

**Bat Mitigation Design for,  
Alcock Estate Beneficiary.  
Building at,  
Rakeway Farm,  
Rakeway Road,  
CHEADLE,  
Staffordshire,  
ST10 1RA.**

**Map Ref SK 0206 4206  
17<sup>th</sup> January 2024.**

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**Natural England License Number 2016-23395-CLS-CLS**

**Natural England Bat Mitigation Class License**

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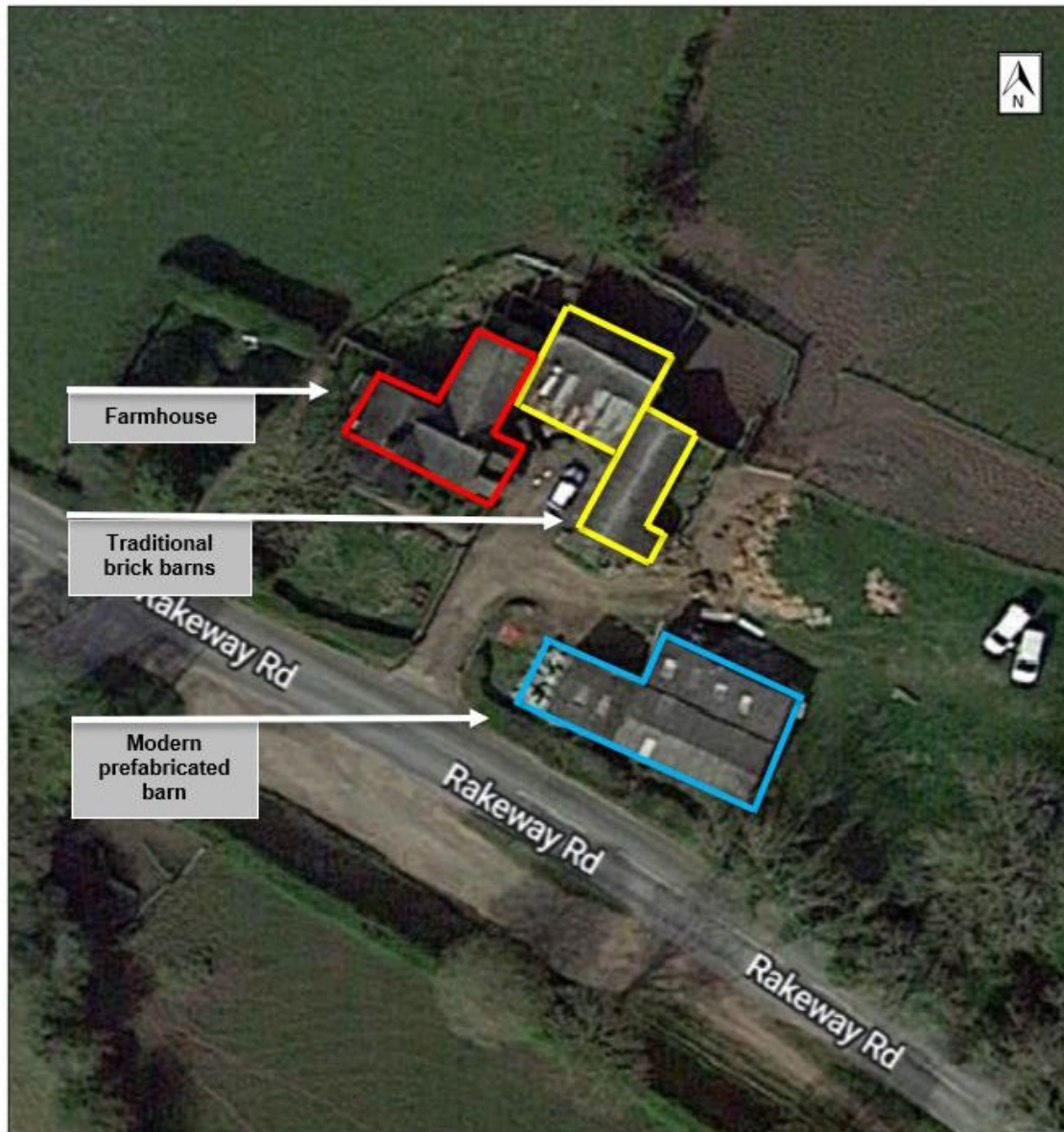
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## **Summary.**

- There is evidence of bats using the buildings as a place of shelter.
- There was evidence of bats using the steel portal framed agricultural building at Rakeway Farm. This has been recorded by Evolution Ecology, see Appendix 2.
- Brown long eared bats were recorded using the building when emergence surveys were undertaken on the 10<sup>th</sup> August, 24<sup>th</sup> August and the 1<sup>st</sup> September 2022..
- Mitigation for the loss of the bat roosting in the building can be created in a bat loft on site with opportunities for crevice dwelling bats within the bat loft.
- A method of working must be put in place with contractors to ensure that in the event of bats being found they will not be injured.

### Introduction.

An inspection and presence/absence surveys undertaken by Evolution Ecology in 2022 recorded 5 Brown long eared bats and 4 Common pipistrelle bats emerging from the 'modern prefabricated barn'. This is a steel portal framed agricultural building which is now to be converted to a dwelling under Part Q legislation. The building is being used as a Day roost by a small number of Common pipistrelle bats and a small Maternity roost of Brown long eared bats. This report proposed designs for the Bat Mitigation which will be necessary in order to obtain a mlcense to undertake the development, should planning permission be granted.



## **Legislation concerning bats.**

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.

The Conservation and Habitats Regulations 2010 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as 'European protected species of animals'

Under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 it is illegal to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species (EPS),
- Deliberately disturb wild animals of an EPS (affecting ability to survive, breed or rear young) – disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
- Deliberately disturb wild animals of an EPS (impairing ability to migrate or hibernate) – disturbance of animals includes in particular any disturbance which is likely to impair their ability in the case of hibernating or migratory species to hibernate or migrate,
- Deliberately disturb wild animals of an EPS (affecting local distribution and abundance) – disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong,
- Deliberately disturb wild animals of an EPS (whilst occupying a structure or place used for shelter or protection) – intentionally or recklessly disturb any wild animal while it is occupying a structure or place which it uses for shelter or protection,
- Damage or destroy a breeding site or resting place of a wild animal an EPS.

Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to:

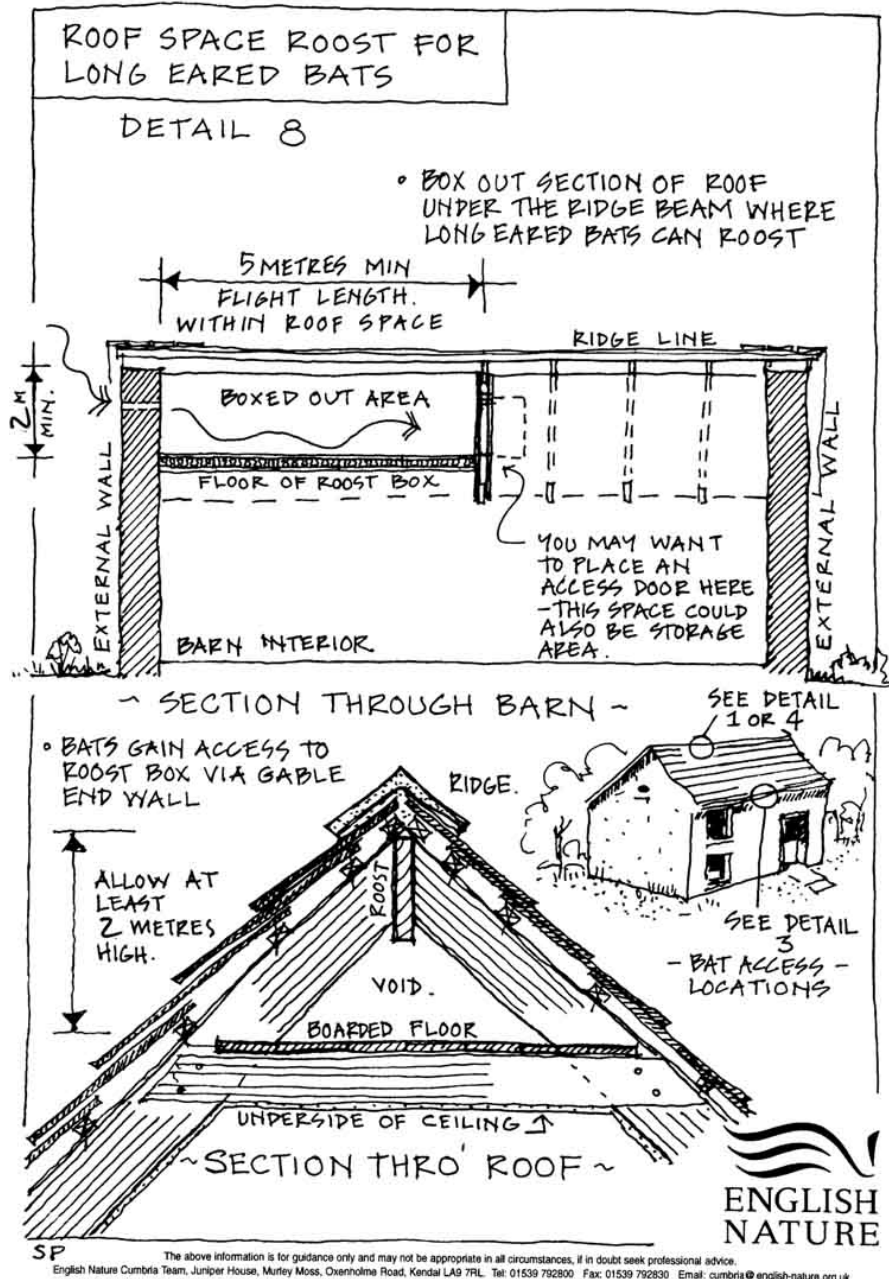
- Recklessly or intentionally kill, injures or take any wild animals included in Schedule 5.
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection,
- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

<https://www.theguardian.com/business/2020/11/housebuilder-fined-600000-destroying-bat-roost-south-london-bellway>

## Mitigation Design.

There was evidence from the Evolution Ecology report on 2022 of bats using the 'Modern prefabricated barn' as a place of shelter as a place of shelter.

The proposal is to re-roof the building with plain tiles. This will allow a bat loft to be created for the Brown long eared bats. The minimum size of a bat loft for Brown long eared bat Maternity roosts is 5m long by 2m high.



This will be created in the roof space of the barn as per the plan below.

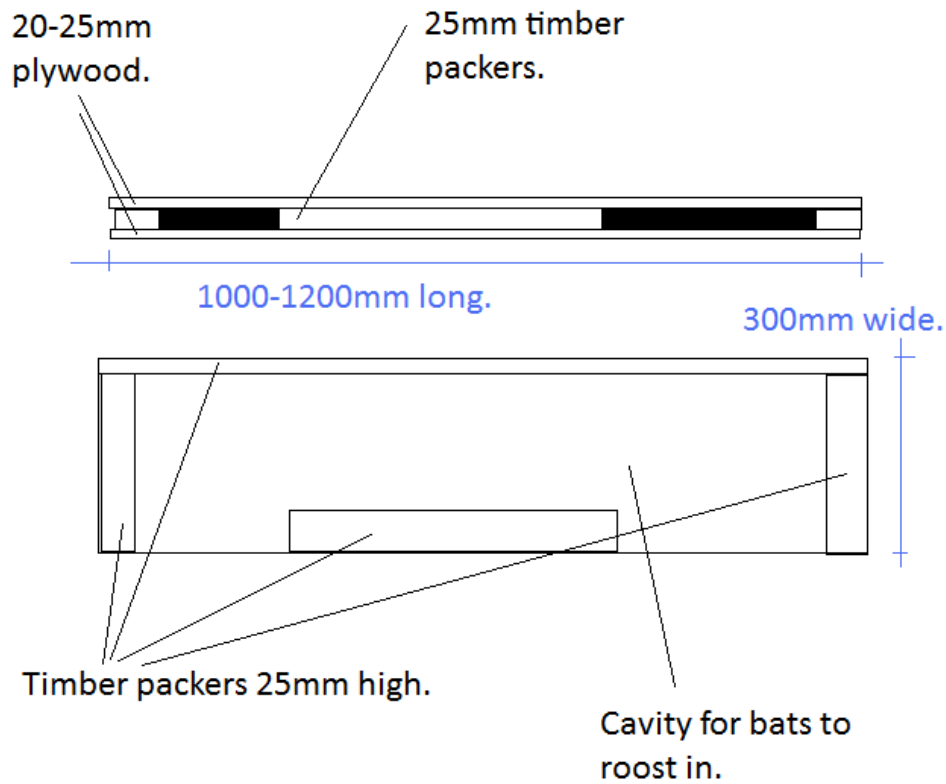


The roof space is to have insulated walls with 100mm of insulation and the walls on the inside of the bat loft are to be lined with OSB (Sterling Board) as this provides a surface rough enough for the bats to be able to grip on to. The floor is to be chipboard or similar.

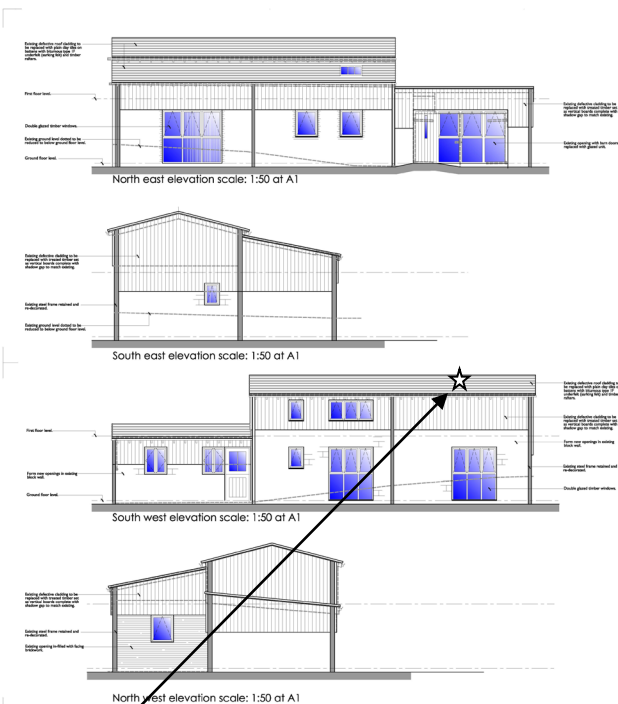
The roofing membrane used is to be a type 1F bitumous underfelt. No breathable roofing membranes can be sued in conjunction with roosting for bats.

The roof space will create a loft area that Brown long eared bats can fly around in before emerging, something they are currently doing within the farm building. In addition roosting is to be provided for the Common pipistrelle bats, a crevice dwelling species, that are also using the barn.

Within the roof space crevices for bats are to be created by installing two bat boxes as per the detail below. These are to be fixed to the vertical OSB walls and will provide a replacement to the roosting which is currently being used in the hollow concrete block walls. They will also provide roosting for crevice dwelling bats within the bat loft.



Access to the roof space is to be created by installing a lead bat slate in the roof on the southern elevation.

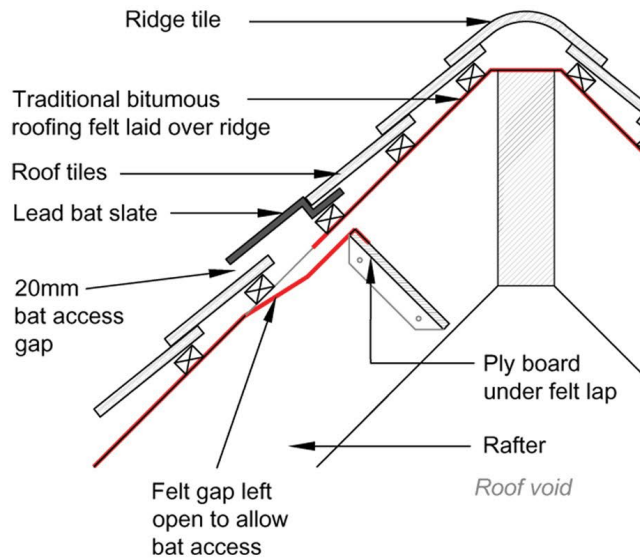


**Bat access slate.**

**BAT ACCESS 'SLATE'**  
**DETAIL 1B - with access to**  
**roof void**

SECTION: BAT ACCESS 'SLATE' 1B

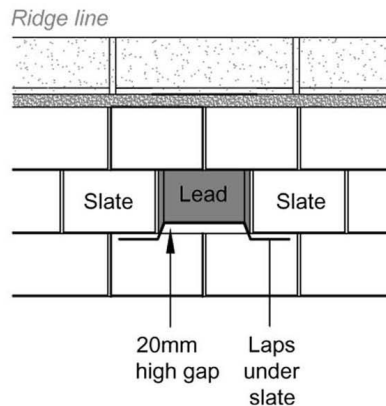
Not to scale



Elevation: BAT ACCESS 'SLATE' DETAIL 1B

Not to scale

Bat slate built into slope



Photograph of bat slate



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Drawn by: Emma L Smith B.A. (Hons.)

The site for the conversion has no value to biodiversity and comprises entirely building and hard standing. There will be no net loss of biodiversity for the site if the extension is built.

A European Protected Species (EPS) license will be required from Natural England in order to undertake the development, should planning permission be granted. This will require additional emergence surveys as the minimum number of emergence surveys for an EPS license is 5.

There should be no direct illumination of the new bat roosting opportunity. Lighting around the site will be by low wattage down lights at low level to provide security and safety lighting for the dwelling and service area. This lighting will be set no higher than the head height of the ground floor windows and will minimise the possible disturbance to bats in this area. Any security lighting will use PIR's to ensure they turn off automatically once the movement has ceased.

### **Proposed Development and meeting the 3 tests.**

The current proposal is for the building on site to be converted from farm storage to living accommodation. There is evidence that the building has been used by individual bats as a temporary place of shelter. In order for planning permission to be granted the Local Authority need to be able to show that the development will;

1. **“preserve public health and 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”;**

And

2. **“that there is no satisfactory alternative”;**

And that the development

3. **“will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.**

### **Test 1.**

The change of use of the property would be beneficial to ensure the continued use of the building and the retention of bat roosting opportunities. The change of use of the property will have an economic benefit which will ensure that there will be a beneficial consequence for local bat populations by the retention of roosting opportunities. The current farm enterprise has no use of the building that would not require changes to the structure of building. Any alternative use would be beneficial in retaining the building. This can be done with the retention of the temporary bat roosting opportunities in the building.

### **Test 2.**

The failure to find an economic use for the building could result in it's becoming dilapidated and roosting opportunities for local bats will be lost. There is no alternative use of the property for the original farm enterprise that would not result in the creation of rooms that can be used for any form of activity. The only means by which to retain the buildings for use by local bat

populations in the future is by granting a change of use and creating new roosting opportunities for local bats.

### Test 3.

The surveyor has shown in the mitigation design above that bat roosting opportunities can be created in such a way that will not be detrimental to local bat populations or the use of the building for other purposes. The addition of new roosting opportunities to meet the requirements of the National Planning Policy Framework (2023), will increase roosting opportunities for local bats.

### Impacts on bats.

The conversion of the property will have a major negative impact on bats due to the loss of the Maternity roosting for Brown long eared bats and the Day roosting for Common pipistrelle bats. A license from Natural England will be required to undertake the development should planning permission be granted. The method of working below must be followed to ensure that the potential for disturbing or harming bats, however small, is minimized and avoided.

There is no loss of habitat from the proposed development and there will be no impact on habitat, forage or commuting routes from the proposed development.

#### Breathable Roofing Membranes-Info Sheet

##### What are they?

- ✦ Traditional roofing felt was bitumen based
- ✦ Modern membranes are made from very fine and long plastic fibres that are spun into thin sheets. They be single ply or have various layers to provide a more complex membrane.
- ✦ They are known as Breathable roofing membranes or Vapour permeable underlay's (BRMs/VPUs)

##### Who Makes them?

- ✦ When most people talk about BRMs, they will call it Tyvek as this is the most famous brand name
- ✦ There are over 70 products in the UK alone, made by 20+ companies – never assume the product is Tyvek unless there is proof.



##### Why are they used?

- ✦ Modern houses are designed to be more energy efficient, meaning they tend to be warmer.
- ✦ Along with human activities this means increased levels of water vapour in the air
- ✦ When this passes up into the cold roof space, it forms condensation, which can lead to problems
- ✦ In the past gaps would have been left near the ridge and eaves to allow ventilation, but increased insulation often means this isn't possible. A breathable membrane aids this as it allows water vapour to pass out of the loft into the external air

##### Potential Problems

- ✦ There have been reports of bats becoming entangled in fibres pulled from the membranes
- ✦ Possibility of Temperature and humidity change
- ✦ A lot of membranes are white or brightly coloured

##### Advice

- ✦ At present we cannot recommend specific brands that are considered safe for use in bat roosts, as such it is recommended that bitumen felt be used where possible
- ✦ It is not against the law not to install a BRM
- ✦ If the planner insists on a BRM, suggest a dark coloured and reinforced membrane

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## **Appendix 1.**

### **Roost Types as designated by Natural England and the Bat Surveys for Professional Ecologists, Good Practice Guidelines.**

- A. Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
- B. Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.
- C. Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
- D. Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
- E. Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites
- F. Mating sites: sites where mating takes place from later summer and can continue through winter.
- G. Maternity roost: where female bats give birth and raise their young to independence.
- H. Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
- I. Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.
- J. Other – Explain what the roost type is if not one of the above (it is recognised that roost types are interchangeable and not always easy to classify according to the nuances of certain species).