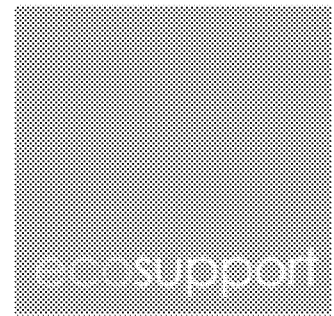


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26 Downview Road Barnham Phase II Bat Surveys

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Table of Contents

1.0 INTRODUCTION	4
1.1 Background.....	4
1.2 Site Description & Location.....	4
1.3 Brief Description of the Proposals	4
2.0 RELEVANT LEGISLATION & POLICY	5
2.1 Legislation.....	5
2.1.1 <i>The Conservation of Habitats and Species Regulations (2017)</i>	5
2.1.2 <i>The Wildlife and Countryside Act (1981) (as amended)</i>	5
2.1.3 <i>The Countryside and Rights of Way Act (2000)</i>	5
2.1.4 <i>NERC Act</i>	5
2.2 Policy	5
2.2.1 <i>National</i>	5
2.2.2 <i>Local – Arun Local Plan</i>	7
3.0 METHODS	10
3.1 Emergence Surveys.....	10
3.2 Limitations.....	10
4.0 RESULTS	11
4.1 Emergence / Re-entry Surveys.....	11
5.0 EVALUATION, IMPACTS & RECOMMENDATIONS	13
5.1 Summary & Evaluation of Results.....	13
5.1.1 <i>Foraging and Commuting</i>	13
5.1.2 <i>Roosting</i>	13
5.2 Likely Impacts in the Absence of Mitigation	13
5.2.1 <i>Foraging and Commuting Bats</i>	13
5.3 Recommendations.....	13
5.3.1 <i>Sensitive Lighting</i>	13
5.3.2 <i>Roof Underlining</i>	14
5.4 Enhancements	14
5.4.1 <i>Bat Boxes</i>	14
6.0 REFERENCES	15

Executive Summary

A residential development of a new dwelling is proposed at 26 Downview Road, Barnham for which full planning permission is sought.

Ecosupport Ltd was instructed by Ms Vanessa Barker to undertake Phase II Bat Surveys on the current dwelling after the building was considered to hold **Moderate** potential for roosting bats in the Initial Ecological Assessment (Ecosupport Ltd, 2018). The aim of the Phase II Surveys were to identify the presence/ absence of bat roosts in the dwelling and to characterise any roosts identified.

Following the conclusion of the above survey work, the dwelling is not considered to support any bat roosts, however it is considered the works will have a possible minor adverse impact on local foraging and commuting bat species in the absence of mitigation / compensation.

Recommendations and enhancements are detailed in the report to minimise the impact to foraging and commuting bats using the site post- development.

1.0 INTRODUCTION

1.1 Background

This document outlines the results of the bat surveys carried out by Ecosupport Ltd in May 2019 required in support of a planning application for a new development at 26 Downview Road. These surveys were recommended within the Phase I report prepared by Ecosupport Ltd (2018) based on the presence of suitable habitat for roosting bats within the dwelling.

1.2 Site Description & Location

The site comprises of the 26 Downview Road main building, garage and associated grounds located off Downview Road, Barnham PO22 0EG (centred on grid reference SU 95445 05455) (Fig 1). The site is bounded by detached residential dwellings and associated grounds on all sides with Downview Road to the east and Ewens Gardens bounded to the north and north west of the site. The immediate surrounding environ is semi-rural with the site residing on the edge of Barnham village.

Figure 1. Google aerial image (2018) of the site with immediate surrounding environs.



1.3 Brief Description of the Proposals

It is understood the proposals involve the demolition of both the dwelling and garage in preparation for a new dwelling.

2.0 RELEVANT LEGISLATION & POLICY

2.1 Legislation

2.1.1 *The Conservation of Habitats and Species Regulations (2017)*

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

2.1.2 *The Wildlife and Countryside Act (1981) (as amended)*

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

2.1.3 *The Countryside and Rights of Way Act (2000)*

This Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 *NERC Act*

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

2.2 Policy

2.2.1 *National*

The revised National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) outlines a number of more robust measures to ensure the impacts of development upon the Country's biodiversity interests are appropriately mitigated against whilst also seeking to achieve a 'net gain'. The key policy test relating to developments and biodiversity is outlined below.

Chapter 15. Conserving and Enhancing the Natural Environment

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

171. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

172. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development⁵⁵ other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.*

173. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

Habitats and Biodiversity

174. To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

175. When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁵⁸ and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

176. The following should be given the same protection as habitats sites:

- a) potential Special Protection Areas and possible Special Areas of Conservation;
- b) listed or proposed Ramsar sites; and
- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

177. The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

2.2.2 Local – Arun Local Plan

Policies ENV SP1, ENV DM1, ENV DM3 and ENV DM5 (Natural Environment, Designated Sites of Biodiversity or Geological Importance, Biodiversity Opportunity Areas, and Development

and Biodiversity) of the Arun Local Plan 2011-2031 include a requirement to protect habitats important to the biodiversity of the district, including statutory (such as SPAs) and non-statutory (such as Sites of Importance for Nature Conservation SINC)s designated sites. It also states that:

'Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.6 that are recognised for the species and habitats contained within them.'

'a. Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as listed in Tables 17.1 - 17.7 or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Consideration will be given to the exact designated features present on the site, their scarcity/rarity and recognition of the protection offered by their existing status. Exceptions will only be made for those with the highest value where the following can be demonstrated:

- i. There is no alternative solution (which shall be adequately demonstrated by the developer).*
- ii. There are reasons of public health or public safety or*
- iii. There are benefits of primary importance to the environment or*
- iv. There are imperative reasons of overriding public interest.*

Notwithstanding the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

- 2. In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to;*
 - i. The European, National or Local status and designation of the site;*
 - ii. The nature and quality of the site's features, including its rarity value;*
 - iii. The extent of any adverse impacts on the notified features of interest;*
 - iv. The need for compensatory measures in order to re-create remaining features of habitats on or off the site.*
- 3. Where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.'*

'Development shall:

1. *Retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones*
2. *Be designed in order to minimise disturbance to habitats*

Development proposals that do not reasonably address opportunities for enhancing these through their design, layout and landscaping or access/management shall not be permitted. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified on the Policies Maps or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence of that species and habitat and impact(s) that development may have on the BOA.'

'Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.

Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person.

All developments shall have regard to Natural England's standing advice for protected species.'

3.0 METHODS

3.1 Emergence Surveys

The emergence / re-entry surveys on the dwelling were undertaken by Rebecca Gane, Sam Wilson, Robert Todd and Amy Cooper, with 2 surveyors on each survey. Both heterodyne (Bat Box Duet and Elkon Batscanner) and time expansion (Anabat Express) detectors were used for identifying species calls. The surveys began approximately 15 minutes prior to sunset and continued until approximately an hour and 15 minutes after sunset.

- Time of call registration
- Species (if possible to identify using heterodyne detector)
- Location / activity
- Direction of flight (if seen)

3.2 Limitations

There were not considered to be any significant limitations to the Phase II surveys with both surveys completed during the recommended survey period and weather conditions and the entire externals of the dwelling surveyed.

4.0 RESULTS

4.1 Emergence / Re-entry Surveys

The dwelling was considered to be of **Moderate** roost potential with two surveys required to determine presence / likely absence. The results of these surveys are provided below (Tables 1 and 2).

Table 1. Relevant information from the emergence surveys on the dwelling.

Date	Temp (°C)	Cloud Cover (%)	Wind (beaufort scale)	Start time	Finish time	General information
01/05/2019	13	50	2	20:10	21:40	Dry and humid but cool
16/05/2019	11	0	3	20:31	22:00	Dry, clear, cool

Table 2. Results from the emergence surveys on the dwelling. HNS = Heard Not Seen

Survey Date	Recorded Bat Roost	General Bat Activity on Site		
		Species	First Pass	Last Pass
01/05/2019	Summary 0 emergences	Common Pipistrelle	20:39	21:50
		Soprano Pipistrelle	20:50	21:45
		Serotine	21:20	21:31
		<u>Summary:</u>		
		The first registration was from a Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) across the rear garden towards Ewens Gardens to the north. This was followed by another Common Pipistrelle commuting past the dwelling along Ewens Gardens firstly from east to west and then west to east. Common Pipistrelles dominated much of the onsite bat activity with a total of 15 HNS passes between 20:59 and 21:50, primarily concentrated to the north and east of the dwelling and one observed foraging in the rear garden at 21:42. The first Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) registration was at 20:50 with this HNS to the west of the rear garden. A further 3 Soprano Pipistrelle passes were recorded with 1 observed foraging in the rear garden at 21:42 and a further 2 HNS commuting past the east of the house with one commuting into the rear garden. There were a total of 3 registrations of Serotines (<i>Eptesicus serotinus</i>), the first foraging in the rear garden and then commuting southwards at 21:29, the second HNS to the		

		north east of the dwelling at 21:30 and finally one was observed commuting from the south east westwards across the rear garden.		
16/05/2019	<u>Summary</u> 0 emergences	Species	First Pass	Last pass
		Common Pipistrelle	21:01	21:51
		Soprano Pipistrelle	21:33	21:41
		Serotine	21:50	21:50
		<u>Summary:</u> As per the first survey, the first registration was from a HNS Common Pipistrelle on the north eastern corner of the dwelling. Subsequent Common Pipistrelle activity was once again primarily concentrated to the north and east of the dwelling with a total of 10 records foraging and commuting in this area between 21:18 and 21:51. An additional Common Pipistrelle was observed foraging in the rear garden at 21:40. A total of 4 registrations of Soprano Pipistrelles were heard between 21:33 and 21:41, with the first commuting from west to east past the north of the dwelling, a second HNS and a third flying from the west before briefly foraging in the front garden. A single Soprano Pipistrelle was observed foraging in the rear garden at 21:41. A single Serotine was observed commuting over the dwelling towards the north east at 21:50.		

5.0 EVALUATION, IMPACTS & RECOMMENDATIONS

5.1 Summary & Evaluation of Results

5.1.1 Foraging and Commuting

In general, bat foraging and commuting behavior was more concentrated to the north and east of the dwelling in line with the hedgerows bounding the northern boundary of the site. Many bats observed were commuting with the occasional individual stopping to briefly forage in the front and rear gardens. Activity on site was dominated by Common Pipistrelles with a few Soprano Pipistrelles, and a maximum count of 3 Serotines.

5.1.2 Roosting

Based on the results of the Phase I Survey and follow up emergence surveys, the dwelling is not considered to be used by roosting bats and no further survey work is considered necessary.

5.2 Likely Impacts in the Absence of Mitigation

5.2.1 Foraging and Commuting Bats

If the development results in an increase in outdoor lighting, this could affect the behavior of commuting and, particularly, foraging bats using the site. Despite this, the bats species noted using the site are generally more light tolerant than others, therefore it is considered a **minor adverse impact** is possible on local bat species using the site.

5.3 Recommendations

5.3.1 Sensitive Lighting

A new document (*Guidance Note 08/18 Bats and Artificial Lighting in the UK*) has recently been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented provided there are no conflicts with any legal limits of illumination (in which case a suitable compromise should be reached). *'Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:*

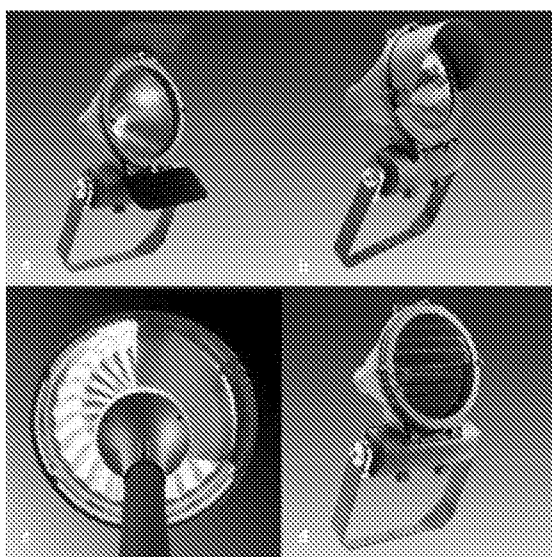
- *All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.*
- *A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.*
- *Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).*
- *Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.*
- *The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of*

unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.

- *Column heights should be carefully considered to minimise light spill.*
- *Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.*
- *Luminaires should always be mounted on the horizontal, ie no upward tilt.*
- *Any external security lighting should be set on motion-sensors and short (1min) timers.*

As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed' (Fig 2).

Figure 2. (a) Shield 'barn doors' (b) cowl hood; (c) shield and; (d) external louvre Images from ILP (2018).



5.3.2 Roof Underlining

To cover for the eventuality that the new dwelling may become suitable for bats in the future, roofing felt should be utilised as opposed to Breathable Roof Membrane (BRM) or other fibrous materials for all roofing works as there is considerable evidence to suggest that such material poses a threat to bats occupying a structure due to entanglement in the fibres (Natural England, 2015).

5.4 Enhancements

5.4.1 Bat Boxes

To act as a biodiversity enhancement, two Schwegler WI Winter Roost boxes will be erected on retained trees on site. These boxes are manufactured from long-lasting Woodcrete which will not rot, leak, crack or warp, and will last for at least 20- 25 years. The boxes should be placed approximately 3-5m off ground level and south facing where possible.

6.0 REFERENCES

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