging, commuting, and roosting.

Non-statutory Protected Sites

Ancient Woodland Sites

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

Table 2: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) ⁷³	36
Restored Ancient Woodland Sites (RAWS) ⁷⁴	16
Ancient Woodland Sites of Unknown Category ⁷⁶	Two
Nearest Area of Ancient Woodland	An unnamed area of RAWS located 0.15km to the east of the site.

Protected Sites Summary

¹⁷ <https://exploresouthwales.com/explore/cwm-du-glen/>

¹⁸ [https://www.biodiversitywales.org.uk/Neath-Port-](https://www.biodiversitywales.org.uk/Neath-Port-Talbot#:~:text=There%20are%20a%20wide%20range%20of%20habitats%20in,the%20site%20of%20the%20former%20Bryn%20Navigation%20Colliery.)

[Talbot#:~:text=There%20are%20a%20wide%20range%20of%20habitats%20in,the%20site%20of%20the%20former%20Bryn%20Navigation%20Colliery.](https://www.biodiversitywales.org.uk/Neath-Port-Talbot#:~:text=There%20are%20a%20wide%20range%20of%20habitats%20in,the%20site%20of%20the%20former%20Bryn%20Navigation%20Colliery.)

Considering the distances between these woodlands and the proposed development site, together with the small scale of the works, none of these woodlands are anticipated to be affected by proposals. They are therefore not mentioned further in this report.

3.2. Field Study

3.2.1. Lighting and Ecological Context

Lighting

The site is within an E3: Suburban lighting zone, with medium district brightness (Institute of Lighting Professionals, 2012). Several streetlights are present on Brecon Road, that the site is situated on which generate extensive artificial lighting, decreasing the quality of foraging and commuting bat habitat¹⁹.

Ecological Context

The habitats surrounding the site include lines of trees and scrub and linked back gardens of the residential properties. These habitats form a continuous habitat corridor between the site and the surrounding landscape. Consequently, the site provides a moderate-quality bat foraging and commuting habitat.

3.2.2. Site Description

The two assessed buildings on site are connected at the north-western elevation of the old shop front and the south-eastern elevation of the residential dwelling. Three garage buildings exist on the surrounding land.

3.2.3. Building Descriptions from the Perspective of Bat Habitat

The tables below summarise the key features of the buildings and garages.

Table 3: Key Features of the Shop Front

Building Type	The shop front is a two-storey, brick, and concrete structure (Photo 1).
Roof	The roof is pitched on a north-east/south-west axis and constructed from slate with clay ridge tiles at the south-eastern end (Photo 2). Corrugated plastic sheeting is present at the north-western end, where the shop front adjoins the residential dwelling (Photo 3). A dormer window is present on the south-eastern-elevation (Photo 1). Some of the slate tiles of the roof are lifted, mostly on the south-eastern elevation (Photo 4). There are gaps under the clay ridge tiles on the same elevation (Photo 4). Edge tiles at the eaves are impeded by uPVC guttering which is coming away from the eave (Photo 1).
Lead Flashing	Close-fitting lead flashing is present where the slate roof adjoins the neighbouring property (Photo 5). Further lead flashing seals the eave on the north-eastern elevation, which is lifted where the slate roof adjoins the corrugated plastic (Photo 6). The dormer window on the south-eastern elevation is also sealed with lead flashing, which has large gaps between the dormer and the eave (Photo 7).

¹⁹ Lighting can impact on bats' roosting sites, commuting routes, and foraging areas.

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Soffits, Fasciae and Bargeboards	Wooden soffits and fasciae are present at the dormer window only. Although the wood is in poor condition (with paint peeling away) they appear generally well-sealed (Photo 8).
Vents	A large metal vent is present above the door on the south-eastern elevation. This is covered internally and is largely covered by ivy and other climbing plants (Photo 9).
External Walls	The external walls are constructed of brick and concrete and are in good condition (Photo 10).
Render	Most of the walls are pebble dashed, which is in good condition, except from a shallow crack on the south-eastern elevation (Photo 10). A portion of the north-eastern elevation is rendered with concrete, which is also in good condition (Photo 6).
Windows	The ground floor window and door have a combination of wooden and metal frames, there is a gap between the window frame and the external walls (Photo 11). The upstairs dormer window is well-sealed with a uPVC frame (Photo 8).
Roof Void	The building is open into the interior, with no roof void.
Security Lighting	There is no security lighting, however, the south-eastern elevation faces onto Brecon Road which is well lit with streetlights.

Table 4: Key Features of the Residential Dwelling

Building Type	The residential dwelling is a two-storey, brick, and concrete structure (Photo 12).
Roof	The roof is pitched on a north-west/south-east axis and constructed from slate with clay ridge tiles. The slate tiles are generally well-aligned. Edge tiles at the eaves are impeded by uPVC guttering (Photo 13). Part of the guttering is coming away (Photo 14).
Lead Flashing	Lead flashing is present where the dwelling meets the shop front and neighbouring building. There are gaps in the lead flashing (Photo 15).
Soffits, Fasciae and Bargeboards	The wooden soffit is well sealed in places, however, there is a missing soffit box/fascia at the norther most corner (Photo 16).
External Walls	The external walls are constructed of brick and concrete and are in good condition (Photo 12).
Render	Most of the walls are pebble dashed, which is in good condition (Photo 12). A portion of the south-western elevation is unrendered, leaving the bricks exposed, creating numerous crevices (Photo 17).
Windows	The windows and doors have uPVC frames. All are well-sealed within the concrete lintel (Photo 18).
Roof Void	There are two roof voids in the building, a south-eastern and a north-western void (void one and void two respectively). Both voids are of similar size and construction, with a red-brick and concrete wall separating the two (Photo 19). The north-western roof void is of more recent construction than the south-eastern void, as this was part of an extension constructed after the original building. Some light ingress is visible at the eaves (Photo 20).
Roof Lining	Both roof voids are lined with bitumen felt. The felt is better sealed in the north-western void, however, there are no holes or gaps exposing the slates above, in either void (Photo 21).
Roof Construction	Both roof voids are supported by attic post trusses. Original timber beams are present in both, however, the beams in the north-western void are in better condition than those in the south-eastern void, as it is of more recent construction.
Insulation of Void	Some fibreglass insulation is present in the roof void (Photo 22).

Table 5: Key Features of the Garages

Building Type	The three garage buildings are located on the land surrounding the residential dwelling (Photos 23-27).
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Roof	The roofs are mono-pitched and comprise corrugated metal, these are in various states of disrepair, with multiple holes in the sheeting on all of the roofs (Photos 28 and 29). Additionally, there are gaps between the sheeting and the breezeblock walls (Photos 28 and 29). The northernmost garage's roof has been removed for half of the structure leaving it open (Photo 25). All of the garages with a roof structure have timber beams supporting the roof structure (Photos 29 and 33).
Soffits, Fasciae and Bargeboards	The timber and steel fascia are in disrepair and cracked in numerous places or missing, gaps in the fascia were superficial and sub-optimal for bats (Photos 30 and 31).
External Walls	The external walls are constructed of breezeblock (Photos 28 and 31).
Windows	Some of the garages have timber doors which have gaps into the interior (Photo 32). The northern most garage has open doorways into the interior. The windows in some of the garages are also open leaving the interior exposed (Photo 33).

Photos Showing the Buildings and their Features

Photo 1: B1 South-Eastern Elevation



Photo 2: B1 North-Western Slate and Clay Roof



Photo 3: B1 Corrugated Plastic Roofing



Photo 4: B1 Lifted Slate and Clay Ridge Tile



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Photo 5: B1 Lead Flashing Adjoining Neighbouring Building



Photo 6: B1 Lead Flashing Adjoining Shop and Residential Dwelling



Photo 7: B1 Lead Flashing Around Dormer Window



Photo 8: B1 Soffit and Fascia



Photo 9: B1 Metal Vent



Photo 10: B1 External Walls and Render



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Photo 11: B1 Gap Around Window Lintel



Photo 12: B2 North-Western Elevation



Photo 13: B2 uPVC Guttering



Photo 14: B2 Guttering Coming Away from Wall



Photo 15: B2 Lead Flashing



Photo 16: B2 Missing Soffit/Fascia



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Photo 17: B2 Exposed Brickwork



Photo 18: B2 uPVC Windows



Photo 19: B2 Red Brick Separating Voids



Photo 20: B2 Light Ingress at Eaves



Photo 21: B2 Bitumen Felt Roof Lining



Photo 22: B2 Fiberglass Insulation in Voids



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Photo 23: View of Garages



Photo 24: View of Northern Garages



Photo 25: View of Northern Garages



Photo 26: View of Garages



Photo 27: View of Northern Garages



Photo 28: Gaps Between Roofing and Walls



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Photo 29: Gaps Between Roofing and Walls



Photo 30: Example of Timber Fascia



Photo 31: Example of Steel Fascia



Photo 32: Missing Timber Door



Photo 33: Open Windows into Interior



3.2.4. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats in the Buildings

There are numerous potential access points for bats to gain entry into the interior. Bats could gain entry through the missing area of soffit box, the lifted lead flashing, and the gaps under clay ridge tiles.

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Potential Access Points for Bats in the Garages

There are numerous access points into the interior of the garages, via the open doorways, gaps in the roof, the open window frames and via gaps in the breezeblock.

Potential Roosting Features for Bats in Buildings

The following potential roost features were recorded:

- PRF 1 – Gaps in masonry created by eroded mortar (see Photo 17);
- PRF 2 – Lifted lead flashing (see Photos 6, 7 and 15); and
- PRF 3 – Lifted slate and ridge tiles (see Photo 4).

Potential Roosting Features for Bats in Garages

- PRF 4 – Timber beams within the interior, although considered sub-optimal due to the openness of the structures.

3.2.5. Nesting Bird Survey

No signs of recent nests were found within or on the exterior of the buildings and garages.

3.2.6. Dusk Emergence and Dawn Re-Entry Surveys

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

Table 6: Summary of Conditions During Dusk Emergence and Dawn Re-entry Surveys

	Survey 1	Survey 2	Survey 3	Survey 4
Date	30/08/2022	22/09/2022	12/06/2023	06/07/2023
Sunset/Sunrise Time	20:08	07:01	21:33	21:35
Start Time	19:53	05:31	21:15	21:20
Finish Time	21:38	07:01	23:03	23:05
Start Temperature (°C)		13		
Sunset Temperature (°C)	18		17	15
Rain	None	None	None	None
Wind (Beaufort scale)	2	1	0	2
Cloud Cover (Oktas)	2/8	3/8	7/8	7/8

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Table 7: Summary of Dusk Emergence and Dawn Re-entry Surveys Results

	Survey 1: Dusk Emergence (30/08/2022)	Survey 2: Dawn Re-entry (22/09/2022)
Emergences/ Re-entries	No bats emerged from the buildings. Common pipistrelles (<i>Pipistrellus pipistrellus</i>) were commuting in close proximity to the house from the west to skirt around the north-eastern elevation of the building and head south.	No bats interacted closely or returned to roost within either of the buildings.
Important Commuting/ Foraging Routes	Common pipistrelles were noted commuting adjacent to the northern and eastern elevations of the buildings and heading from the west to the south.	No noteworthy commuting routes were identified.
Bat Activity²⁰	Moderate levels of bat activity were recorded. Common pipistrelles were recorded regularly during the survey.	Low levels of bat activity were recorded.

	Survey 3: Dusk Emergence (12/06/2023)	Survey 4: Dusk Emergence (06/07/2023)
Emergences/ Re-entries	No bats emerged from or interacted closely with the building.	A common pipistrelle emerged from underneath the bargeboard on the eastern elevation of the house (Photos 34 - 38).
Important Commuting/ Foraging Routes	Common and soprano pipistrelles (<i>Pipistrellus pygmaeus</i>) regularly foraged in the grassland at the rear of the house. They frequently commuted south to north above the house.	Similar to survey 3, it was demonstrated that common and soprano pipistrelles regularly foraged near the site and commuted around the building.
Bat Activity	Moderate levels of bat activity were recorded.	Moderate levels of bat activity were recorded. Common pipistrelles and soprano pipistrelles were recorded during the survey.
Bat Social Calls	No social calls were recorded.	No social calls were recorded.

Photos Showing Confirmed Bat Roost/Access

²⁰ Activity thresholds have been quantified using personal judgement according to past experience of surveying similar sites.

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Photo 34: Confirmed common pipistrelle access point, bargeboard on eastern elevation, circled



Photo 35: Infrared image showing common pipistrelle emergence, circled



Photo 36: Infrared image showing common pipistrelle emergence, circled



Photo 37: Infrared image showing common pipistrelle emergence, circled



Photo 38: Infrared image showing common pipistrelle emergence, circled



4. Evaluation

4.1. Assessment of Suitability of Building to Support Roosting Bats

The preliminary roost assessment found no evidence of bats roosting within or on the external parts of the buildings or the garages. During the preliminary roost assessment, the buildings on site were assessed to have moderate bat roosting suitability due to the reasons stated above.

4.2. Bat Roost Type and Roost Characterisation

The further dusk surveys conducted in 2023 confirmed that the following roost is present within the building:

Table 8: Roost Characterisation

Bat Species	Maximum Count	Roost Type	Roosting Location/ Access Points	Rarity Category ²¹ and Estimated Population ²²	Importance of Roost ²³
Common pipistrelle	One	Occasional ^{24/25} Day Roost ²⁶	Western elevation bargeboard of the house	Abundant and widespread. Estimated population in Wales in 2021: 297,000 (96,600 – 732,000) (JNCC and Bat Conservation Trust, 2021)	Local

A previous soprano pipistrelle maternity roost had been detected on the site with over 150 individuals, recorded from 2018 (Neil Price, *pers comm.*). The following reasons for the negative result in relation to the soprano pipistrelle maternity roost during the four surveys are:

- The building is no longer in current use by soprano pipistrelle bats; or
- The building is in use in some years but not others.

²¹ Rarity as defined in Table 3.1 of the Bat Mitigation Guidelines (2nd edition) Beta version.

²² JNCC and Bat Conservation Trust (2021) *National Bat Monitoring Programme Annual Report 2021*

²³ Importance of Roost as defined in Table 3.2 of the Bat Mitigation Guidelines (2nd Edition) Beta version.

²⁴ Occasional use of bat roosts is typical of all UK bat species to some extent, as bats are known to alternate between several roosting sites to avoid predator detection and build-up of parasites.

²⁵ It is likely that the roost is used occasionally due to the infrequent nature of roosting recorded at the site (i.e. on one of the two survey occasions in 2023).

²⁶ Day roosts are defined by NE as sites where individual bats, or small groups of males, rest or shelter in the day but are rarely found at night in the summer.

4.3. Potential Hibernation Roosts

Hibernation by pipistrelle bats could potentially take place in cavities around the window frames and inside any wall cavities²⁷.

4.4. Important Bat Commuting Routes and Foraging Areas

During the dusk survey on 30th August 2022, common pipistrelles commuted along the hedgerow adjacent to the northern and eastern elevations of the buildings, heading from the west to the south. During the two surveys conducted in 2023, common and soprano pipistrelles regularly foraged in the grassland to the rear of the house.

4.5. Birds – Interpretation of Nesting Bird Survey

No evidence of past or current nesting by birds was observed during the surveys.

²⁷ 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 wall cavities 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.

5. Impact Assessment

5.1. Development Proposals

Works that may impact any bats present within the building will include the following:

- Demolition of the existing shop front;
- The renovation of 50 Brecon Road; and
- Proposed extension and double garage construction.

5.2. Summary of Impacts and Licensing Requirements

Stage of Works	Proposed Works	Likely Impacts on Bats	Bat Licensing Requirements
Phase 1 - Orange Highlight Area	Demolition of the existing shop front which is disconnected from the main house Works planned immediately upon planning permission (Anticipated September 2023)	None	None
Phase 2 - Green Highlight Area	Refurbishment works to the main house to include: - Alteration to existing door and window openings - Internal gutting works and renewal of stud partitions and ceiling works - Demolition of the old external brickwork chimney stack - Works planned immediately upon planning permission (Anticipated October 2023 through to March 2024)	None	None
Phase 3 - Purple Highlight Area	Works to stop 1500mm from the east elevation of the house to avoid disturbance to bargeboard in Photo 34 - Cutting into existing roof with new hip construction of new entrance works - Works planned immediately upon planning permission	None	None

	- Anticipated October 2023 through to December 2024		
Phase 4 - Yellow Highlight Area	Completion of Renewal of roof covering, fascia, eaves and bargeboard Works completing 1500mm of renewal and alteration of bargeboard in Photo 34 Works planned March 2024	Loss of roosting area	Yes

5.3. Potential Impacts of Development on Bats

Short-term Impacts: Disturbance

If the proposed work in Stage 4 (replacement of the bargeboard where the bat roost was found) was undertaken whilst bats were present, it could result in the physical disturbance of bats, direct human interference, increased noise²⁸ and vibration disturbance, and potentially direct injury or killing of bats from being crushed or entombed. If the work is undertaken between April and September, there is greater potential bats to be impacted.

If work is carried out between the spring and summer months, then disturbance through noise and dust could have significant impacts to the maternity roost that has been using the building in the past, and could use the building during future years.

The demolition of the shopfront and internal renovation of 50 Brecon Road is anticipated to have no likely impact on roosting bats.

Long-term Impacts: Roost Loss and Modification

In the absence of mitigation, the replacement of the bargeboards on the extension of 50 Brecon Road could lead to the loss of a current common pipistrelle occasional day roost.

Work that may impact bats roosting within the building will include the following:

- Removal, modification and/or replacement of the current fascia boards and their associated structures and replacement with close-fitting ones; and
- Loss of the access points or the roosts due to removal of the roof, fascias, soffits and bargeboards.

²⁸ Low-pitched noises, audible to humans but not to bats, are unlikely to cause significant disturbance; conversely ultrasound could do so. Sudden, loud noises could potentially disturb bats and cause abandonment of roosts (Pearson, Koford and Pearson, 1952; Humphrey and Kunz, 1976; Kunz, 1982; Fenton, 1997; Ferrara and Leberg, 2005)

5.4. Potential Impacts of Development on Birds

Based on the conclusion that birds are unlikely to be nesting within the buildings, no negative direct or indirect impacts on birds are anticipated.

6. Required Actions

6.1. Further Work and Licensing Requirements for Bats

An NRW bat development licence is required prior to replacers of the exterior fascias (stage 4) which would result in the loss of a bat roost. The demolition of the shopfront and internal refreshment of Number 50 is anticipated to have no impact to bats. An application can only be made when planning consent has been granted and requires the following elements:

1. A completed and signed application form;
2. A copy of the planning consent/listed building consent (if applicable) and supplementary planning reports (planning officer delegated report/committee meeting minutes);
3. A completed and signed Local Authority Planning Consultation form;
4. A completed method statement which sets out a timetable of the development and details the provision for new or continued roosting opportunities for bats;
5. The bat survey report/s;
6. Confirmation that any relevant associated planning conditions have been discharged by the Local Authority; and.
7. A fee to be paid for some applications²⁹.

6.2. Precautionary Measures

The implementation of the following precautionary measures will minimise the potential for disturbing, injuring or killing bats during works.

6.2.1. Precautionary Measures in Areas Where Bats are Not Anticipated to be Affected By Works

Certain works will take place (demolition of the shopfront) and internal refurbishment in areas where bats are anticipated. A toolbox talk should take place prior to works and contractors aware of measures to be taken if bats are unexpectedly found during works, and the extent of works requiring supervision by an ecologist.

6.2.2. Installation of a Bat Box for Bats Displaced During Works

In advance of the works, one Vivara Pro WoodStone bat box (or suitable alternative) will be installed on a tree retained within the site to provide compensatory alternative roosting habitats during the construction period for any bats which may be displaced as a result of the works. The specification of the bat box is shown in Appendix 5.

6.2.3. Timing of Works

The works to the area where the bat roost is present will be undertaken from 1st October to 31st March, at a time when there is least likelihood of bats being present. This timescale would also eliminate the risk

²⁹ <https://naturalresources.wales/permits-and-permissions/species-licensing/species-licensing-charges/?lang=en>

of causing accidental harm to nesting birds. Works must not take place during the months between April to September.

6.2.4. Site Induction and Toolbox Talk

Prior to the start of works, a suitably qualified bat ecologist will deliver a 'tool-box talk' to all contractors undertaking works that could affect bats. All site workers will be made aware of the role of the ecologist and briefed on the legal status of bats¹⁷, the likely places to find them, the working practices required to minimise and avoid harming or disturbing bats, and the action to be taken if bats are encountered during the works.

A copy of the NRW licence and the bat licence Method Statement will be displayed in a prominent position on site and a summary sheet of guidance will be given to the contractors working on site. All site workers will be made aware that all works must cease immediately if any bats (or occupied birds' nests) are found when the ecologist is not on site, and appropriate expert advice sought from the ecologist or NRW.

6.2.5. Ecological On-site Supervision of Works/Soft Strip

A licensed bat worker will supervise the 'soft strip' whereby all features with bat roosting potential will be exposed and removed. This will include (but not limited too) the ridge tiles³⁰, soffit, fascias and bargeboards etc. The tiles and any associated timbers must be lifted off vertically (and not rolled or sprung), and checked on their underside to ensure that no bats are clinging to the underside. This will minimise the chance of bats being killed/injured.

Any removal work will be undertaken using hand tools, (i.e. picks, crowbars, slate rippers, bow saws etc.). These features will be carefully removed by hand and contractors will check for the possible presence of bats on the undersides of these features before they are lifted off, prior to discarding or storing them. During the soft strip process, any cracks or crevices that have the potential to be used by bats will be inspected by a licensed bat worker using a high-powered torch to ensure they are not in use. Cavities will be carefully prised open using a crowbar.

The removal of such features will be observed and supervised at close quarters by a licensed bat handler from an appropriate viewing position to be provided by the contractor (e.g. scaffolding or lifting platform).

6.2.6. Bat Discovery Action Plan

If bats are encountered during supervised works, the licensed bat handler will capture the bat/s with gloved hands or hand-held net, conduct a health check and then place it in a drawstring cloth bag. Removed bats will be temporarily transferred to a well-ventilated container. The removed bat will then be transferred into a bat box that was fixed on a garden tree before works commenced. The access point of the bat box will be blocked with a cloth or other suitable material until the working day has been completed. This will allow the

³⁰ It is generally considered best to commence the roof strip with the ridge tiles.

bat/s to settle in a safe place for the remainder of the day, and to emerge safely in the evening. Any injured bats or bats requiring supplementary feeding would be immediately taken into care.

6.3. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats

The construction of the new roosting features is set out in the sections below.

6.3.1. Summary of Recommended Mitigation and Compensation Measures

A suitably qualified and experienced bat ecologist will oversee the installation of all aspects of the bat mitigation. A summary of the proposed mitigation is given in the table overleaf:

Table 9: Summary of Proposed Mitigation/Compensation Measures

Bat species	Proposed Mitigation/Compensation Measures
Soprano and common pipistrelle bats	- Eaves bat roost; - Gaps into soffit and fascias 'soffit box' which will be lined internally with timber; and - Use of 'Bat Friendly' 1F black bitumen roofing felt within eaves box roost.
Additional recommendations	- One Vivara Pro WoodStone bat box to be positioned on a tree within the site for pipistrelle bats encountered during the works; and - Sensitive lighting strategy.

Eaves Bat Roost

One eaves roosts will be installed within the new building. The roost will extend one meter along the eaves and have a depth of one metre at the maximum point. Access to the roost will be provided via gaps beneath the adjoining fascias/soffits (see below). Roughened timber cross battens with tiles or plywood squares secured to the battens will be attached to the sloping roof and vertical wall of the area to provide extra roosting opportunities and increase the range of crevices and niches available (see Appendix 6). An inspection door will be provided on the internal wall of the roost in order to facilitate monitoring and maintenance work. It is suggested that the eaves roost is provided within the new single storey structure. **The architectural plans will need to be amended to detail this provision.**

Gap Under Fascias/Soffits

The new exterior fascia boards will be set off the face of the external wall in the area where the eaves roost is proposed to provide 'crawling bat access' underneath (see Appendix 7). The gap will be approximately 20mm wide off the face of the wall and will run throughout the fascia's length to provide roosting provision without access to the eaves roost and roosting space within the 'soffit box' formed by the fascia and soffit.

uPVC fascias and soffits are generally considered too smooth to be used by roosting bats and so these will be lined internally with timbers. The new timbers within the eaves bat roosting area and lining the fascias

and soffit will be tanalised timber and pre-treated with non-toxic³¹, water-based 'bat friendly' formulations and comply with the Natural England list approved for use in bat roosts³². See Appendix 7 further details.

Using 'Bat Friendly' Roofing Materials

The new roof areas will be lined internally with 1F³³ black bitumen felt which complies with BS8747:2007³⁴ and BS 5250:2011. Non-woven roofing underlay (NWRU), or 'breathable membranes' (BRM)³⁵ as they are also known, will not be used as they tend to rip due to wear and can give rise to dislodged fibres (spun-bond polypropylene) which can entrap bats. Non-woven roofing underlay (NWRU) or 'breathable membranes' (BRM) as they are also known will be avoided as they tend to rip due to wear and, can give rise to dislodged fibres (spun-bond polypropylene) which can entrap bats.

6.3.2. Bat Mitigation Check

The new bat mitigations features will be inspected by a licensed bat ecologist upon completion.

6.4. Sensitive Lighting Strategy

The lighting design for the site will be of a 'bat-friendly' specification and kept to the minimum level which meets the needs of security and health and safety. The unnecessary lighting of habitats which could potentially be used by foraging bats such as nearby trees, hedgerows etc. will be avoided. External lighting will be installed at low-level only (i.e. no higher than eaves level and lower than 2.4m) and directed downward (i.e. below the horizontal plane with no upward tilt). Fully shielded lights with front and side hoods/shields or cowls will be installed to prevent upwards and horizontal light spill.

Lighting will not be located in the vicinity of, or shine towards the bat access points or possible/actual commuting routes and flight lines, so that a 'dark corridor' is maintained and disturbance to roosting bats avoided/minimised. Any security lights used will operate off a passive infrared (PIR) motion sensor sensitive to large objects only, to avoid constant triggers by bat passes and with timers set on a short duration (i.e. a maximum 'on' time of one minute)] to reduce the amount of 'lit time'. The bulbs in the lights will ideally be low intensity (i.e. circa 11 watts), and red, amber, or warm light (<2700Kelvin³⁶) LED bulbs. The bulbs will feature peak wavelengths 550nm or greater. White, blue, and green³⁷ lighting sources including mercury or metal halide, CPO and CDO (ceramic discharge metal-halide) bulbs which have a significant effect on bats will be avoided.

³¹ Products that are vacuum impregnated - wood pre-treated by an organic solvent process can contain chemicals that are extremely toxic to bats and should not be used.

³² <http://publications.naturalengland.org.uk/file/4802540>

³³ Type 5U bitumen felt contains non-woven polyester fibres which could possibly break up and entangle bats and therefore must be avoided. In addition, bitumen felt collects and retains heat better than alternative materials, and is generally favoured by bats in multi-felted roofs for this reason.

³⁴ http://www.icopal.co.uk/Products/Pitched_Roofing_Underlay/Products/Roofing_Underlay/monartile-1f-underlay.aspx

³⁵ TLX Batsafe a breathable membrane is available which is marketed as being safe for use in bat roosts, however no test data is available to verify this, and consequently this product is not currently considered acceptable by the Bat Conservation Trust.

³⁶ Currently there is a limited supply of light fittings with <2700 kelvin, in which case 3000 kelvin may need to be used.

³⁷ It should be noted that birds are shown to be less affected by green lights.

6.5. Landscaping

Consideration³⁸ will be given to enhance landscaping and garden design to provide a habitat suitable for bats by encouraging night flying invertebrates. Plant species that provide a rich source of nectar will be used. Suitable species include flowering herbs such as lavender (*Lavandula* sp.), violets (*Viola* sp.); or shrubs such as flowering currant (*Ribes sanguineum*), privet (*Ligustrum vulgare*), forsythia (*Forsythia* sp.), honeysuckle (*Lonicera periclymenum*), dogwood (*Cornus sanguinea*), berberis (*Berberis* sp.), pyracantha (*Pyracantha* sp.) and ceanothus (*Ceanothus* sp.).

6.6. Post-Project Monitoring

Post project monitoring will be required in year 1 after completion of works.

6.7. Longevity of Report

Survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length of time that survey data remain valid should be decided on a case-by-case basis and is dependent upon several factors³⁹ (Collins, 2016). If development works do not begin within eighteen months to two years of the date of this report, an updated survey may be required in accordance with guidance in BS 42020:2013⁴⁰ and CIEEM (2019), to determine if conditions and bat usage has changed since described in the current report.

³⁸ 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.

³⁹ 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.

⁴⁰ 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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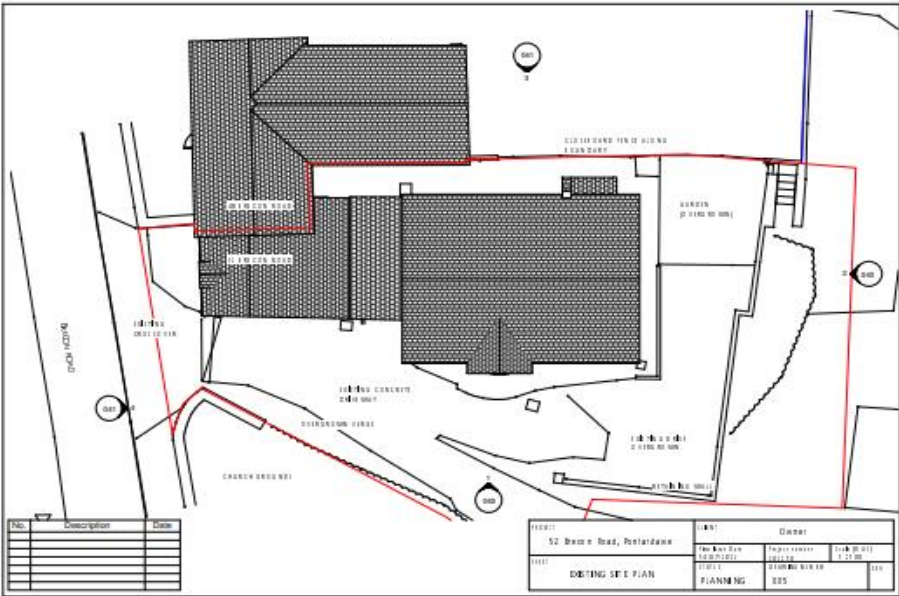
Institute of Lighting Professionals (2012) *Guidance for The Reduction of Obtrusive Light*.

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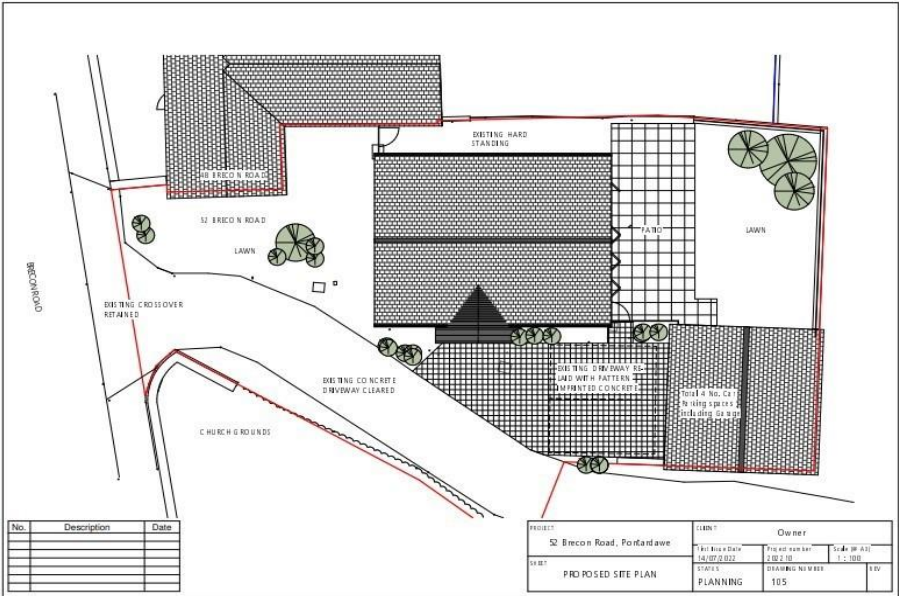
Mitchell-Jones, A.J, & McLeish, A.P. Ed., (2004) *Bat Workers' Manual (3rd Edition)*. Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. Natural England, Peterborough.

Drawing 1: Existing and Proposed Site Plan

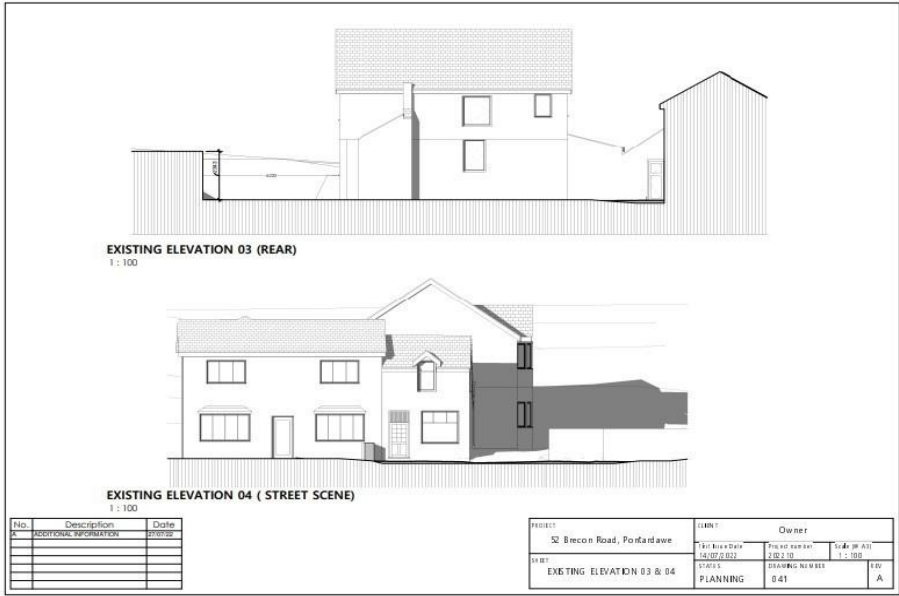
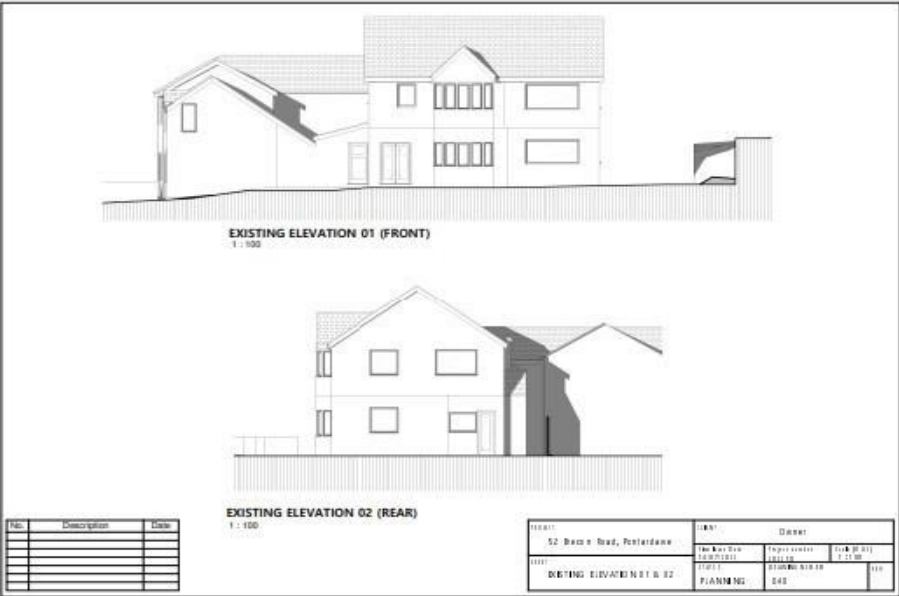


Existing Site Plan



Proposed Site Plan

Drawing 2A: Existing Elevations





Proposed West Elevation

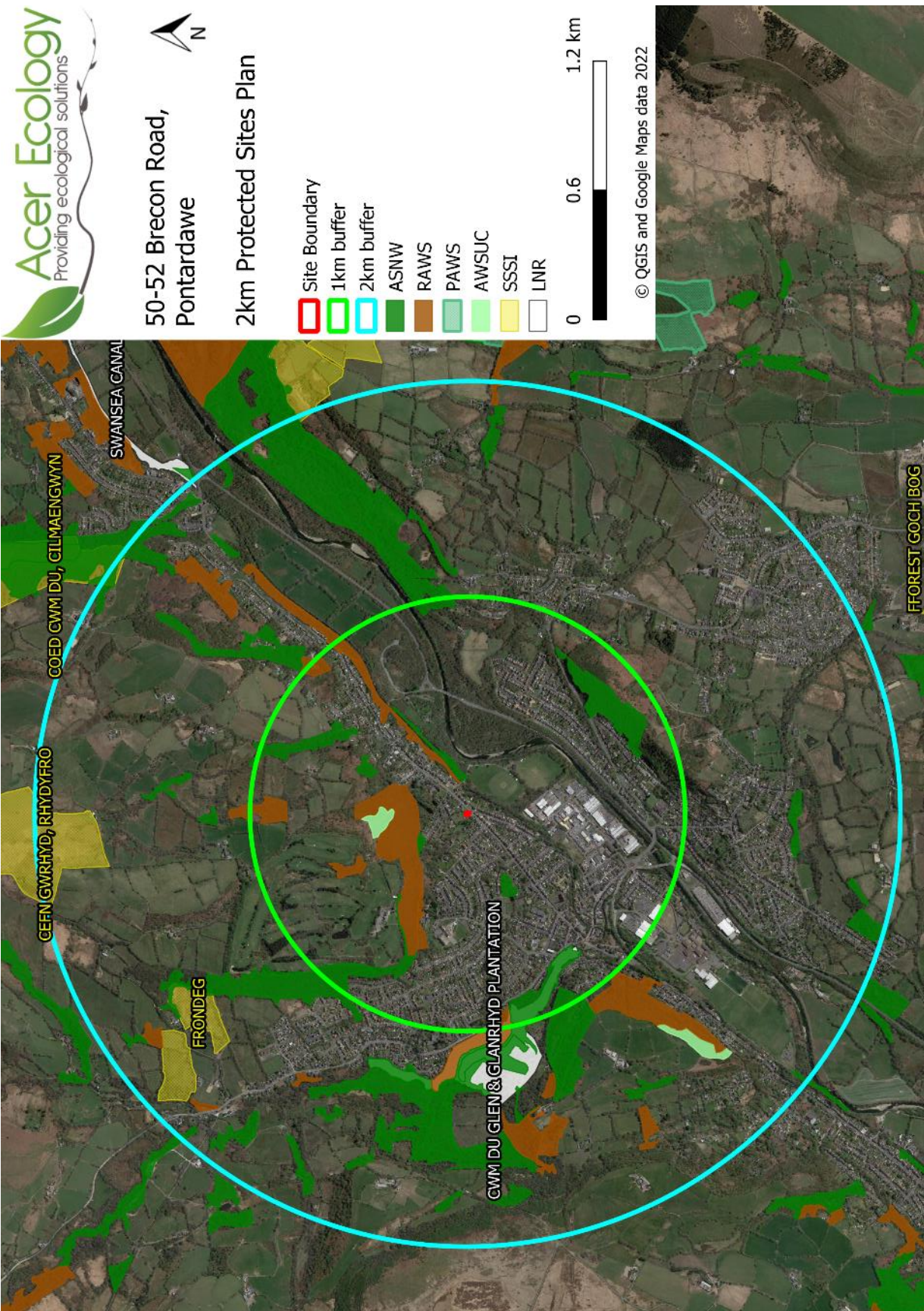


Proposed Street Scene

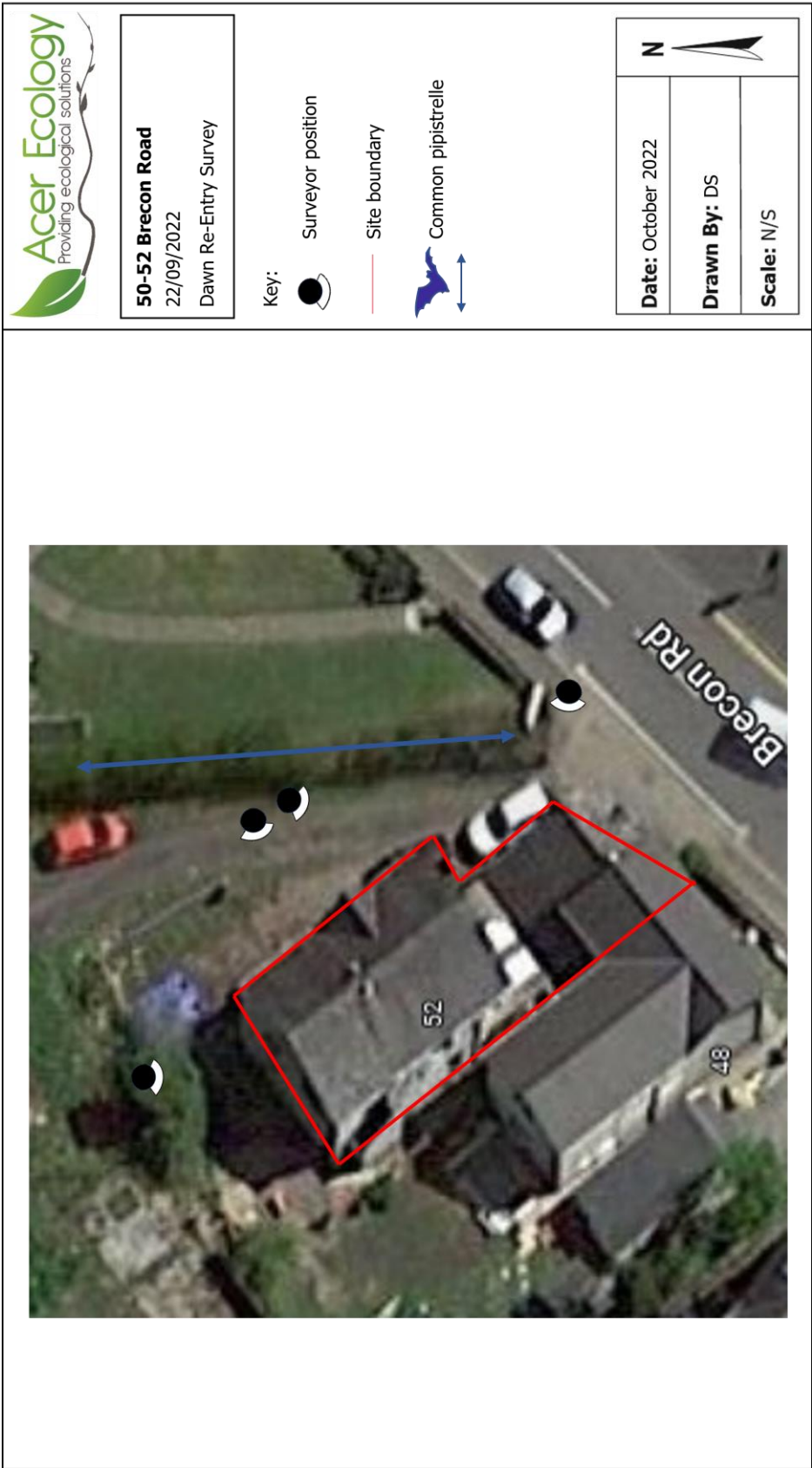
Plan 1: Location Plan



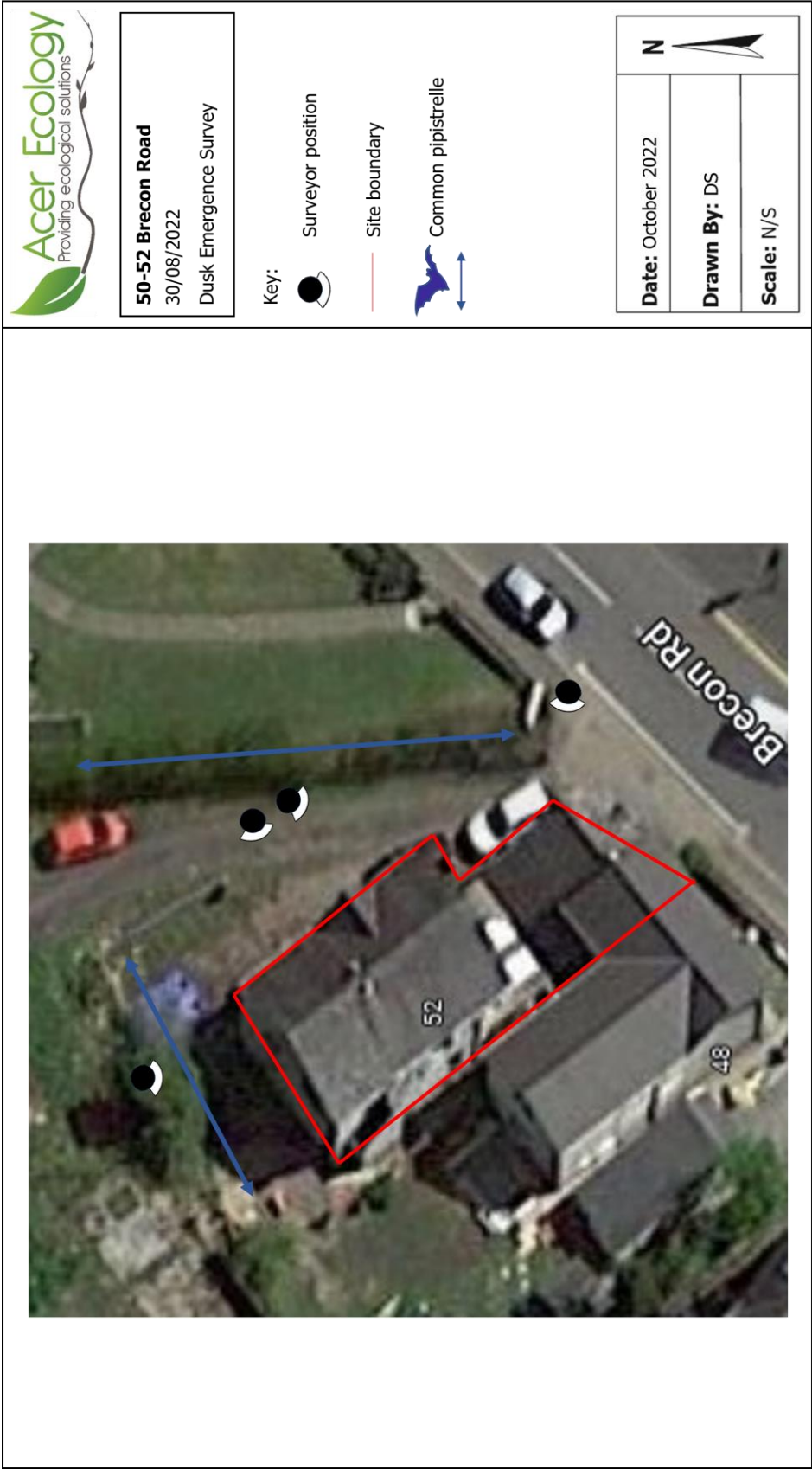
Plan 2: Protected Sites Within 2km



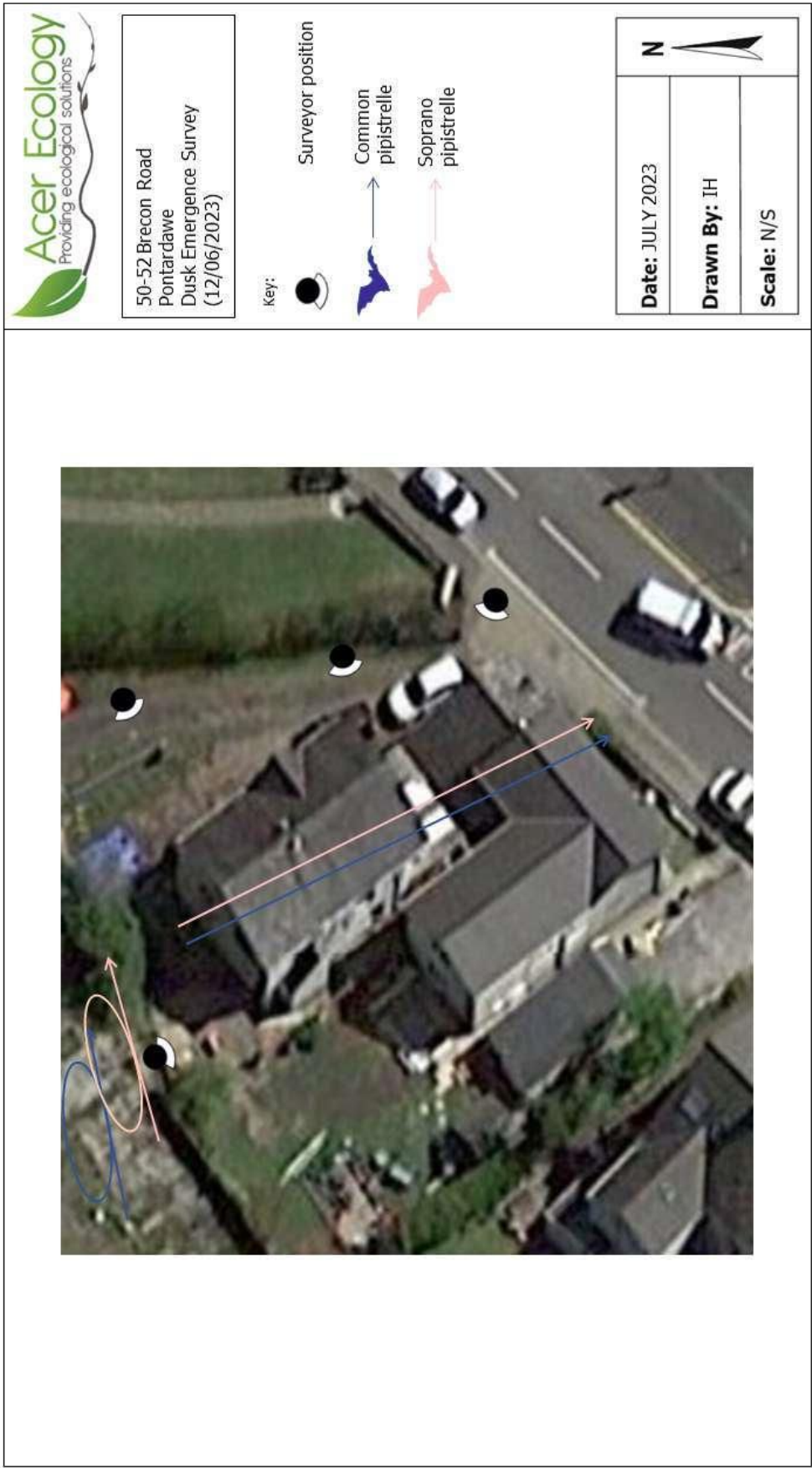
Plan 3: Dusk Emergence Survey (30/08/2022)



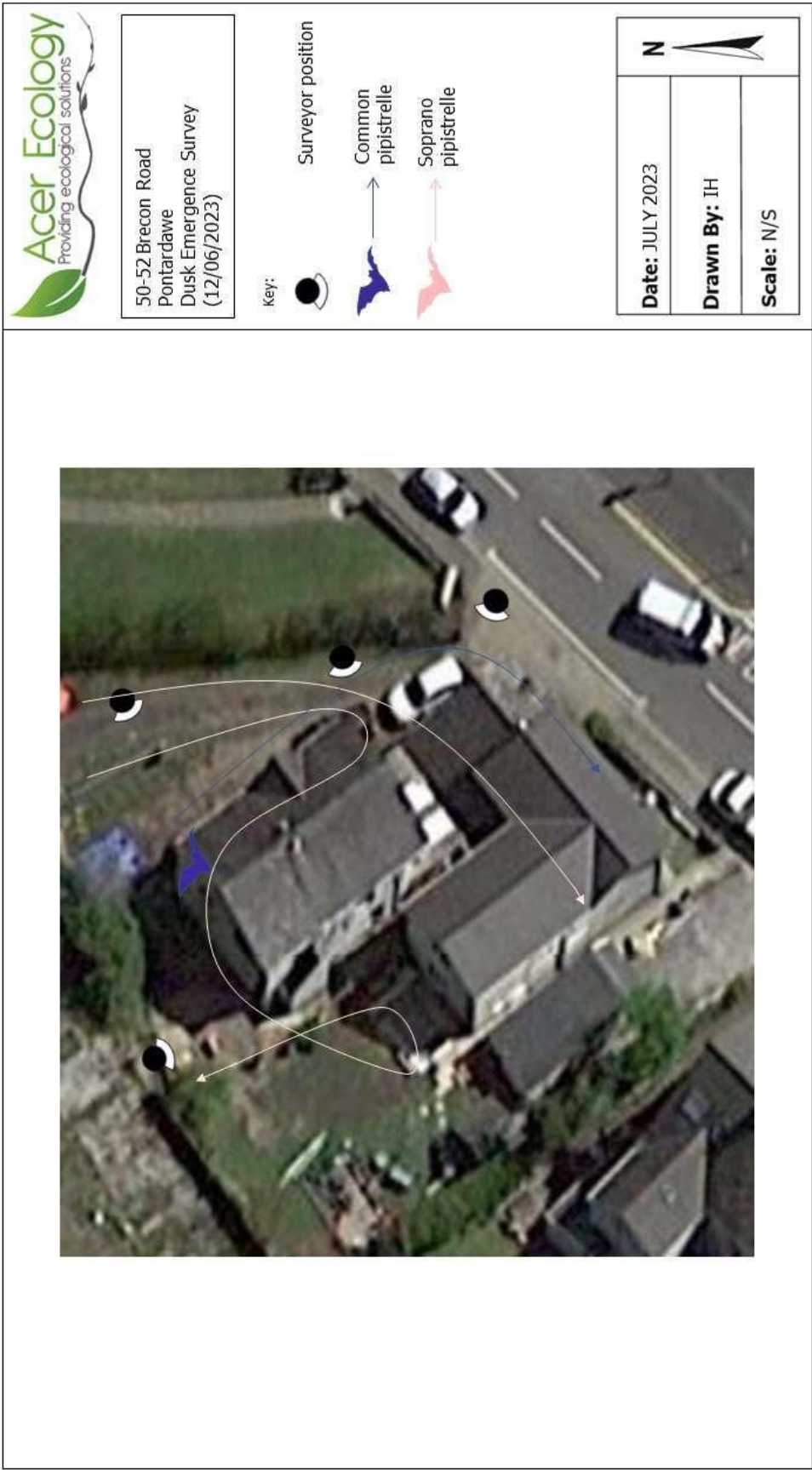
Plan 4: Dawn Re-Entry Survey (22/09/2022)



Plan 5: Dusk Emergence Survey (12/06/2023)



Plan 6: Dusk Emergence Survey (06/07/2023)



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. They are all small, nocturnal, flying, insectivorous mammals that are under conservation threat with many have undergone massive population declines over the last century. Some species, such as common (*Pipistrellus pipistrellus*) 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 occur 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 as 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 fully protected under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019. The aforementioned 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 significantly affect 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 “three 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”.

Where Planning regulations apply, NRW will only issue a licence after planning consent has been granted. 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 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.

Planning Policy Wales

Section 6.4 Paragraph 6.4.5 of Planning Policy Wales Edition 11 (2021) that focuses on Biodiversity and Ecological Networks, Section 6 of The Environment (Wales) Act 2016⁴¹ that details the requirement for enhanced biodiversity and resilience of ecosystems, TAN 5 and Section 40(1) of the Natural Environment and Rural Communities Act (NERC) 2006 all encourage developments in Wales to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally.

Part 1, Section 7 of the Environment (Wales) Act 2016 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 (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)).

⁴¹ <http://www.legislation.gov.uk/anaw/2016/3/contents>

Appendix 2: 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 ⁴²
Negligible (Garages)	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 ⁴³ 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 ⁴⁴ .	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
Moderate (Buildings)	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 ⁴⁵ (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 ⁴⁶ . 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 long 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.	Three separate surveys recommended to characterise the roost. If no evidence of bat roosting is detected during the dusk and dawn surveys, DNA analysis of the droppings may be required.

⁴² Adapted from Tables 4.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

⁴³ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

⁴⁴ 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.

⁴⁵ '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.

⁴⁶ 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.

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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. <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> The site is close to and connected to known roosts.

Appendix 4: Surveyor Experience

30th August 2022

Ffion Jones – Ffion graduated with 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 ecology, survey methods and bat call analysis. She has undertaken training with Acer Ecology, including bat ecology, emergence/re-entry surveys and transect surveys. Further details of her qualifications and experience can be found at <https://www.linkedin.com/in/ffion-jones-17ab63197>.

Maggie Sykes - Maggie had completed her 3rd year of study for her Integrated Masters in Global Ecology and Conservation Biology at Cardiff University. She works for Acer Ecology Ltd as an Assistant Ecologist, completing her first survey season (including work on preliminary roost assessment, dusk and dawn surveys). Further details of her qualifications and experience can be found at: <https://www.linkedin.com/in/maggie-finlayson-sykes-2b9a59171>.

Amy Burns - Amy graduated with a Biochemistry degree from Cardiff University. After spending a year in the genomics and diagnostics field she decided to begin transitioning into ecology and conservation. After working as a seasonal volunteer for Cardigan Bay Marine Wildlife Centre she is now terrestrial ecology and working on her first season of bat surveys. Further details of her qualifications and experience can be found at: www.linkedin.com/in/amy-burns-02b6211b3/

Charley Kennedy - Charley graduated with an upper second-class Bachelor of Sciences in Natural History and Media, from the University of South Wales, in July 2022. She is currently working for Acer Ecology as an Assistant Ecologist and completing her training in basic bat ecology and bat survey techniques, including dusk emergence/ dawn re-entry surveys and preliminary roost assessments. Further details of her qualifications and experience can be found at: <https://www.linkedin.com/mwlite/in/charley-kennedy-1bab3a193>

22nd September 2022

Daisy Smith – Daisy graduated with a degree in Zoology from the University of Southampton. She works for Acer Ecology Ltd as an Assistant Ecologist and has undertaken numerous dusk emergence and dawn re-entry bat surveys. Further details of her qualifications and experience can be found at: <https://www.linkedin.com/in/daisy-smith-0889561b3>.

Jasmine Stemp – Jasmine has a BSc in Biology from Swansea University and is currently studying her Master's degree in Environmental Biology: Conservation and Resource Management. She is completing her first survey season and is undergoing training in basic bat ecology, bat sound analysis and bat survey techniques (including dusk emergence/ dawn re-entry surveys). Further details of her qualifications and experience can be found at: <https://uk.linkedin.com/in/jasmine-stemp-b14190192>.

Frank Peake - Frank graduated from Aberystwyth University with a degree in Zoology. He is in his second season of bat survey work. Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/frank-peake-93aa491b3/>

Iwan Cleave – Iwan is undertaking his first bat survey season with Acer Ecology which includes training in surveying techniques for dusk emergences and dawn re-entry surveys.

12th June 2023

Charley Kennedy – See above.

Charlotte Ingram – Charlotte graduated from the University of South Wales with a degree in International Wildlife Biology. She is currently working for Acer Ecology as an Assistant Ecologist and is in her first season of bat surveying.

Maggie Sykes – Maggie has an Integrated Masters in Global Ecology and Conservation Biology from Cardiff University. She is completing her second survey season. Further details of her qualifications and experience can be found at: <https://www.linkedin.com/in/maggie-finlayson-sykes-2b9a59171>.

Liza Ross – Liza Ross has over ten years bat survey experience.

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6th July 2023

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 (S088190-7 valid until June 2022) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at <https://www.linkedin.com/in/batsurvey>.

Kira Everett – Kira graduated with a degree in Wildlife Biology from the University of South Wales. Kira works as an Assistant Ecologist at Acer Ecology. Details of her qualifications and experience can be found at <https://www.linkedin.com/in/kira-everett-221860231>

Kelsey Marshall – Kelsey is currently working as an Assistant Accountant and in her spare time is receiving training from Acer Ecology by undertaking her first season of bat survey work with the company.

Jack Hole – Jack has graduated with a 2:1 in Zoology from Swansea University. He is currently undertaking his first season of bat surveys with Acer Ecology.

Appendix 5: Specification of Vivara Pro WoodStone Bat Box



The Vivara Pro WoodStone Bat Box is a hard wearing bat box.

This box is made from WoodStone, a mixture of wood fibres from fully certified FSC wood sources and concrete, and it is designed to last for years.

It is breathable so there will be no problems with condensation and WoodStone maintains a consistent temperature inside, providing excellent insulation for roosting bats. WoodStone also provides a rough surface which the bats can easily cling to and move around the box. The Vivara Pro WoodStone Bat Box is black with a grey front panel.

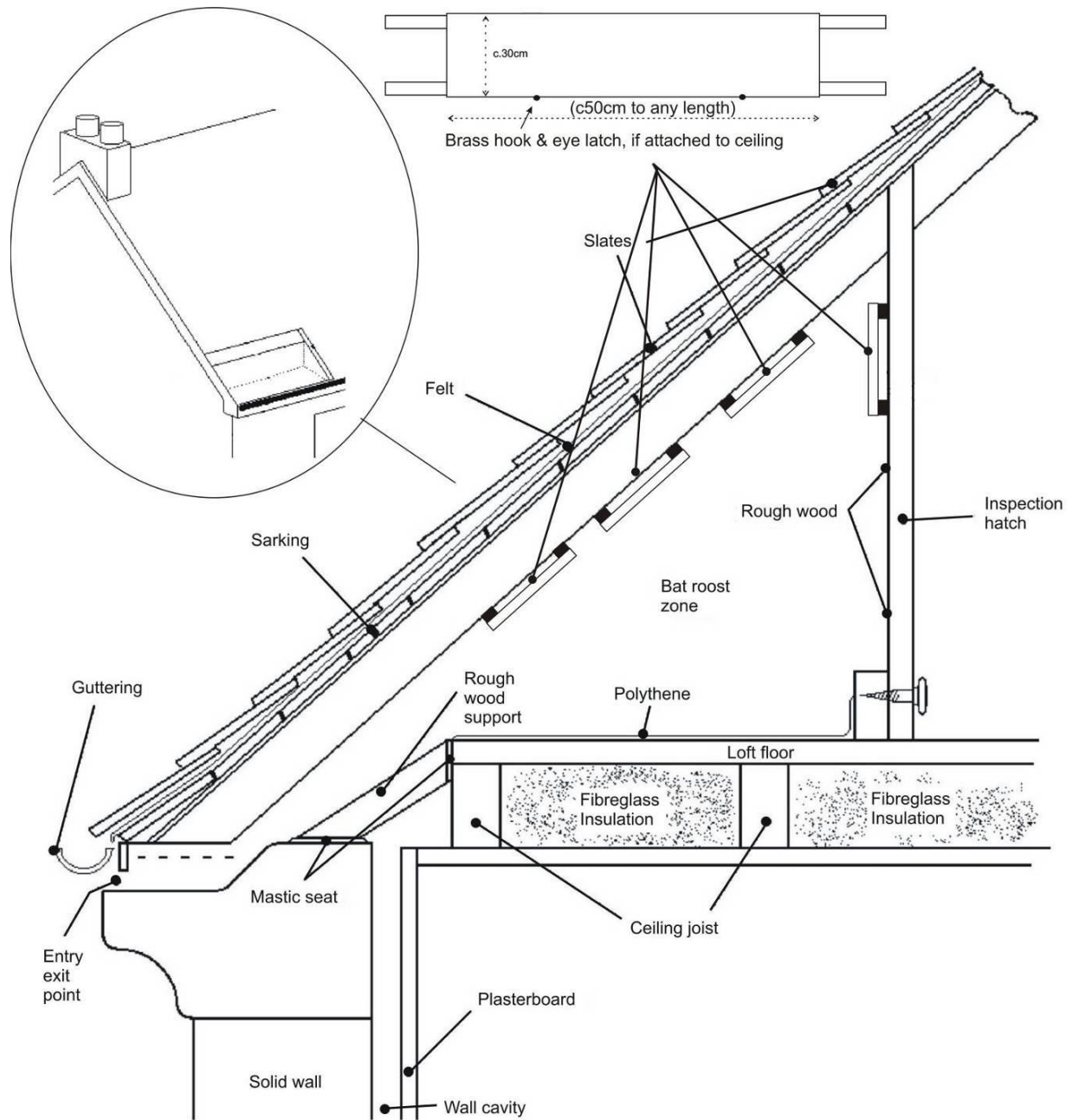
Siting - The box can be attached to either a wall or a tree and should be sited at a height of at least 3 m from the ground. Bats prefer to change roosts to benefit from varying ambient temperatures, so bat boxes should ideally be clustered in small groups.

Dimensions - (H) 250 x (W) 190 x (D) 165 mm, weight: 4.5 kg

Bat Box Availability

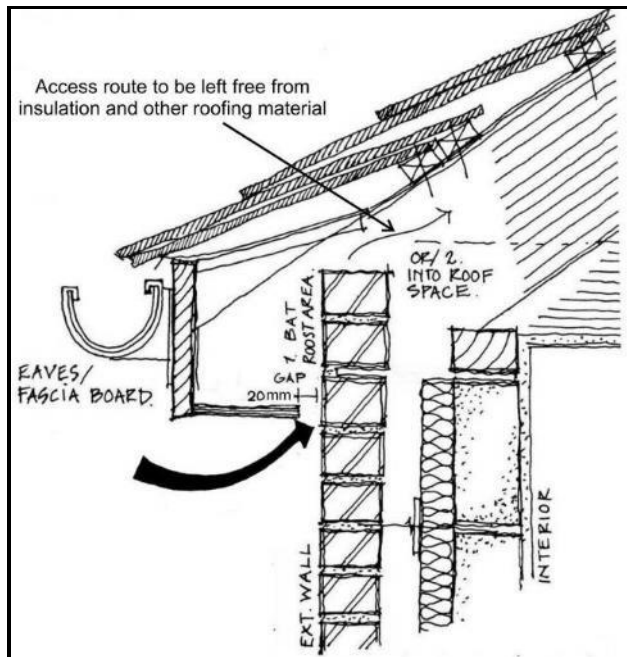
The bat box is available from NHBS (www.nhbs.com) where it retails at approximately £19.99 including VAT

Appendix 6: Eaves Bat Roost



Appendix 7: Design of Soffit Access at Eaves

Gaps leading into eaves bat roost



Gap measuring about 20mm (height) x 100mm (width) – leading into eaves roost.

Fascias/soffits will be of uPVC plastic and lined internally with timber. This detail is not shown on diagram above.

Appendix 8: Proposed Works Sequence



Work Sequence

Phase 1 - Orange Highlight Area

- Demolition of the existing shop front which is disconnected from the main house
 - Works planned immediately upon planning permission
 - Anticipated September 2023
 - **No** requirement for a NRW bat development licence
 -

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Phase 2 - Green Highlight Area

- Refurbishment works to the main house to include:
 - Alteration to existing door and window openings
 - Internal gutting works and renewal of stud partitions and ceiling works
 - Demolition of the old external brickwork chimney stack
 - Works planned immediately upon planning permission
 - Anticipated October 2023 through to March 2024
 - **No requirement for a NRW bat development licence**

Phase 3 - Purple Highlight Area

- Renewal of roof covering, fascia, eaves and bargeboard
 - Works to stop 1500mm from the east elevation of the house to avoid disturbance to bargeboard in Photo 34
- Cutting into existing roof with new hip construction of new entrance works
- Works planned immediately upon planning permission
 - Anticipated October 2023 through to December 2024
 - **No requirement for a NRW bat development licence**

Phase 4 - Yellow Highlight Area

- Completion of Renewal of roof covering, fascia, eaves and bargeboard
 - Works completing 1500mm of renewal and alteration of bargeboard in Photo 34
- Works planned March 2024
 - **Requirement for a NRW bat development licence**