

PRELIMINARY ECOLOGICAL APPRAISAL & PRELIMINARY BAT ROOST ASSESSMENT OF:

16 JACKSONS HILL
ST MARY'S
ISLES OF SCILLY
TR21 0JZ

Client: Mr Pritchard

Our reference: BS31-2020

Report date: 3rd July 2020

Author: Darren Mason BSc (Hons)

Report signed off: Sarah Mason

This page is intentionally blank

Contents

Non-Technical Summary	4
1.0 Introduction	5
1.1 Survey and reporting	5
1.2 The application site	5
1.3 Details of proposed works	6
2.0 Methodology	6
2.1 Preliminary Ecological Appraisal - Desk Study	6
2.2 Preliminary Bat Roost Assessment	7
2.3 Classification of building	7
2.4 Surveyor details	7
3. Results	10
Preliminary Ecological Appraisal	10
3.1 Pre-existing information on bat species	10
3.2 Statutory and non-statutory sites	10
3.3 Habitats surrounding the application site	11
3.4 Habitats within the application site	13
Preliminary Roost Assessment	14
3.5 External	14
3.6 Internal	15
Assessment and recommendations (excluding bats)	17
4.1 Protected sites	17
4.2 Nesting birds	17
4.3 Ecological features of importance	18
5. Recommendations and Mitigation	19
5.1 Further survey requirements	19
5.2 EPS Licence requirement	19
5.3 Mitigation – Further Action	19
6. Summary	22
7. Bibliography	23
APPENDIX A – SUPPLIERS	25

Non-Technical Summary

- On 3rd July 2020, the Isles of Scilly Wildlife Trust (IoSWT) conducted a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of a detached garage at 16 Jacksons Hill, St Mary's, Isles of Scilly, TR21 0JZ (BS31-2020), in order to establish baseline conditions, determine the importance of any ecological features within and around the survey area and to establish the actual or potential use of the building by bats to help inform the determination of Planning Application P/20/023
- This report outlines the findings of the PEA and PRA assessment and provides advice based on the surveys' conclusions. As the proposals contained within the planning application relate only to works within the existing footprint and structure of the existing building, this assessment is primarily focused on the PRA of the building.
- During the PRA, an external/internal inspection of the building was undertaken (where accessible).
- Nesting birds (probably Blackbird) were confirmed utilising nesting habitat in the void between the soffit board and barge board at the northern eaves
- The immediate habitat surrounding the proposed development present poor habitat for foraging bats, but quickly becomes optimal with mature gardens, allotments, and abundant semi-natural habitat, particularly to the east.
- All areas could be accessed and evaluated for roost potential and for evidence of bats.
- The building, both internally and externally has negligible features that could be used by crevice-roosting species such as Common and Soprano Pipistrelle, or void-roosting species such as Brown Long-eared Bat.
- Taken in combination, the characteristics of the building and the surrounding habitat suggest **negligible roost potential** for bats
- To assist in meeting both national and local planning policy obligations for net gains in biodiversity the proposed development should undertake at least one of the suggested enhancement measures outlined in this report
- The recommendations of this PEA and PRA are that no further surveys or an EPS license application are required
- Aside from nesting birds, if the recommendations given in this report are adhered to, there should be no further ecological constraints to the proposal.
- **This report is sufficient to support a planning application.**

1.0 Introduction

1.1 Survey and reporting

This report details the results of a preliminary ecological appraisal and a preliminary bat roost assessment (PRA) of the detached garage which constitutes part of the core component of the residential dwelling at 16 Jacksons Hill, St Mary's, Isles of Scilly, TR21 0JY. The survey was carried out on the 2nd July 2020.

1.2 The application site

The detached garage is located along the north-eastern edge of Hugh Town, St Mary's (National Grid Reference SV9082510541). The application site is comprised of a large, detached and extended two-storey property and detached garage, set within its own plot (see Figure 1 below).



Figure 1. Location

1.3 Details of proposed works

The planning application (P/20/023) proposes the extension of the detached garage (see photo 1.) south-westward to link with the main house which includes the removal of the garages south-east elevation and the removal of the pitched roof for an extended flat roof.



Photo 1.

2.0 Methodology

2.1 Preliminary Ecological Appraisal - Desk Study

A desk study data search was undertaken. This involved carrying out a review of the Local Records Centres (LRC) available records for bat species and publicly available datasets and citations of statutory designated sites of importance for nature conservation for sites within the zone of influence (ZOI) of the survey area (considered to be a maximum of 2km in this case). The desk study was also undertaken to identify habitats and features that are likely to be important for bats and assess their connectivity through the use of aerial photographs.

2.2 Preliminary Bat Roost Assessment

The Preliminary Bat Roost Assessment comprised a survey of the building for bats, signs of bats and features potentially suitable for use by roosting bats, and an assessment of the surrounding habitat in terms of its suitability for commuting and foraging bats.

The survey consisted of a ground based inspection and a detailed search of the interior and exterior of the building (from ground level), looking for bats and/or evidence of bats including droppings (on walls and windowsills and in roof and loft spaces), rub or scratch marks, staining at potential roosts and exit holes, live or dead bats and features, such as raised or missing tiles, potentially suitable for use by roosting bats. Binoculars, a ladder and a high-powered torch were used as required.

2.3 Classification of building

The building was classified according to its suitability for use by roosting bats. The classification was dependent on several factors including (but not limited to):

- Bats and/or signs of bats;
- External and internal features potentially suitable for use by roosting bats (e.g. raised or missing tiles, gaps behind fascia boards etc);
- Setting;
- Night time light levels;
- Disturbance levels;
- Proximity of suitable foraging habitat and commuting routes (e.g. ponds, streams, woodland, large gardens, hedgerows).

The categories used to classify buildings and the survey effort required to determine the presence or absence of bats (as per the Bat Conservation Trust's Bat Survey Guidelines¹, referred to by Natural England in their standing advice to planning officers) are described in Table 1 (see below).

2.4 Surveyor details

The survey was undertaken by Darren Mason BSc (Hons) of the Isles of Scilly Wildlife Trust. Darren has undertaken professional Bat Licence Training and holds a Natural England WML-A34-Level 2 (Class 2 License); registration number: 2020-46277-CLS-CLS which permits him to survey bats using artificial light and endoscopes and capture bats using hand and hand-held static nets.

Table 1 – Description of the categories used to classify a building’s bat roost potential and the survey effort required to determine the likely presence or absence of bats

Bat Roost Potential	Roost status	Description	Survey effort required to determine the likely presence or absence of bats
	High	Numerous features potentially suitable for use by roosting bats, optimal or good quality bat foraging habitat nearby and good habitat connectivity. Alternatively, a building with fewer features potentially suitable for use by roosting bats and optimal foraging habitat nearby.	Three dusk emergence and/or pre-dawn re-entry surveys between May and September. Optimum period May – August. Two surveys should be undertaken during the optimal period and at least one survey should be a pre-dawn survey.
	Moderate	More than a few features potentially suitable for use by roosting bats, good foraging habitat nearby and limited habitat connectivity. Alternatively, a building with a few features potentially suitable for use by roosting bats but optimal foraging habitat nearby.	Two or three dusk emergence and/or pre-dawn re-entry surveys between May and September (but only if features will be affected by the proposals).
	Low	Only a few features potentially suitable for use by roosting bats but good bat foraging habitat nearby. Alternatively, a building with more than a few features potentially suitable for use by roosting bats but sub-optimal foraging habitat nearby and limited habitat connectivity.	One or two dusk emergence and/or pre-dawn re-entry surveys between May and September (but only if features will be affected by the proposals).
	Negligible	Very few features potentially suitable for use by roosting bats and / or in an area (such as a densely populated urban area) which has limited habitat connectivity and poor foraging habitat.	No further surveys required.

Table 1. Categorising and classifying a building’s bat roost potential

1 Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trus

3. Results

Preliminary Ecological Appraisal

3.1 Pre-existing information on bat species

The desk study showed that no species of bat had previously been recorded within the building. A data search of LRC records for bats revealed information on 6 species of bat recorded within the 2km ZOI of the site. The species conclusively identified were Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus auritus*) both UK Biodiversity Action Plan (BAP) priority species, Whiskered Bat (*Myotis mystacinus*), Leisler's Bat (*Nyctalus leisleri*) and the rare Nathusius Pipistrelle (*Pipistrellus nathusii*). Seventeen bat roosts are known to exist within the 2km of the proposed development, with 3 known roosts within 500m of the property, the nearest being 81m south-west of the proposed development.

3.2 Statutory and non-statutory sites

In addition, the desk study revealed the presence of the following statutory designated sites within the 2Km ZOI of the site:

- i.) **Peninnis Head SSSI** – Lying 686m due south of the proposed development is Peninnis Head SSSI. The site designated primarily for its maritime heathland, maritime grassland and scrub habitats together with good populations of a number of rare plant and lichen species, in addition to its significant quaternary geomorphology.
- ii.) **Lower Moors SSSI** – Situated 280m east-north-east of Teeki is Lower Moors SSSI. A topogenous mire that has a range of wetland habitats supporting a diverse range of wetland wildflower species, including the Nationally Scarce Tubular Water-dropwort (*Oenanthe fistulosa*). The site also holds locally important populations of Royal Fern (*Osmunda regalis*) and Southern Marsh Orchid (*Dactylorhiza praetermissa*) and is particularly important feeding for passage and wintering birds including Corncrake (*Crex crex*) and Spotted Crake (*Porzana porzana*).

- iii.) **Higher Moors & Porth Hellick Pool SSSI** – 1.3km east north-east of the proposed development is Higher Moors SSSI. A topogenous mire designated for several rare and notable plant species) including; Bog pimpernel (*Anagallis tenella*), Star Sedge (*Carex echinata*) and Marsh St John's-wort (*Hypericum elodes*).
- iv.) **Porthloo SSSI** – Situated 738m north-east of Teeki lies Porthloo SSSI designated for its geology, particularly for its Quaternary sediments in the cliffs that show changes in the climates and environments of the Quaternary period in Scilly.

3.3 Habitats surrounding the application site

Jackson's Hill is situated within the Built-Up Areas Boundaries² (2011) for England and Wales (published by the Office for National Statistics, Geography), lying just within its northern border and is a small residential complex comprising several large detached properties set within mature gardens, which back onto the Old School site at Carn Thomas, an area consisting of open grassland, scrub and deciduous woodland.

South-east of the property lie a small group of allotments and a tree-lined avenue of Dutch Elm (*Ulmus x hollandica*) before reaching the wetland of Lower Moors SSSI, which is dominated by reedbed, wet woodland and open water habitats. Further south-east, eastwards and north-eastwards a contiguous landscape of small hedgerow enclosed cultivated fields used in the flower-farming industry as productive 'fallow' leys or improved pasture for over 2km is dominant, interspersed with a variety of sized deciduous and coniferous woodland blocks or shelterbelts of Dutch Elm and Monterey Pine and Lodge Pole Pine (*Pinus radiata* and *Pinus contorta*) respectively. This habitat helps to link the wider countryside and to sites such as the wetland of Higher Moors SSSI and the woodland block and stream at Holy Vale, to the open expanses of the coastal headlands and the large expanse of semi-natural grassland at the airport.

Immediately north-east is the beach and associated strand-line at Porth Mellon, beyond this northward the mixed farming landscape continues, before reaching the large open expanse of the golf course with its mown semi-natural grassland and heathland habitats and beyond this further conservation grazed coastal headlands. Immediately west of Teeki lies the main conurbation of Hugh Town where mature gardens become less frequent. However, south-west of the old school site lies Buzza Hill, which comprises an open area of grassland and scrub, which at its base are further mature gardens which open up onto the beach at Porthcressa. Five hundred and sixty metres west the beach meets the eastern slopes of the

Garrison with its mixed woodland and low lying cliffs. The Garrison also contains further habitat including cattle-grazed mosaic of grassland and scrub, shelterbelts and areas of open amenity grassland for recreation.

In summary, the habitat surrounding the proposed development and its links to the wider countryside provides optimal foraging habitat for all 6 species of bat, despite 16 Jacksons being situated in a suburban setting with its associated street lighting. The dark corridors, particularly to the south and east of the property and the use of the beach at both Porth Mellon and Porthcressa will assist in bats reaching favoured feeding habitat. These dark corridors are important as it has been shown that street lighting can negatively impact upon a bats' commuting and foraging route³. In contrast, it has been shown that species such as Common Pipistrelle and Leisler's Bat will feed around street-lighting, to take advantage of the insectivorous prey that congregates around them⁴. However this has been shown to be dependent on the light emitting from the lamps, with orange sodium light (found here in this instance) having the greatest negative impact on feeding opportunities⁴.

Though Soprano Pipistrelle have been shown to utilise more built up areas compared to Common Pipistrelle⁵, all species of bat require 'edge' habitat (like hedgerows) to both feed from and commute to other feeding areas^{6, 7&8}. This type of habitat is frequent throughout St Mary's particularly to the north and east of Teeki, with only a limited number of areas which are very open which most species of bat prefer not to utilise⁹. These continuous linked hedgerows provide access to a wider variety of habitats for which Common Pipistrelle are known to take advantage of¹⁰, including the strand-line along the beaches¹¹. These hedge-lined commuting routes are also important for both Soprano and Nathusius Pipistrelle as they provide commuting and feeding corridors to their preferred habitat of open water and watercourses^{6, 7&8}, habitats such as those found at both Lower and Higher Moors SSSIs and Holy Vale. The location of the Teeki also falls within the core sustenance zones of all three species being 1.7km, 1.5km to 3km respectively¹².

In contrast, Whiskered Bat in Britain has been shown to favour more open areas of semi-natural grassland and pasture with scattered hedgerows, or small woodland blocks ^{13&14} in which to feed. Habitat such as the Garrison to the west and the golf course to the north are typical examples of such habitat which they could exploit and fall within the typical core sustenance zone for this species¹³. Brown Long-eared bat

have been shown to prefer to feed in open canopy deciduous woodland typically located close to their roosts, which would also have larger tracts of woodland available to feed no greater than .5km away¹⁵, making the Garrison to the west and the former school site at Carn Thomas potential sites to feed. Both sites fall within this species core sustenance zone of 1.1km¹⁶. Likewise, Leisler's Bat also take advantage of woodlands, particularly woodland edge¹⁷, making these woodland blocks and the woodlands at Lower Moors, Higher Moors and Holy Vale and even Trenoweth shelterbelt at 2.2km away as Leisler's Bat has a large core sustenance zone of 4.2-7.4km¹⁸. Leisler's Bat in England is also known to take advantage of open areas of pasture¹⁸, making the coastal headlands to the north, south and east potential feeding areas also. This contrasts with most other species of bat which typically avoid this type of open habitat, particularly during peak times of prey abundance (dusk and dawn) to avoid predation^{19&20}.

3.4 Habitats within the application site

The detached garage of 16 Jacksons Hill sits immediately north-west of the main property, bounded to the south by a low drystone wall with 2 mature Dutch Elm (*Ulmus x hollandica*) and a single Hawthorn (*Crataegus monogyna*) behind. To the south-west the area is laid to concrete and a large supporting drystone wall of the modern extension of the main house. Here several outside lights are present (some PIR) along with large north-east facing windows. Immediately north-east the remnants of an old Karo (*Pittosporum tenuifolium*) hedge is present and an area of low-growing Nasturtium (*Tropaeolum majus*) that dominates the north-east slope to the neighbouring garage. Here, scattered Bracken (*Pteridium aquifolium*), Ivy-leaved Toadflax (*Cymbalaria muralis*), Montbretia (*Crocasmia* sp.) and Giant Vipers-bugloss (*Echium pininana*) can also be found.

In summary, there are few beneficial species of shrub and plants that may attract invertebrates which bats may prey upon within the immediate footprint of 16 Jacksons Hill. The external lighting and the large north-east facing windows of the main house are likely to cause light-spill, particularly onto the south-west facing roof. Despite there being 3 mature trees within 5m of the garage which can provide cover for bats leaving a roost, the immediate habitat can be classed as poor for bats.

Preliminary Roost Assessment

3.5 External

The detached garage at 16 Jacksons Hill is block-built, single-skin and smooth-rendered in construction. The render is in good condition throughout (see photo 2.), with no cracks or lifted render for bats to roost behind. The north elevation is dominated by the metal garage door and associated wooden frame, which is tightly bound to the external blockwork with no obvious gaps, providing no opportunities for bats to roost between or gain access into the interior of the building. Likewise, with the timber frame of the single-glazed window in the south-west elevation. Fascia is present along all the eaves and the north and south gable ends.



Photo 2.

At the gable ends the fascia is tightly fixed to the blockwork leaving no crevices which bats could roost behind, as is the junction between the soffit boards and the blockwork along the length of both the south-west and north-east elevations. The north-east and southern elevations were once clad in ivy (see photo 3.), which has resulted in the bargeboard in the south-east corner rotting away, revealing the void between the fascia/soffit and block work of the garage (see photo 4.). Within this void a bird's nest was found (see photo 5.), most likely a Blackbirds (*Turdus merula*). The void could have offered



Photo 3.



Photo 4.

3.6 Internal

The internal roof space is exposed revealing the 'A-frame' rafters and the roofing membrane. The 'A-frame' is constructed with modern butt joints, with some 'lap' joints used for the central braces. Throughout, none of the gaps between the joints were wide enough for bats to utilise as a roost.

Likewise, the gap between the 1st rafter and the north and south gable ends walls (see photo 4.). A slim, rectangular ridge-board however may provide perching opportunities for species such as Brown Long-eared Bat. However, a PIR sensor located within the garage which operates an LED light (see photo 6.) which, when activated illuminates the rear of the garage, including the roof void.

The roofing membrane throughout was in good condition, presenting with no suitable roosting space for bats between the membrane and the roofing tiles above. Inspection of the wall plates, central braces of the 'A-frame' and the void between the south-west and north-east elevations and the soffit boards revealed evidence of House Mouse (*Mus musculus*) droppings, but no droppings that could be attributable

suitable roosting space for bats, but with the removal of the ivy the void is now too exposed and not likely to be used. The roof of the garage has an approximate pitch of 28° with a south-west/north-east aspect. Constructed of well-fitting fibre cement 'faux' slate tiles and capped by glazed concrete ridge tiles which are well mortared to the tiles below the roof presents with no obvious roosting opportunities for bats.



Photo 5.

to bats. A search of the floor below the rafters and ridge board revealed no bat droppings either, however it was made aware to the author from the owner of the garage that recently the garage had been cleared, including the removal of all the shelving and sweeping of the floor which is likely to have removed any other evidence, if present.

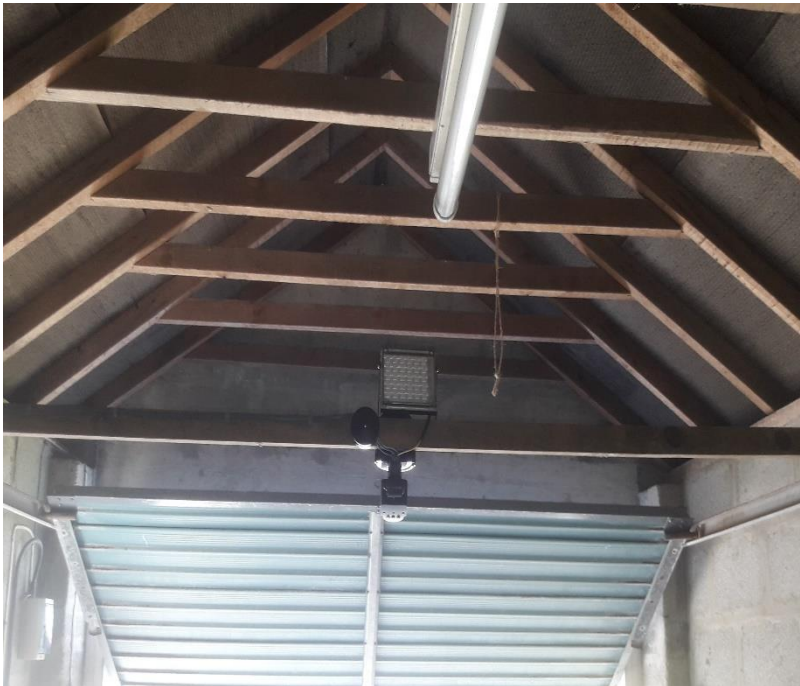


Photo 6.

3.7 Summary

The well-constructed shell of the garage limits any potential roosting opportunities to the void at the south-east corner of the eaves. However, the removal of the ivy and the rotting away of the bargeboard is likely to leave this feature too exposed for bats. The external lighting and lack of suitable feeding habitat immediately surrounding the garage also reduces the likelihood as the development being used as a roost. Though the garage internally is

open and has suitable perches for void dwelling species of bat, the interior PIR and associated light that illuminates the rear of the garage and the exposed roof space and the garages regular use is likely to cause disturbance to such species.

Assessment and recommendations (excluding bats)

4.1 Protected sites

The proposed development falls into the SSSI Impact Risk Zones of Lower Moors, Higher Moors and Peninnis Head SSSIs. Impact zones are used in the assessment of planning applications for likely impacts on SSSI's, Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites (England). However, the likely attributable impact in these zones is for residential developments of 100, or 50 or more houses outside existing settlement/urban areas. Therefore, in this instance the development is not likely to impact on the surrounding SSSIs.

4.2 Nesting birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Section 1 of this Act makes it an offence to kill, injure or take any wild bird, or intentionally to take damage or destroy the nest of any wild bird while that nest is in use or being built²². During this survey, evidence of nesting birds was identified in the void between the fascia and external block work in the south-east corner. The species is likely to be from the Thrush family, most likely Blackbird. The current nest is likely to have fledged and as a result from the removal of the ivy the nest may not be used for a second brood. However, if work was to commence between the months of March and August inclusive, then the site would need to be checked first for nesting birds and if, any evidence of breeding activity was found, or nests are identified works that would disturb the adults, the nest or young must be postponed until all young have fledged the nest and it is no longer in use.

Following the proposed renovation works, it is unlikely that suitable nesting habitat for this species will remain associated with this void. It is therefore recommended that mitigation measures to replace lost nesting features are incorporated into the design.

An open nestbox should be mounted 1.5m, or higher on a wall, but should ideally be concealed to aid predator avoidance. Therefore, the planting of a species that will cover the box in time will help with concealment. Climbing species such as Honeysuckle (*Lonicera periclymenum*) or Ivy (*Hedera helix*) would be appropriate.

4.3 Ecological features of importance

To identify which ecological features are important and which could potentially be affected by the proposed project, an evaluation of their importance for example; in a geographical context, degree of scarcity or level of protected status needs to be undertaken²³. The table below outlines those features identified as important, the nature conservation legislation relevant to those features and an assessment of the level of impact from the proposed development on those features.

Ecological Feature	Relevant Legislation	Evaluation (of importance)	Mitigation Hierarchy	Impact Level
Habitats:				
Building (roosts)	CHSR, W&CA, NPPF	Local	A & E	Low
Impacts: Demolition: – None predicted as long as Reasonable Avoidance Measures (RAM) are followed (see section 5) Construction: – None. Positive impact may result through enhancement by creating/incorporating new nests in the building ²⁴ Operational impact: – None predicted, however please note a summary of criminal offences with respect to bats and their roosts. http://www.bats.org.uk/pages/bats_and_the_law.html				
Species:				
Bats	CHSR, W&CA, NPPF	International	A & E	Medium
Impacts: Demolition – None predicted as long as Reasonable Avoidance Measures (RAM) are followed (see section 5) Construction/post-construction - Positive impact may result through enhancement by increased roost availability ^{24, 25} Operational impact: – None predicted, however please note a summary of criminal offences with respect to bats and roosts. http://www.bats.org.uk/pages/bats_and_the_law.html				
Key to Legislation and Mitigation Hierarchy				
CHSR – Conservation of Habitats and Species Regulations 2017 ²⁶ - http://www.legislation.gov.uk/ukxi/2017/1012/made W&CA – Wildlife & Countryside Act 1981 (as amended) ²² - http://www.legislation.gov.uk/ukpga/1981/69/contents NPPF – National Planning Policy Framework 2019 ²⁵ - https://www.gov.uk/government/publications/national-planning-policy-framework--2 A – Avoid, M – Mitigate, C – Compensate, E - Enhancement				

5. Recommendations and Mitigation

The recommendations in this section are provided as information only and specialist legal advice may be required. If works are delayed for more than one year, then re-assessment may be required.

5.1 Survey constraints

The survey was undertaken at an appropriate time of year, during the main summer active season

Internal inspection for evidence of droppings was constrained as a result of the recent clearing-out of the shelving and the sweeping of the floor.

5.2 Further survey requirements

In the professional opinion of the author there are **no further surveys required**. The justification for this is; BCT guidance suggests that for buildings with negligible roost potential no further surveys are required¹. The survey carried out to date follows this guidance, is proportionate to the scale of the development and the information provided is believed to be sufficient to inform the planning decision.

5.2 EPS Licence requirement

For any development that is likely to commit an offence (or offences) in respect to a European Protected Species (EPS) i.e. bat, or their habitat, a licence will be required. In this instance based on sufficient survey work **no licence is required**. If, in the unlikely event a bat were found during the demolition phase of the project, Reasonable Avoidance Measures (RAM) must be followed and will determine any further action, such as licensing if necessary.

5.3 Mitigation – Further Action

As there is a very low risk that bats may roost within the building, prior to demolition, precautions should be taken to reduce the probability of committing an offence. By undertaking Reasonable Avoidance Measures (RAM), if affected RAM should include:

Avoidance – Bats

- i. When roofing works are planned these should avoid the main breeding and mating season of *Vespertilionidae* bats, **work should typically take place between the 1st November and 1st May inclusive.**
- ii. Ensure all workers on site (including sub-contractors) are made familiar with bat legislation and agree to work in accordance with and fully follow best practice measures.

- iii. Carry out prior to demolition careful checks of any cracks/crevices and cavities in or on the building. Signs of usage include; bat droppings, dis-colouration or polishing of access points where bats rub against them, urine stains and a lack of cobwebs, particularly if other crevices around them have plenty.
- iv. Individual bats may be found in/under; cladding, between timber boards, between corrugated sheeting, in soffit boxes, behind lead flashing and sometimes just clinging to timber beams around joins as well as others areas. When any of these are removed, please do so carefully, lifting outwardly, and checking for bats continually. If in doubt, consult a licensed bat worker.
- v. Try to minimise any dust generated from demolition works from entering off-site buildings and gardens
- vi. In the unlikely event that a bat is found please see below:

1. At no point should a worker handle a bat. Untrained handling may cause undue stress and injury to the bat, and if bitten may expose the worker to rabies-related European Bat Lyssavirus
2. Where possible replace any covering without damaging the bat, then halt works and contact **Natural England** (Tel: 0845 601 4523), or the **Bat Conservation Trust Helpline** (0845 1300 228), or **IoSWT** (01720 422153) for advice.
3. Any bats that go to ground should be covered with a box and left alone until a licensed bat worker arrives to assess the condition of the bat
4. If the bat attempts to fly at any point allow it to do so. Preventing natural behavior will cause unnecessary stress and may cause injury. Attempt to see where bat goes. If the bat returns to the building, halt works and report the escaped bat to the local bat worker

Enhancement (E) – Bats

The Isles of Scilly have the most southern population of Common Pipistrelle (*Pipistrellus pipistrellus*) bats in the United Kingdom. The islands also hold small populations of Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus auritus*) both UK Biodiversity Action Plan (BAP) priority species and holds records for the rare Nathusius Pipistrelle (*Pipistrellus nathusii*). Any loss of roosting, commuting or foraging sites could have a detrimental effect on these species distributions as a whole and cause a net loss in biodiversity on the islands.

Each local planning authority in England and Wales has a statutory obligation under Part 3 Section 40 of the Natural Environment & Rural Communities Act 2006²⁷ (NERC 2006) to have due regard for biodiversity when carrying out their functions and under Section 15 paragraph 170(d) of the NPPF 2019, all planning policies and decisions shall contribute to and enhance the natural and local environment by providing net gains in biodiversity. **Therefore, to assist in meeting these obligations the following suggestion could be undertaken:**

- i. Erect two free-standing bat boxes developed for crevice-dwelling species (see figure 2 for examples and Appendix A for supplier details) one on each of the north and south-east elevations. Erect as high as possible below the fascia of the new flat roof.



Figure 2. free-standing bat box examples

https://www.nhbs.com/browse/search?q=bat%20boxes&hPP=30&idx=titles&p=0&is_v=1&qview=158636

<https://www.nhbs.com/browse/search?q=bat+boxes&qview=176916>

6. Summary

The detached garage at 16 Jacksons Hill (planning application P/20/023) is found to have negligible roost potential for bats, despite the optimal foraging habitat immediately surrounding the development and its commuting and foraging links to the wider countryside. In the professional opinion of the author no further surveys are required, and no EPS license is required. However, to enhance the area for local populations of bat and assist the local authority's obligation to provide net gain in biodiversity the erection of 2 free-standing bat boxes and the erection of a single Blackbird nest box with the planting of a climbing plant species such as Honeysuckle or Ivy should be undertaken.

Aside from nesting birds, if the recommendations given in this report are adhered to, there should be no further ecological constraints to the proposal.

7. Bibliography

1. Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust
2. COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services - <https://data.gov.uk/dataset/15e3be7f-66ed-416c-b0f2-241e87668642/built-up-areas-december-2011-boundaries-v2>
3. Stone, E.L., Jones, G. & Harris, S. (2009). *Street Lighting Disturbs Commuting Bats*. Current Biology 19. P1123-1127
4. Blake, D. et al. (1994). Use of lamp-lit roads by foraging bats in southern England. Journal of Zoology 234. P 453-462.
5. Lintott, P. et al. (2015). Differential *responses of cryptic bat species to the urban landscape*. Ecology and Evolution 6 (7). P2044-2052
6. Vaughan N, Jones G, Harris S (1997) *Habitat use by bats (Chiroptera) assessed by means of a broad-band acoustic method*. J Appl Ecol 34:716-730.
7. Russ JM, Montgomery WI (2002) *Habitat use associations of bats in Northern Ireland: implications for conservation*. Biol Conserv 108:49-58
8. Nicholls B, Racey PA (2006) *Habitat selection as a mechanism of resource partitioning in two cryptic bat species Pipistrellus and Pipistrellus pygmaeus*. Ecography, vol 29 (5) 697-708
9. Downs N, Racey PA (2006). *The use by bats of habitat features in mixed farmland in Scotland*. Acta Chiropterologica, vol 8:169-185.
10. Russ, J.M. and Montgomery, W.I. (2002). *Habitat associations of bats in Northern Ireland: implications for conservation*. Biological Conservation 108. P.49-58
11. Hough, T. (2015). Coastal *habitat use by bat species*. BSG Ecology
12. Watts-Davidson, I. & Jones, G. (2005). Differences *in foraging behavior between Pipistrellus and Pipistrellus pygmaeus*. Journal of Zoology 268. P. 55-62
13. Berge, L. (2007). *Resource partitioning between the cryptic species Brandt's bat (Myotis brandtii) and the Whiskered Bat (M. mystacinus) in the UK*. University of Bristol. School of Biological Sciences

14. Buckley, D.J. et al. (2012). The *spatial ecology of the whiskered bat (Myotis mystacinus) at the western extreme of its range provides evidence of regional adaptation*. Mammalian Biology Vol 78. Issue 3: p198-204
15. Entwistle, A.C., Racey, P.A. and Speakman, J.R. (1997). *Roost selection by the brown long-eared bat Plecotus auritus*. Journal of Applied Ecology 34. P399-408
16. Swift, S.M. & Racey, P.A. (1983). *Resource partitioning in two species of vespertilionid bats (Chiroptera) occupying the same roost*. Journal of Zoology 200 p.249-259
17. Shiel, C.B., Duverge, P.L., Smiddy, P. and Fairley, J.S. (1998). *Analysis of the diet of Leisler's bat (Nyctalus leisleri) in Ireland, with some comparative analyses from England and Germany*. Journal of Zoology 246: p417-42
18. Waters, D, Jones, G and Furlong, M. (1999). *Foraging ecology of Leisler's bat (Nyctalus leisleri) at two sites in southern Britain*. Journal of Zoology 249: p173-180
19. Downs N, Racey PA (2006). *The use by bats of habitat features in mixed farmland in Scotland*. Acta Chiropterologica, vol 8:169-185
20. Jones, G. and Rydell, J. (1994). *Foraging Strategy and Predation Risks as Factors Influencing Emergence Time in Echolocating Bats*. Biological Sciences, Vol 346, Issue 1318: p445-455
21. H.M.S.O. (1981). *The Wildlife and Countryside Act 1981* (as amended). London.
22. CIEEM. (2016). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal (2nd edition)*. Chartered Institute of Ecology and Environmental Management, Winchester.
23. Mitchell-Jones, A.J. (2004). *Bat mitigation guidelines*. English Nature
24. Ministry of Housing, Communities & Local Government. (2019). National Planning Policy Framework. OGL
25. H.M.S.O. (2017). *The Conservation of Habitats and Species Regulations*. London.
26. H.M.S.O. (2006). *The Natural Environment and Rural Communities Act 2006*. London

APPENDIX A – SUPPLIERS

1. Natural History Book Service
1-6 The Stables
Ford Road
Totnes
Devon, TQ9 5LE
Tel: 01803 865913
Email: customer.services@nhbs.com
Website: <https://www.nhbs.com/>
2. Habibat
Tel: 01642 724626
Email: <http://www.habibat.co.uk/contact>
Website: www.habibat.co.uk
3. Dreadnought Tiles
Dreadnought Works
Brierley Hilly
West Midlands, DY5 4TH
Tel: 01384 77405
Email: sales@dreadnought-tiles.co.uk
Website: www.dreadnought-tiles.co.uk
4. Wildlife & Countryside Services
Covert Cottage
Pentre Lane
Rhuddlan
North Wales, LL18 6LA
Tel: 0333 9000927
Email: support@wildlifeservices.co.uk
Website: www.wildlifeservices.co.uk
5. Wildcare
Eastgate House
Moreton Road
Longborough
Gloucestershire, GL56 0QJ
Tel: 01451 833181
Email: sales@wildcare.co.uk
Website: www.wildcare.co.uk