PRELIMINARY ECOLOGICAL APPRAISAL & PRELIMINARY BAT ROOST ASSESSMENT OF:

VINE COTTAGE
6 HIGHER STRAND
ST MARY'S
ISLES OF SCILLY
TR21 0PT

Client: Mr and Mrs Ife

Our reference: BS45-2021

Planning reference:

Report date: 2-6-21

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Report peer reviewed: Sarah Mason

Report signed off: Sarah Mason

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Non-Technical Summary

- On 2nd June 2021, the Isles of Scilly Wildlife Trust (IoSWT) conducted a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Vine Cottage, 6 Higher Strand, St Mary's, Isles of Scilly, TR21 0PT 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 a forthcoming planning application.
- This report outlines the findings of the PEA and PRA assessment and provides advice based on the survey's conclusions.
- During the PRA and external/internal inspection of the building was undertaken (where accessible).
- The immediate habitat surrounding the proposed development is considered to provide optimal habitat for foraging bats. The dark corridor to the south-east and the strandline along both beaches to the north and south provides opportunity for bats to commute to more favoured feeding habitats.
- Evidence of past breeding bird activity was recorded during the survey, thought to be House Sparrow or Starling
- Due to the potential risk of disturbance from illumination of the garden and potential roost sites by the surrounding buildings these roost features might only be used opportunistically.
- Taken in combination, the characteristics of the building and the surrounding habitat suggests **low roost potential** for bats.
- The recommendations of this PEA and PRA are that **one activity survey is carried out**, **consisting of one dusk emergence survey within the bat active season between May and September as the proposed development provides external roosting features which could be used by a small number of crevice-dwelling species such as Common and/or Soprano Pipistrelle and Whiskered bat.**
- Aside from bats, no other ecological constraints are identified which require consideration to inform the determination of this planning application.
- **It must be noted that this report is not enough to support a planning application.**

1.0 Introduction

1.1 Survey and reporting

This report details the results of a preliminary ecological appraisal (PEA) and a preliminary bat roost assessment (PRA) of Vine Cottage, 6 Higher Strand, St Mary's, Isles of Scilly, TR21 0PT. The survey was carried out on the 2nd of June 2021.

1.2 The application site

Vine Cottage is located in Hugh Town, St Mary's (National Grid Reference SV9054810606) overlooking Town Beach and the harbour facing north-west. The application site is comprised of a large-terraced and extended granite two-storey property with a rear courtyard garden (see Figure 1 below).

Figure 1. Vine Cottage general location

1.3 Details of proposed works

This report relates to work associated with a future planning application and the focus of descriptions and results is concentrated on the elements of the property to be affected by the proposals.

The proposed planning application concerns works to the fabric and structure of the existing two-storey residential components only. The application outlines the removal of the rear south-east facing roof and ground floor flat-roofed extension, with a replacement two-storey extension perpendicular to the main house (centrally). The roofline will match the existing building but having a south-west/north-east aspect.

Photo 1. South-east elevation

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 using 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 Guidelines[1], 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

	Roost Potential	Description	Survey effort required to determine the likely presence or absence of bats
Bat Roost Potential	High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger number of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.	Three 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	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat.	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	A structure with one or more potential roost sites that could be used by individual bats opportunistically. But these sites do not provide appropriate conditions or surrounding habitat to be used on a regular basis or by larger number of bats.	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	Negligible habitat features on site likely to be used by roosting, commuting or foraging bats.	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 Trust

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*). Several bat roosts are known to exist within the 2km of the proposed development, with 3 known roosts within 500m of the property.

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 624m 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 several rare plant and lichen species, in addition to its significant quaternary geomorphology.

ii.) **Lower Moors SSSI –** Situated 409m due east of Vine Cottage lies 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 reglis*) and Southern Marsh Orchid (*Dactylhoriza 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 –** 1.51km 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 859m north-east of the proposed development 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

Vine Cottage lies within the Built-Up Areas Boundaries[2] (2011) for England and Wales (published by the Office for National Statistics, Geography), along its northern boundary. The street lighting throughout the town is intermittent and minimal, consisting primarily of orange sodium lighting. Though intermittent, the nearest light is found approximately 17m south-west of the property and is a modern LED downlit light. A further three sodium lights can be found 55, 60 and 100m south-west, east-north-east and south-east of the property. The nearest potential foraging feature to the proposed development lies approximately 12m away consisting of a single Sycamore (*Acer* pseudoplatanus) to the south-west. Eighteen metres to the south-east several mature Karo (*Pittosporum* crassufolium) and associated garden leads to a relatively dark corridor to the south-east of the complex that reaches the old school site at Carn Thomas and the small allotments below Pilot's Retreat, which permits access to the wetland of Lower Moors SSSI. For a further 2km north and east of these areas the countryside consists of a mixture of small, enclosed fields bounded by hedgerows, linked to small linear shelterbelts, beyond the SSSI.

Due west of the proposed development, lies a small park on the Strand, comprising of open lawn, small, flowered borders and occasional mature trees which is lit by a single streetlight. Lighting becomes more prominent along the lower slopes of the Garrison approximately 420m west of the complex. However, the large properties and their associated gardens back onto the large open improved and semi-natural grassland areas on the summit of the Garrison which in part are relatively sheltered due to the numerous shelterbelts and mature woodland blocks, the latter more prominent on its south-east slopes. South-west of the proposed development is the beach of Porthcressa, with its strandline stretching 350m and 230m to the west and east respectively. To the south-east the beach meets Porthcressa allotments, comprising of small hedgerow enclosed cultivated fields. Beyond these and further to the south-east is the open headland of Peninnis Head SSSI, consisting of semi-natural grassland, scrub and heathland.

In summary, the immediate habitat surrounding the complex is limited in terms of feeding opportunities, however the dark corridor to the south-east of the complex and the open beach of Porthcressa to the south-west are potential commuting routes for bats to reach more favourable feeding habitat (more

information given below). This dark corridor may be an important route for bats to utilise as it has been shown that street lighting can negatively impact upon bats commuting and foraging routes[3]. 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 them. 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 opportunities[4].

Though Soprano Pipistrelle have been shown to utilise more built-up areas compared to Common Pipistrelle[5], 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 limited, particularly to the north and to the west and quickly breaks down after approximately 150m, where the landscape becomes very open and which most species of bat prefer not to utilise[9]. In contrast edge habitat is almost continuous to the east and north-east for at least two kilometres, providing access to a wider variety of habitats for which Common Pipistrelle are known to take advantage of[10], including the strandline along the beaches[11] to the south-west and north. The former commuting routes are also important for both Soprano and Nathusius Pipistrelle as they provide a feeding corridor 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 Vine Cottage also falls within the core sustenance zones of all three species being 1.7km, 1.5km to 3km respectively[12].

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-east are typical examples of such habitat which they could exploit and fall within the typical core sustenance zone for this species[13]. 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 away[15], making the former school site at Carn Thomas a potential site to feed. This site falls within this species core sustenance zone of 1.1km[16], however the lack of trees in the immediate area of the complex may limit the sites' use as a roost. Likewise, Leisler's Bat also take advantage of woodlands, particularly woodland edge[17], making these woodland blocks and the woodlands at Lower Moors, Higher Moors and Holy Vale and even Trenoweth shelterbelt at 2.4km away as Leisler's Bat has a large core sustenance zone of 4.2-7.4km[18]. Leisler's Bat in England is also known to take advantage of open areas of pasture[18], 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 south-east facing mature garden is flat, bounded on all three sides by granite block walling, with a single-skin breeze block-built outhouse in the south-west corner. The walls are covered in Ivy (*Hedera helix*), or Rose (*Rosa* sp.), or obscured by single tree specimens of Apple (*Malus* sp.), Karo and Cabbage Palm (*Sabal palmetto*). Scattered throughout are ornamental shrubs which include Tree Bedstraw (*Coprosma repens*), Fennel (*Foeniculum vulgare*), Wall-spray (*Cotoneaster horizontalis*), Giant Viper's-bugloss (*Echium pininana*), Portugese Geranium (*Geranium peltatum*) and Giant Herb-robert (*Geranium maderense*). Ornamental plants including African Lily (*Agapanthus africanus*), African Daisy (*Osteospurnum* sp.), Ice plant (*Mesembryanthemum* sp.), House-tree Leek (*Aeonium arboretum*) and Red Valerian (*Centranthus* ruber) are also present. Carpeting the underlying paving are native wildflower species including Bird's-foot Trefoil (*Lotus corniculatus*), Daisy (*Bellis perennis*), Lesser Trefoil (*Trifolium dubium*), Common mouse-ear (*Cerastium fontanum*) and Wild Carrot (*Daucus carota*).

The tall walls and their associated vegetation, the wide lane behind the property and the Sycamore in the adjacent property which obscures the streetlight to the south-west ensures that limited light-spills on to the rear garden.

In summary, the mature garden provides numerous species of shrub and plant that attract a variety of insects which bats may feed upon. The Sycamore and the mature Pittosporums which fall within 20m of the property could also provide sufficient cover for bats to utilise when leaving a roost. These conditions and the lack of spilled light onto the rear garden suggest that the habitat immediately within the application site provides optimal opportunities for bats to forage.

Preliminary Roost Assessment

3.5 External

Vine Cottage is a granite, block-built terraced cottage, which has been extended at the rear (south-east elevation) with a modern block-built, smooth-rendered, flat-roofed single-storey extension, that extends across the whole of the rear elevation. The render on the extension, along with the wooden fenestration is in good condition with no loss of render or cracks throughout and no gaps between the fenestration and the surrounding walls which bats could utilise as a roost. The flat-roof extension is constructed of modern fibre-glass having an approximate pitch of 1-2^0 and is in good condition. It is tied into the main building with lead-flashing, which is tightly formed around the roof and tied well into the building, leaving no opportunities for bats to use as a roost. Sat above the flashing is a layer of mortar, which the original scantle tiles are bedded into (at the level of the eaves). In one part (approximately in line with the rear door) a section of mortar is missing, which could provide access under the tiles and possibly into the main roof for bats (see Photo 2.)

Photo 2.

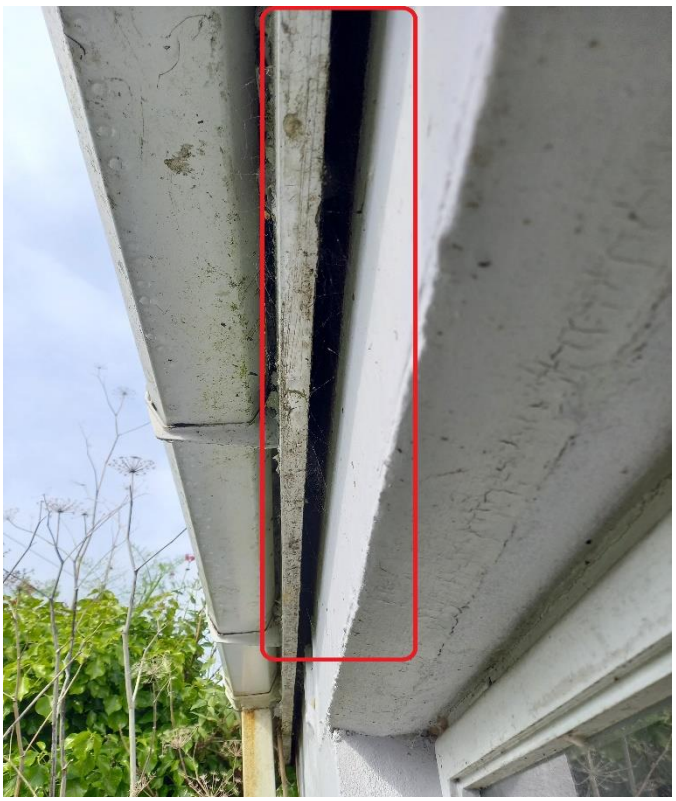

Photo 3.

Wooden fascia is present along the full length of the rear extension. In places the fascia is tightly bound to the render or sits proud of the render where soffit boards exist, particularly centrally and at the

south-east corner, providing no gaps for bats to occupy. In contrast, bats could occupy gaps found in the south-west corner between the fascia and the render (see Photo 3.)

The main south-east roof has an approximate pitch of 25^0, is capped with glazed concrete ridge tiles and contains 3 chimneys and is covered in the original scantle tiles. The mortar bed between the ridge tiles and the scantle tiles is good throughout with no gaps that could afford access to bats into the internal roof space. Two of the three chimneys are concrete rendered and are in good condition, the third is exposed granite and the mortar is all present. The flashing and mortar at the base of the chimneys where they meet the roof is also in good condition. Overall, the chimneys present with no opportunities for bats to use as a roost. A single, large velux window is present centrally and is tied into the surrounding roof structure with lead flashing. This flashing is tightly bound to the roof structure, but at the top right-hand corner above the velux the bed of mortar is missing between the flashing and the scantle tile above, which could provide a potential roost site, or access into the roof space for bats (see Photo 4.).

The remaining mortar bed across the rest of the roof is in relatively good condition, being present for the most part and what gaps are present are too small for bats to occupy. Only one section which was found between the two north-east chimney stacks had a large amount of mortar missing. Here, there is a significant step down between the two layers of tiles, possibly as a result of this being the original roof line. The missing mortar and step down create a longitudinal void which bats could utilise as a roost or for access into the roof space (see Photo 5.).

Photo 4.

Photo 5.

3.6 Internal

Inspection of the internal roof space was limited to the main building, as the single-storey extension did not present with any accessible roof void. The internal roof construction of the main building was open providing an uncluttered environment constructed in a typical 'A'-frame style with the majority of rafters being modern but built with 'lap joints' (see Photo 6.). Remnants of the original rafters, wooden pegs and lap joints were also present, but did not form part of the more recent raised roof height.

Photo 6.

Inspection of the lap joints revealed no obvious staining or claw marks to suggest use by bats. Inspection of the ridge board also revealed no scratch marks and the floor below when inspected revealed no bat droppings. The rafters at the south-west/north-east gable ends of the building did not butt up to their corresponding elevations, limiting the number of crevices within the loft space.

The only droppings found were those of Brown Rat (*Rattus norvegicus*). Inspection of the top of the bottom 'chords' of the rafters revealed no bat droppings either. Cobwebs were present but not numerous, those that were present were coated in a thick layer of dust. No roof-lining was present, exposing the batons and the scantle tiles above. The void between the ceiling below and the top of the baton was filled with dust, ash and wood shavings. No insulation was present throughout.

The roof void was not artificially lit and when lights for inspection were switched off the predominant light entering the loft space came from the north-west aspect of the roof (front elevation of the building). The only light entering the roof space from the south-east was at the location where the tiles at the eaves met the flat roof-extension where it was identified that the mortar between was missing (see Photo 2.) was wooden with no apparent insulation and the internal roof space was illuminated by 2 small windows present in the north-west facing roof, enabling all these features to be viewed with only a small amount of added light.

In summary, it has been shown that all 3 pipistrelle species of bat along with Whiskered bat typically roost within buildings, utilising a very wide variety of features[13, 14 & 19] including, crevices, cracks, holes etc as individuals up to several hundred at a time. The limited number and size of these features found during the survey suggest that the building does not provide the likely conditions which a larger number of bats could utilise on a regular basis, but individuals or small number of bats could use on an opportunistic basis.

In contrast, Brown Long-eared bats prefer to roost in roof voids that provide flight space within their chosen roost, or roofs that are divided into several smaller compartments. Brown Long-eared bats also typically roost between the joints where the rafters meet the ridge board, or along the ridge board itself[15]. Brown Long-eared bats also show high roost fidelity where it would be expected to see concentrations of droppings[16], which was not found during the roost assessment. Leisler's bat in contrast to the other species is a typical tree dwelling species, particularly during the non-breeding season with roosts typically found in cavities such as mechanical breaks, rot cavities and behind loose bark of large live trees in open conditions[17 & 18]. However, it has been shown that nursery roosts of Leisler's bat show a limited preference for buildings, but only those lined with roof felt and constructed of stone, rather than of block and brick[17].

Vine Cottage, therefore presents with one or more features suitable for a small number of roosting crevice-dwelling bats, which could be used opportunistically.

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 built[20]. During this survey, evidence of nesting birds was found, associated with the wall plate with access around the fascia of the front (north-west) elevation of the property and most likely to be House Sparrow or Starling. The current nests appear empty, 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 internal works at Vine Cottage it is unlikely that suitable nesting habitat for species will remain. It is therefore recommended that mitigation measures to replace lost nesting features are incorporated into the design.

House Sparrows nest communally, and nest boxes should accommodate this, either through the installation of a single purpose-built nest box comprising several individual chambers with separate entrances, or the installation of 3 or more nest boxes in close proximity. These should be mounted on the wall of the house, if possible, at a height of 3m above the ground and clear of any vegetation. Boxes can be sourced online. https://www.nhbs.com/search?q=house+sparrow+nest+box&qtview=181093

Starlings require larger nest boxes with entrances suited to their size. These could be mounted on the house or in retained trees in the garden if desired. Boxes can be sources online. https://www.nhbs.com/search?q=starling%20nest%20box&hPP=60&idx=titles&p=0&fR%5Bdoc_s%5D%5B0%5D=false&fR%5Bhide%5D%5B0%5D=false&fR%5Blive%5D%5B0%5D=true&qtview=162117

5. Assessment and recommendations (bats)

5.1 Survey constraints

The survey was undertaken at a time of year suitable for undertaking preliminary bat roost assessments. It was not possible to survey the whole of the proposed development and during the visit only a limited inspection of the internal roof space was possible, due to a combination of the pitch of the south-east roof and the original external wall, which created a narrow void which was not possible to pass through.

5.2 Further survey requirements

Vine Cottage is considered to have 'low' potential to support roosting bats (see Table 1.). This assessment is based on the occurrence of the following features within or immediately adjacent to the site:

- The development has one or more potential roost features suitable for a small number of crevice-dwelling bat species such as Common or Soprano Pipistrelle. Due to their size and locality these features might only be used opportunistically.
- The development is situated such that bat species have access via the use of dark corridors and other commuting routes to suitable foraging habitat that falls within the typical core sustenance zones of all 6 species of bat. The surrounding habitat, its lack of proximity to larger tracts of woodland and the lack of typical roost characteristics appears to be less suitable for Brown Long-eared Bat and Leisler's Bat.
- Not all aspects of the building could be inspected therefore no evaluation of their roost potential, or a search for direct evidence was possible.

To confirm whether this complex hosts roosting bats, further surveys (see section 5.3) carried out during the bat active season are recommended.

5.3 Presence or absence surveys

The Bat Conservation Trust's Bat Survey Guidelines[1] (referred to by Natural England in their advice to planning officers) state that buildings with 'low' bat roost potential are those which could be used by individual bats opportunistically, or do not provide sufficient space to be used by a larger number of bats. The features present at Reculver are large enough to potentially host a small number of roosting bats. For this reason, two survey visits are recommended between May and September during the bat active season. These surveys should consist of at least one dusk emergence survey and a separate dawn re-entry survey.

The surveys should take place in optimum weather conditions, to maximise the likelihood of recording bats, with dusk air temperatures exceeding 10^0C and not rain or strong wind.
Dusk emergence surveys should commence 15 minutes before sunset and continue for 1.5 – 2 hours after sunset. A pre-dawn re-entry survey should commence 1.5 – 2 hours before sunrise and continue until 15 minutes after sunrise.

Sufficient surveyors should be used on each survey so that all aspects of the building can be viewed at one time, therefore the building should be adequately surveyed by three surveyors. Surveyors should be positioned no more than 50m away from the buildings with an awareness of the likely exit/access points and potential roost locations. Each surveyor should be equipped with a bat detector and recording equipment and should count the number and species of bats and their activity in a defined area.

If no roosts are found during the presence or likely absence surveys, then no further surveys would be required.

5.4 Mitigation

To comply with planning policy and wildlife legislation (both domestic and European) it will be necessary to ensure that following the development the "favourable conservation status" of bats will be maintained. This means that, where a roost will be lost, appropriate mitigation needs to be provided.

If roosts are found a detailed roost characterisation survey would be required to establish how bats use the roost, the intensity of use and what features and characteristics of the roost and the surroundings are important. The information gained would allow an accurate assessment of the potential impacts of the development on bats and inform the requirement of a European Protected Species Mitigation licence, to be considered and issued by Natural England prior to the works commencing.

If roosts are found, then a data search will be required to support the European Protected Species Mitigation licence if an application is required. Information should be obtained in relation to bat roost sites, or any sites of nature conservation importance designated for their bat interest within or near to the proposed development site. When requesting information, a minimum search radius of 2km from the site should be applied.

6. Summary

Vine Cottage has the potential to host a small number of cavity dwelling species of bat such as Common and/or Soprano Pipistrelle and possibly Whiskered Bat. In contrast, the lack of typical roosting features and distance from suitable habitat reduces its roost potential for Leisler's and Brown Long-eared Bats.

To assess whether bats roost in the building, two further surveys are recommended; one dusk emergence survey carried out between May and September. If bats are found to be roosting in the dwelling, then, the status of the roost(s) will need to be identified. Further surveys will then be required to inform a mitigation strategy which would need to be implemented.

Other than bats, if the recommendations given in this report are adhered to, there should be no further ecological constraints to the proposals.

7. Bibliography

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