BARN AT BULKINGTON, WILTSHIRE

PHASE 1 BAT SURVEY

For

HAYES GFS LTD

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Prepared by

MALFORD
Environmental Consulting
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Contents

1 Introduction

The client is working towards planning permission from Wiltshire Council to rebuild and convert an agricultural barn into a commercial storage unit. The barn is located ca. 1km north-west of Bulkington, Wiltshire. The barn sits on hard-standing, and is surrounded by farmland mainly comprising arable land.

Malford Environmental Consulting was commissioned to undertake a Phase 1 (bat roost inspection) and protected species survey of the building. The survey was undertaken by Dr Stephen Dangerfield and Jonathan Adey, who are both Natural England licensed bat workers (NE Class Licence Level 1 WLM-CL17), Chartered Environmentalists and full members of the Chartered Institute of Ecology and Environmental Management.

The survey concentrated on identifying the presence of roosting bats, and other protected species (i.e. nesting birds), inhabiting or using the barn. This report sets out the findings of the survey, and where necessary makes recommendations for further survey and/or actions to ensure the proposed development complies with nature conservation legislation and biodiversity policy.

Section 40 of the Natural Environment and Rural Communities Act 2006 (NERC Act) requires all public bodies to have regard to biodiversity conservation when carrying out their functions. Under the NERC Act the local planning authority should not determine a planning application if there are any surveys outstanding for European protected species. The National Planning Policy Framework (NPPF) requires planning to protect and enhance the natural environment providing net gains for biodiversity (Para 109) by encouraging opportunities to incorporate biodiversity in and around developments (Para 118). This is reflected in Wiltshire Council's Core Policy 50.

2 Scope of Work and Methodology

The Phase 1 bat roost inspection was undertaken on 24th November 2017. The survey was undertaken by licensed bat surveyors in accordance with Bat Conservation Trust guidelines[1]. The survey included an internal and external inspection of the building looking for signs of, or the potential for the building to support, roosting bats. A ladder, high-powered torch and binoculars were all available and were used where necessary to examine spaces, crevices and other small spaces suitable for roosting bats to occupy.

Evidence of bat presence/occupation includes:

- Droppings.
- Urine staining.
- Feeding remains (such as moth wings).
- Smudge marks and scratches around potential bat roost holes.
- Live roosting bats, bat skeletal remains or dead bats.

Conditions indicating an absence of bats can include the presence of spider webs, bird nesting material, wasp nests (especially blocking potential entrances) and live sheltering/hibernating butterflies/moths.

The potential of the building to support roosting bats was established using the following scale:

1. **Negligible potential/not a roost**: no suitable features
2. **Low potential**: one or more suitable features that could be used by individual bats opportunistically
3. **Moderate potential**: one or more suitable features that could be used by bats, but unlikely to support a roost of high conservation status
4. **High potential**: one or more suitable features that are suitable for use by larger numbers of bats on a regular basis
5. **Confirmed roost**: evidence of current/recent bat occupation

Signs for the presence of nesting birds using the building were recorded when present.

[1] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn*). The Bat Conservation Trust, London

3 Results

3.1 Building description

Photographs of the building exterior and interior are presented in Appendix A.

The building is a single-storey agricultural barn, approximately 10m long by 5m wide, orientated north to south. The barn is constructed with a timber frame, and the walls are mainly brick with the upper part of one gable end wall constructed from concrete blockwork, which is all sealed. One side wall is single-skin timber ship-lap, and the northern end of the barn is completely open.

The roof is pitched and clad in corrugated metal sheets with metal ridge capping. There is no roof liner or insulation, and the roofing sheets attach directly to timber battens that affix to the timber rafters, that attach to purlins and trusses. All roof timbers are close-fitting leaving no gaps. There is a single, narrow ridge board, but this sits lower than the roof apex making it very open and leaving no gaps. There are numerous gaps along the eaves, around gable ends and through walls, which are lead directly into the building interior.

There are no gaps/recesses available for crevice-dwelling bats to exploit associated with the exterior or interior of the barn. There are exposed roof timbers and the ridge board that could provide perches for hanging/clinging bats to potentially exploit, although the interior of the barn is very open, light and draughty making these features largely unsuitable for day roosting bats. However, timber planks have been stacked between the southern-most trusses creating slightly darker conditions at the roof apex.

3.2 Bats

Within the barn two small accumulations of bat droppings were found on the floor within the southern part of the barn, being located under the timber boards stacked across the roof trusses. In total there were approximately 40 droppings of relatively recent origin. Based on visual diagnostics, the droppings are identified as being from lesser horseshoe (*Rhinolophus hipposideros*). However, there were no live bats, no dead bats and no feeding remains. Furthermore, most of the ridge board is webbed.

It is concluded that the barn is a known roost (Category 5) for lesser horseshoe bat. Given the physical structure of the barn, the internal environmental conditions, the number of droppings found, and the lack of other bat signs (i.e. no live bats and no feeding remains) it is considered highly likely that the barn interior is being used as an occasional summer night roost for an individual bat. Based on the findings combined with previous experience/knowledge it is also very likely that the bat is only using the barn towards the end of the season (i.e. early autumn), which is typical behaviour of this species. A preliminary assessment of the roost type and status is provided in Sections 4.1.2 and 4.1.3.

Further Phase 2 bat survey and assessment is required to confirm or update the status of this roost (see Section 5).

3.3 Other protected species

Within the barn there was one disused swallow (*Hirundo rsutica*) nest and one disused pigeon/dove (*Columba* sp) nest, both located on the roof trusses.

All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act, 1981 as amended. This act makes it an offence to:

- Intentionally, or recklessly, kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.

There are no other protected species issues associated with this building or the immediate surrounding land.

4 Conclusions

4.1 Bats

4.1.1 Conservation status of lesser horseshoe bat

The lesser horseshoe bat is rare in the British Isles and is largely confined to Wales, southwest England (including Wiltshire) and western Ireland. The species showed a decline in numbers and distribution in the last century, although the National Bat Monitoring Programme (NBMP) Population Trends shows that the species population is increasing in the UK (since at least 1997). Lesser horseshoe bat is listed as Species of Principal Importance by the Secretary of State under Section 41 of the NERC Act 2006. The British pre-breeding population was estimated at 14,000 in 1995 (7000 in England, 7000 in Wales) and 18,000 in 2006 (9000 in England, 9000 in Wales) (BCT, 2011).

4.1.2 Preliminary roost assessment

The barn interior is a confirmed roost for lesser horseshoe bat, with evidence from the Phase 1 survey indicating an occasional summer night roost.

The physical structure of the barn, the sub-optimal internal environmental conditions and the absence of large accumulations/numbers of droppings within the barn indicates that the building does not support a breeding (maternity/mating) or winter hibernation roost.

Based on the findings from the Phase 1 survey the significance of the bat roost has been classified in accordance with the site assessment recommended in in industry-standard bat survey and mitigation guidelines[2,3]. The roost is currently classed as an occasional 'summer night roost' for 'very small numbers of rarer species (still widespread in Wiltshire) (not a maternity/mating or hibernation site)', and therefore this roost is considered to be of low conservation significance and an ecological resource for bats that is important in a Local (Site) context.

4.1.3 Preliminary roost impact assessment

The barn is a confirmed bat roost for lesser horseshoe bat. The rebuilding/conversion of this barn will result in the loss of a roost/place of rest, and could also result in the injury/death/disturbance to bats if undertaken without appropriate safeguards, which would contravene legislation (see Appendix B).

Currently this is predicted to have a 'low' adverse impact[4] as work will not affect a roost of high conservation status (i.e. not maternity, mating or winter hibernation roost). The planned work does not pose a threat to the favourable conservation status of this species and will not affect the ability of this species to maintain its current range and distribution in the locality.

Nevertheless, additional survey is required to confirm the status of the roost (see Section 5.1). As such the final mitigation strategy to protect bats can only be determined after the follow-on survey has been completed, although preliminary mitigation concepts are set out in Section 6.1.

[2] English Nature (2004). Bat Mitigation Guidelines
[3] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn*). The Bat Conservation Trust, London
[4] English Nature (2004). Bat Mitigation Guidelines

Conversion of the barn will be covered by a Natural England licence under the provision of the Conservation of Habitats and Species Regulations 2010 will be required to undertake the demolition (see Section 5.2).

4.2 Nesting birds

There is evidence of bird nesting associated with the barn. Appropriate mitigation to ensure the protection of nesting birds is described in Section 6.2 below.

5 Bat Survey and Licensing

5.1 Phase 2 bat survey

The barn is classed as a known bat roost for lesser horseshoe bat given the findings from the Phase 1 survey. As such further survey is not required to determine presence-absence, but instead is needed to allow roost characterisation to be completed and to confirm or answer the following questions:

- Which bat species use the site for roosting?
- How many bats does the roost support?
- When are bats present?
- What type of roost is it?

The Bat Conservation Trust bat survey guidelines[5] state that survey effort to establish roost characterisation is site specific, and that surveys should be repeated until the information to answer the above questions is reliably collected, although appropriate methods and equipment should be used to minimise the number of repeat visits.

A Natural England licence will be required (see Section 5.2) and the minimum amount of survey effort to underpin the licence application is usually three surveys. Therefore, the following survey and assessment scope is recommended (which has been discussed with a NE licensed bat worker very experienced in licensing):

- Three daytime inspections undertaken during May and June, with visits spaced at least 3 weeks apart. The daytime inspections will examine the barn interior for live bats, as well as monitoring the number and location of any fresh droppings during the survey period.
- Deployment of a static bat box and data logger within the barn interior, which will be left for a minimum of two weeks to remotely record any bat activity (species, timing and frequency).

The results of the Phase 1 bat inspection, Phase 2 bat inspections/monitoring, and analysis of any data recorded by the static box will determine the roost type, allow final evaluation of the roost, allow level of impact to be confirmed, and will allow an appropriate mitigation and enhancement strategy to be finalised.

The results, conclusion and recommendations will be presented within an encompassing bat survey and assessment report.

5.2 Natural England licence

The rebuilding/conversion of the barn at Bulkington, which supports a known bat roost, must be undertaken under a Natural England licence, under the provisions of the Conservation of Habitats and Species Regulations 2010 (as amended).

A licence from Natural England can only be applied for once full planning permission has been granted.

The project can only progress where the licence application is considered to meet the requirements of the following three tests:

[5] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn*). The Bat Conservation Trust, London

1. The consented works must be for preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
2. There must be no satisfactory alternative; and
3. The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range

Although Natural England are the licensing authority, recent case law (*R (on the application of Simon Woolley) v Cheshire East Borough Council, June 2009*) has established that planning authorities now need to consider all three tests before planning permission affecting bats can be granted.

6 Mitigation and Enhancement

6.1 Bats

6.1.1 Introduction

The final mitigation strategy for the loss of the roost will be defined after Phase 2 bat surveys/assessment have been completed. However, initial mitigation concepts have been defined based upon industry-standard bat mitigation guidelines[6] that establish an appropriate level of mitigation for adverse impacts on a low conservation status roost as:

- *Loss of a summer night roost for low numbers of rarer species (e.g. lesser horseshoe bats):* Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements.

6.1.2 Construction timing and supervision

As this is a summer, non-breeding roost the rebuilding of the barn can be undertaken at any time of year.

If the barn is re-built between 1st March and 30th October then immediately prior to work commencing the barn will be inspected (in the daytime) by a NE licensed bat worker/handler. If bats are found the licensed bat worker will exclude bats from the roost using best practice methods in accordance with the NE licence, which will include either natural dispersion using manipulation of physical/environmental conditions within the roost or capture/translocation of bats.

If the barn is re-built during the months November to February, inclusive, then a pre-inspection will not be required.

If during the work, when the licenced bat worker is not on-site, a bat is discovered that appears to be injured or distressed, then the animal should be carefully placed in a small box (e.g. shoe box) by either handling the bat with thick gloved hands or covering the bat with the box and sliding a thin piece of cardboard under to create a floor to the box. A clean piece of cloth loosely crumpled will be placed in one corner of the box (to allow the bat to crawl under and hide), a few small air holes will be put into the lid of the box, and a very shallow container (e.g. foil milk bottle top) of water will be placed in one corner of the box.

6.1.3 Replacement night roost habitat (mitigation)

A replacement structure providing suitable night roosting habitat for lesser horseshoe bats should be provided on-site as part of the new development.

This could be a simple timber structure (e.g. shed, lean-to etc.) that has a large flyway (one end open) and exposed roof timbers. The structure should be constructed with a timber frame of a minimum 2m wide and 3m long. The structure could have a pitched or mono-pitched roof, which is at least 1m high at the apex or top of the roof slope.

If roofing felt is used within the structure it should be a traditional hessian reinforced bituminous roofing felt (BS747) with a sand finish on its upper surface to allow bats to cling onto (modern roof liners have a smooth surface that bats find hard to grip onto or can shred

[6] English Nature (2004). Bat Mitigation Guidelines

and tangle/trap bats). Preservative treatment of timbers, other than pressure treatment, will be avoided in the bat attic.

The roof can be clad in any roofing material. Ideally the structure will be open-fronted or constructed with a large flyway entrance. Lines of flight to the entrance will be maintained at all times. External lighting will be avoided adjacent to or directed at the entrance.

An alternative night roost design, which is also mobile, has been produced by the Vincent Wildlife Trust and is reproduced in Appendix C for comparative/guidance purposes. This is a smaller unit approximately 1.8m long, 2.2m wide and 1.8m high, raised approximately 1m off the ground, with a bat access flyway measuring 75cm wide by 50cm high.

The replacement night roost habitat does not need to be constructed in advance of the re-build of the existing barn.

As the planned work is only affecting a (non-breeding and non-hibernation) summer night roost of low conservation value there is no requirement for post-scheme monitoring of the new bat roosting features.

6.1.4 New bat roosting habitat (enhancement)

A single bat roosting brick, which is integrated into the fabric of an external wall, should be installed at the apex of the south-facing gable end wall of the new building to provide roosting habitat for crevice-dwelling bat species including pipistrelle bats (see photo which shows bat brick *in situ*).

No external lighting should be used adjacent to or shine directly at the entrance slots/roost. Clear lines of flight to the bat roost brick entrance will be maintained at all times.

Alternative bat bricks can be viewed at www.nhbs.com, with one example shown on the right. This is a Habibat bat brick for installation into cavity wall, which can be faced with brick, stone, render or timber cladding.

6.2 Nesting birds

To ensure compliance with the Wildlife and Countryside Act, 1981 (as amended) the following actions must be undertaken:

- Rebuilding (especially roof removal) or sealing the barn should be undertaken outside the bird breeding and fledgling season (i.e. between 1st September and 28th February). This action will not require an ecological inspection for nesting birds prior to work commencing.
- If building work needs to be undertaken inside the bird breeding and fledgling season, which is 1st March to 31st August, preferably access points into the barn interior should be blocked or sealed outside the bird nesting season to prevent use by birds. Prior to demolition an inspection for nesting birds should be undertaken. The presence of nesting birds and/or fledglings may result in some work being delayed to allow birds to vacate.

Regardless of timing of work, if nesting birds are found on-site during work then work should cease and an ecologist consulted.

Appendix A Site Photographs

Barn exterior showing east and southern elevations

Barn southern gable end (left) and open northern gable end (right)

Internal roof structure of the barn with stacked timber on rafters at southern end

Lesser horseshoe droppings on floor at southern end of the barn

Appendix B Bat Legislative Framework

Bats (Chiroptera) are afforded protection through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and the Conservation of Habitats and Species Regulations 2010 (SI 2010/490). Section 41 of SI 2010/490 makes it an offence to:

- Deliberately capture, injure or kill a bat [S41(a)];
- Deliberately disturb a bat [S41(b)]; or
- Damage or destroy a breeding site or resting place of a bat [S41(d)].

Disturbance includes any action which is likely to:

- Impair their ability:
  - To survive, to breed or reproduce, or to rear or nurture their young; or
  - To hibernate or migrate
- Affect significantly their local distribution or abundance

In relation to S41(d) an offence has been committed if the person could reasonably have avoided the damage to or destruction of the breeding site or resting place concerned.

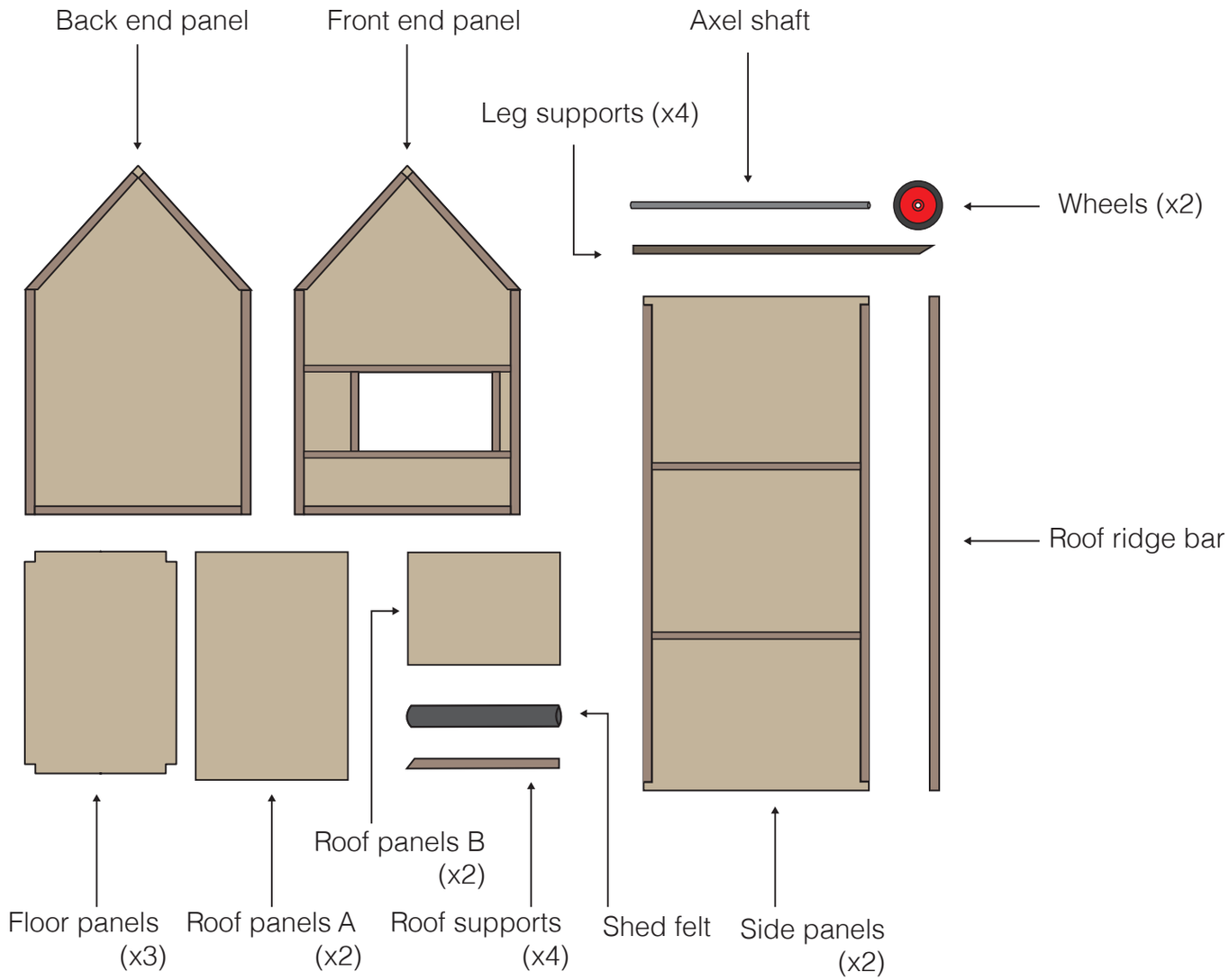
The UK BAP lists all bat species as being of Conservation Concern, and lists six species of bat (Bechstein's, noctule, soprano pipistrelle, brown long-eared, lesser horseshoe and greater horseshoe) as priority species. The Wiltshire BAP has a Species Action Plan covering all bats.

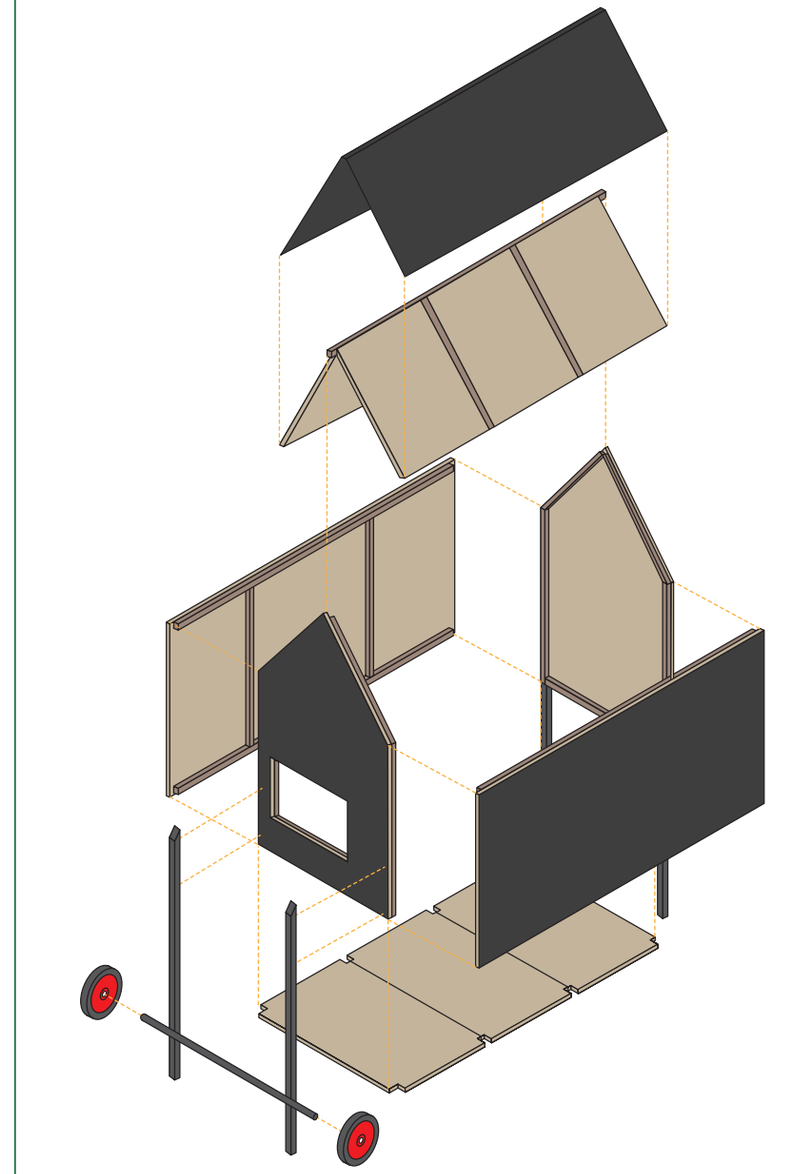
Developments that compromise the protection afforded to bats under the provisions of the Conservation of Habitats and Species Regulations 2010 will require a licence to do so lawfully from Natural England (NE). As part of the licensing process the results of an appropriate level of bat survey and subsequent mitigation strategy must be submitted to Natural England.

Appendix C Night Roost Design (Vincent Wildlife Trust)

Cathedine Night Roost Design

The Vincent Wildlife Trust





Cathedine Night Roost Design

The Vincent Wildlife Trust