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Summary

Planning permission is being sought for the conversion of three outbuildings at James Farm, Ruabon. The buildings support small day roosts of principally pipistrelle bats and lesser numbers of brown long-eared bats, possibly both a day and night roost. In addition to the bat roosts the buildings also support small numbers of nesting swallows.

The proposed conversion of the buildings would, in the absence of mitigation and compensation, result in the loss of the bat roosts and swallow nesting sites. As such, to avoid the loss of bat roosts on the site and avoid disturbance to roosting bats and nesting birds mitigation and compensation measures, including the careful timing of site works and the provision of replacement bat roosting and bird nesting features, will be taken prior to and during the conversion phase. **As roosting bats will be affected by the proposed works a bat development licence from Natural Resources Wales will be required, after planning permission has been obtained and any conditions relating to protected species have been discharged but before site works commence.**

Introduction

Yorke Associates Ecological Consultants was instructed by Cadnant Planning Ltd to undertake a protected species survey at James Farm, Ruabon. The survey was commissioned in connection with a planning application for the conversion of outbuildings.

All species of bats in the UK are afforded full protection under the Wildlife and Countryside Act (1981) (as amended) and under the Conservation of Habitats and Species Regulations (2017). Under these Acts it is an offence among others, to intentionally or recklessly kill, injure or disturb bats. It is also an offence to destroy or obstruct a roost even if bats are not in occupancy at the time of the action.

Where bats are found within a potential development site, a license from the statutory licensing body i.e. Natural Resources Wales may need to be secured if works that could otherwise contravene legislation are to be carried out. These licences are only issued where the statutory licensing body is satisfied that works are unavoidable and would not have a negative impact on the favourable conservation status of bats. A license requires that the potential development site has full planning permission and that bats were a material consideration of the planning permission.

Nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 which makes it an offence to damage or destroy the nest or eggs of a bird. The barn owl is specially protected under Schedule 1 & 9 of the WCA (1981) (as amended) which makes it illegal to kill, injure or take a wild barn owl or to take or destroy its eggs. It is also illegal to check nest sites or to disturb a barn owl while it is at or near a breeding site (unless under licence).

Survey Method

The survey was undertaken in accordance with Bat Mitigation Guidelines (Mitchell-Jones, 2004), Bat Workers' Manual (Mitchell-Jones & McLeish, 2004) and the Bat Conservation Trust Good Practice Guidelines (2016). The survey was carried out by Daniel Yorke BSc (Hons) MCIEEM (bat licence number S086516/1), Denise Yorke MSc BSc (Hons) PGCE FHEA MCIEEM, Julia Williams BSc (Hons), Josh Lambert BSc (Hons), Gareth Gilbertson BSc (Hons) and Matt Whitehead, an undergraduate student on the BSc (Hons) Wildlife and Plant Biology course at Glyndwr University.

Site Inspection

The exterior and interior of the buildings were examined for evidence of bat use such as droppings, feeding remains e.g. moth wings, live or dead bats, stains on timbers from the natural oils in bats' fur and claw marks on timbers made by bats regularly roosting in the same location. The buildings were also examined for evidence of breeding birds such as nests, droppings and splashings, feeding remains and pellets.

Emergence Survey

Emergence surveys were undertaken on the 28th August and 10th September 2019, using Batbox Duet, Anabat SD1 and Anabat Express bat detectors. Surveyors were positioned so as to gain an unobstructed view of all key elevations of the buildings from half an hour before sunset until two hours afterwards when all bat species would be expected to have emerged.

James Farm, Ruabon Protected Species Survey

A record was made of all bats that were seen or heard during the survey, the direction of flight (if seen) and the type of behaviour shown.

Survey Results

Site Inspection

James Farm is located at grid reference SJ30184336, to the south of Ruabon. The site is demarcated to the north by the A539 and to the east by the A483. The three outbuildings proposed for conversion are arranged around a grass courtyard, with permanent grassland, formerly used as a caravan park, in addition to mature broadleaved trees to the south and west. The applicant's farmhouse is located to the east. Land under arable cultivation and blocks of woodland characterize the surrounding landscape. The location of the site is shown in the Google image below.

Site Location



The three outbuildings proposed for conversion are described below:

Building 1 – This single-storey building is constructed from brick and has a pitched slate roof (see Figure 1 below). Potential fly-through access for bats and birds consists of 4 large openings on the south elevation and also louvered vents on the roof ridge. A few old bat droppings were found internally, in addition to old swallow nests.

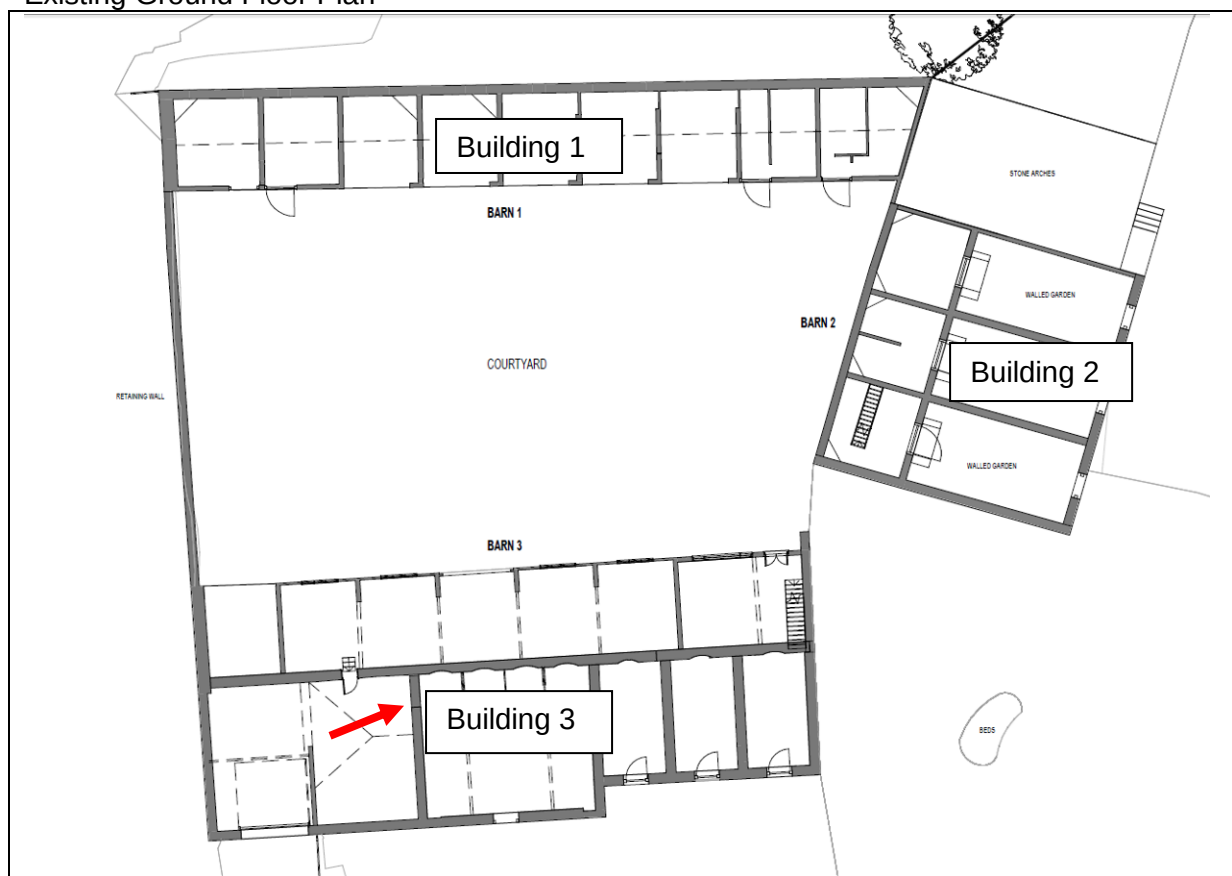
Building 2 – The south and west elevations of this two-storey building are constructed from stone and the north and east elevations from brick. The roof is pitched slate supported by timber trusses and purlins and internally is open to the ridge (Figures 2 – 4). Potential fly-through access points for bats and birds consist of door openings on the east elevation. Potential roosting features on the exterior consist of a few gaps in mortar joints on the south

James Farm, Ruabon Protected Species Survey

and west elevations and gaps behind timber fascia boards. Scattered bat droppings and feeding remains (yellow underwing moths) were found on the first floor (Figure 5). The bat droppings and feeding remains were thought to be from brown long-eared (*Plecotus auritus*) and also pipistrelle (*Pipistrellus* sp.) bats. The location of the droppings is shown on the plan below.

Building 3 – The south and east elevations of this two-storey building are constructed from stone and the north elevation from brick. The roof is pitched slate supported by timber trusses and purlins and internally is open to the ridge. The western end of the building, currently used as a garage/car port has a mono-pitch corrugated metal sheet roof and part corrugated metal sheet walls, with a large shutter door (Figures 6 – 8). Potential fly-through access points for bats and birds consist of two large openings on the north elevation, a gap above the door on the first floor gable and louvered vents along the roof ridge. Potential roosting features on the exterior consist of a few gaps in mortar joints on the east elevation. Several relatively fresh bat droppings, thought to be from brown long-eared bats (*Plecotus auritus*) were found on the ground floor at the western end of the building (Figure 9). The location of the droppings is shown on the plan below. Several old swallow nests were also found on the ground floor.

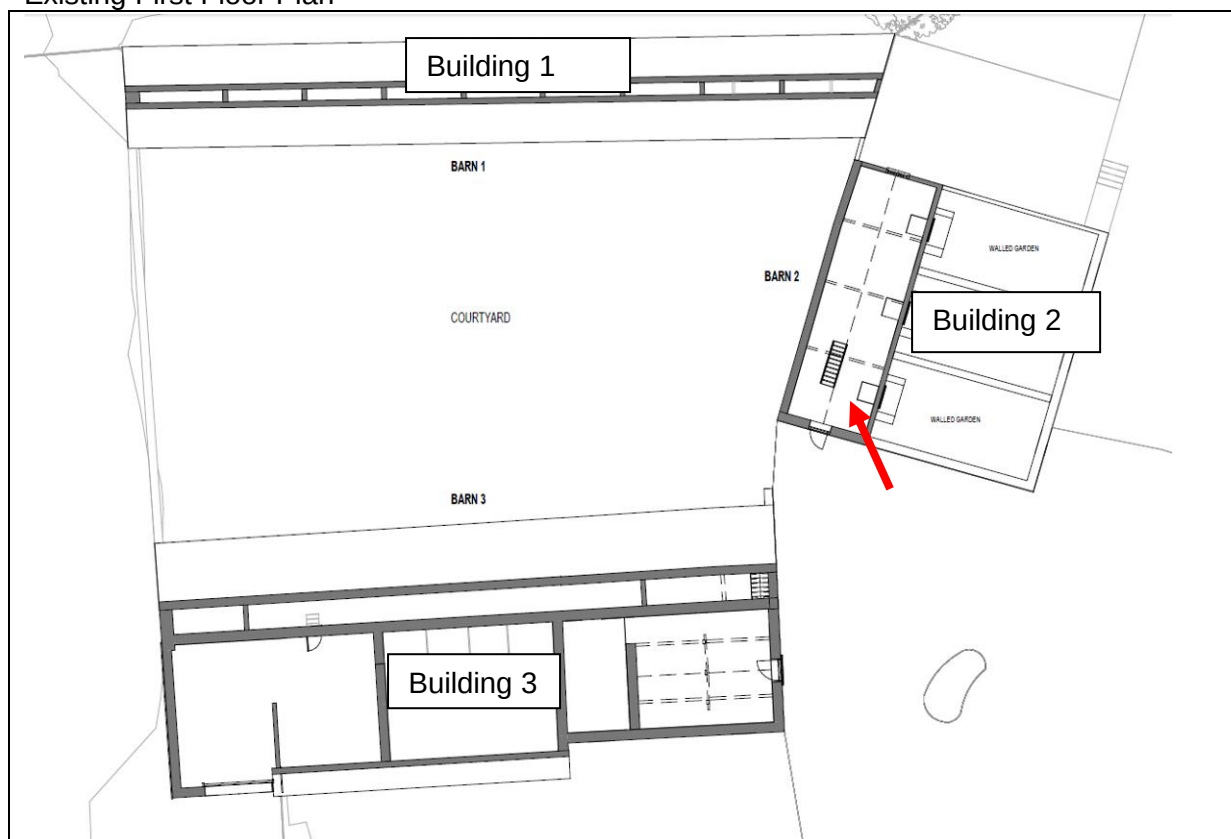
Existing Ground Floor Plan



 Location of bat droppings

James Farm, Ruabon Protected Species Survey

Existing First Floor Plan



 Location of bat droppings & feeding remains

Site Photographs



Figure 1: South elevation of Building 1.



Figure 2: Eastern elevation of Building 2.



Figure 3: Northern gable of Building 2.



Figure 4: West elevation of Building 2.



Figure 5: Feeding remains inside Building 2.



Figure 6: North elevation of Building 3.



Figure 7: South elevation of Building 3.



Figure 8: Eastern gable of Building 3.

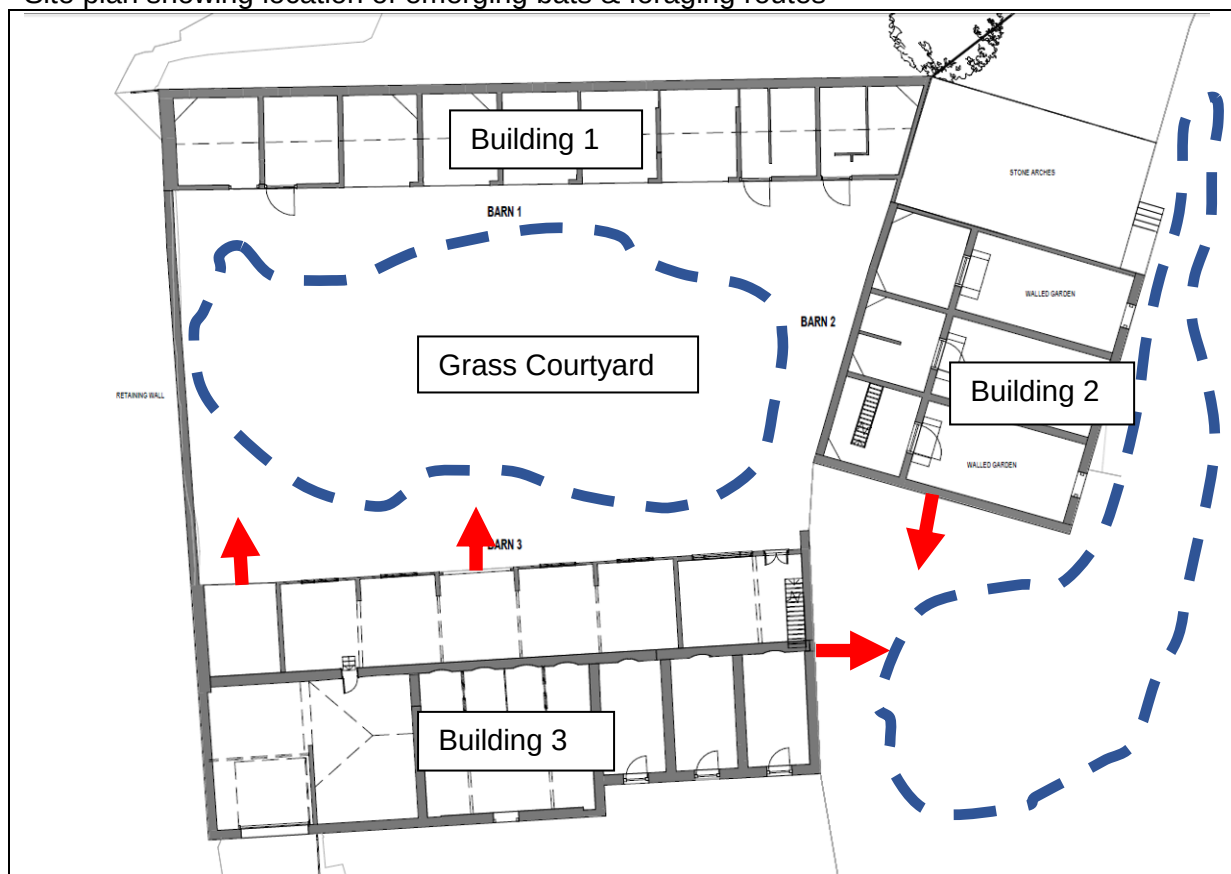


Figure 9: Bat dropping inside Building 3.

Emergence Survey

On the 28th August approximately eight bats, mostly pipistrelle (*Pipistrellus* sp.) but also some possible later emerging brown long-eared bats (*Plecotus auritus*), were seen to emerge from Building 3, principally from door openings on the front elevation (2 at 20.29, 2 at 20.40 and 3 at 20.45hrs) but also from the door on the east gable (21.11hrs). A pipistrelle bat (*Pipistrellus* sp.) was also seen to emerge from the door on the gable of Building 2 at 20.57hrs. Foraging activity was recorded throughout the survey with up to seven pipistrelle bats observed, mostly within the grass courtyard but also around the north and east elevations of the buildings. On the 10th September approximately eight pipistrelle bats (*Pipistrellus* sp.) were observed emerging from the door openings on the front elevation of Building 3 from 19.52 to 20.07hrs. Foraging pipistrelle bats were observed in the courtyard and along the east elevations. The location of the emerging bats and foraging routes is shown on the plan below.

Site plan showing location of emerging bats & foraging routes



The results of the emergence survey are summarized in the table below:

Type	Date	Weather Conditions	Results
Emergence/Activity	28 th August 2019	Dry, calm & clear. 16°C at start, 11°C finish.	Eight mostly pipistrelle and some brown long-eared bats seen emerging from Building 3. One pipistrelle bat seen emerging from Building 2.
Emergence/Activity	10 th September 2019	Dry, broken cloud & light breeze. 14°C at start & finish.	Eight pipistrelle bats seen emerging from Building 3.

Evaluation and Recommendations

The buildings support small day roosts of principally pipistrelle bats and lesser numbers of brown long-eared bats, possibly both a day and night roost. In addition to the bat roosts the buildings also support small numbers of nesting swallows. The surveys were undertaken in optimal conditions and were not constrained by any factors and the findings represent a fair assessment of bat activity on the site.

The proposed conversion of the buildings would, in the absence of mitigation and compensation, result in the loss of the bat roosts and swallow nesting sites. As such, to avoid the loss of bat roosts on the site and minimize / avoid disturbance to roosting bats and nesting birds mitigation and compensation measures, including the careful timing of site works and the provision of replacement bat roosting and bird nesting features, will be taken prior to and during the conversion phase. **As roosting bats will be affected by the proposed works a bat development licence from Natural Resources Wales will be required, after planning permission has been obtained and any conditions relating to protected species have been discharged but before site works commence.** The mitigation and compensation measures to be included in the licence application are detailed in the delivery information section below.

References

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

Mitchell-Jones, A. J. 2004. Bat Mitigation Guidelines. English Nature.

Mitchell-Jones, A. J. & McLeish, A. P. (ed.) 2004. The Bat Workers' Manual. Joint Nature Conservation Committee.

Delivery Information – Bats and Nesting Birds

A Mitigation and compensation

The mitigation strategy aims to prevent potential disturbance, killing, injury and harm to bats and birds whilst ensuring that suitable bat roosting and bird nesting features remain on site post-completion of works. **A bat development licence from Natural Resources Wales will be required before site works can commence.**

B Works to be undertaken by ecologist

B.1 Capture and exclusion

No Capture or exclusion works are proposed. Works will be undertaken when bats and nesting birds are likely to be absent. The licensed ecologist will inspect the buildings immediately prior to works commencing and will also supervise the stripping of roof slates.

C Works to be undertaken by the developer/landowner

C.1 Bat roosts

Stripping of roof slates will be undertaken during the period 1st October – 31st March and will be supervised by the licensed ecologist. On completion of the new roofs all window and door openings will be temporarily sealed using polythene sheeting or similar to prevent bats and birds from gaining access to the interiors.

C.1.1 In-situ retention of roost

N/A

C.1.2 Modification of existing roost

N/A

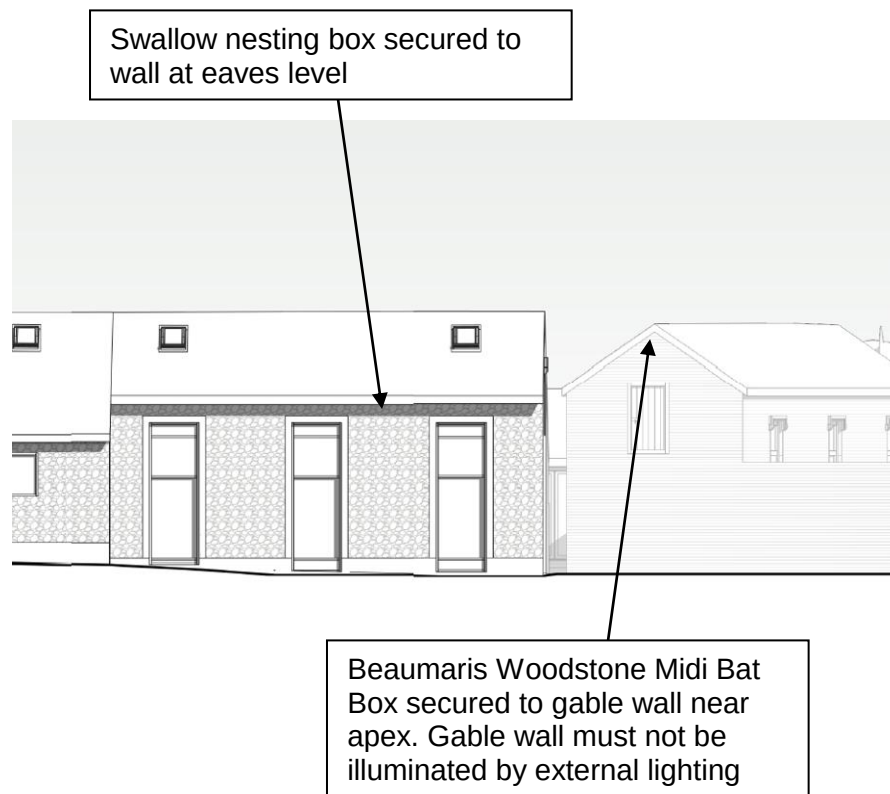
C.1.3 New roost creation

3 x Beaumaris Woodstone Bat Boxes will be erected on the converted buildings as shown on the drawings below. In addition, c.20mm gaps will be left between timber fascia / barge boards and walls on all elevations of the converted buildings for crevice dwelling bats. To ensure continuity of bat roosting features during the conversion phase 3 x Schwegler 2FN Bat Boxes will be erected on mature trees within the grounds of the buildings, under the guidance of the licensed ecologist, prior to conversion works commencing.

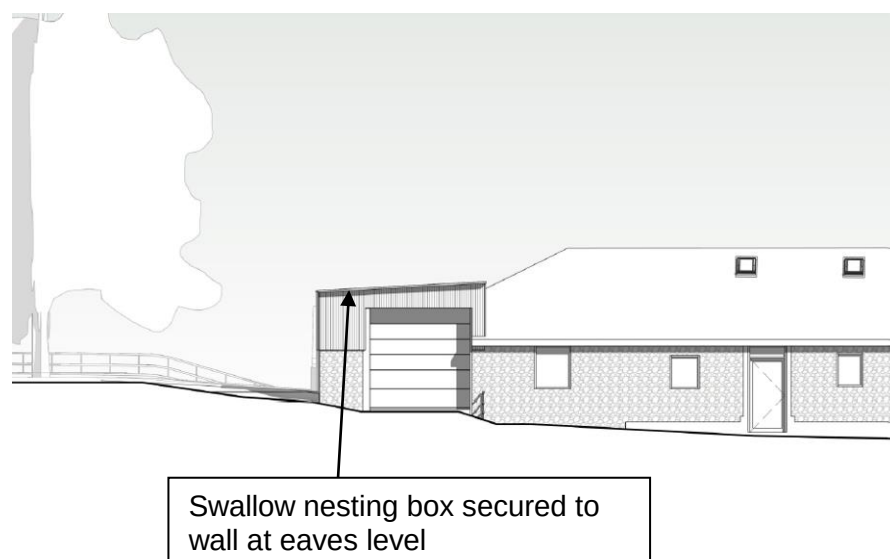
C.1.4 Integration with other species

5 x Swallow Nesting Boxes will be erected on the converted buildings as shown on the drawings below.

C.1.5 Scaled maps/plans



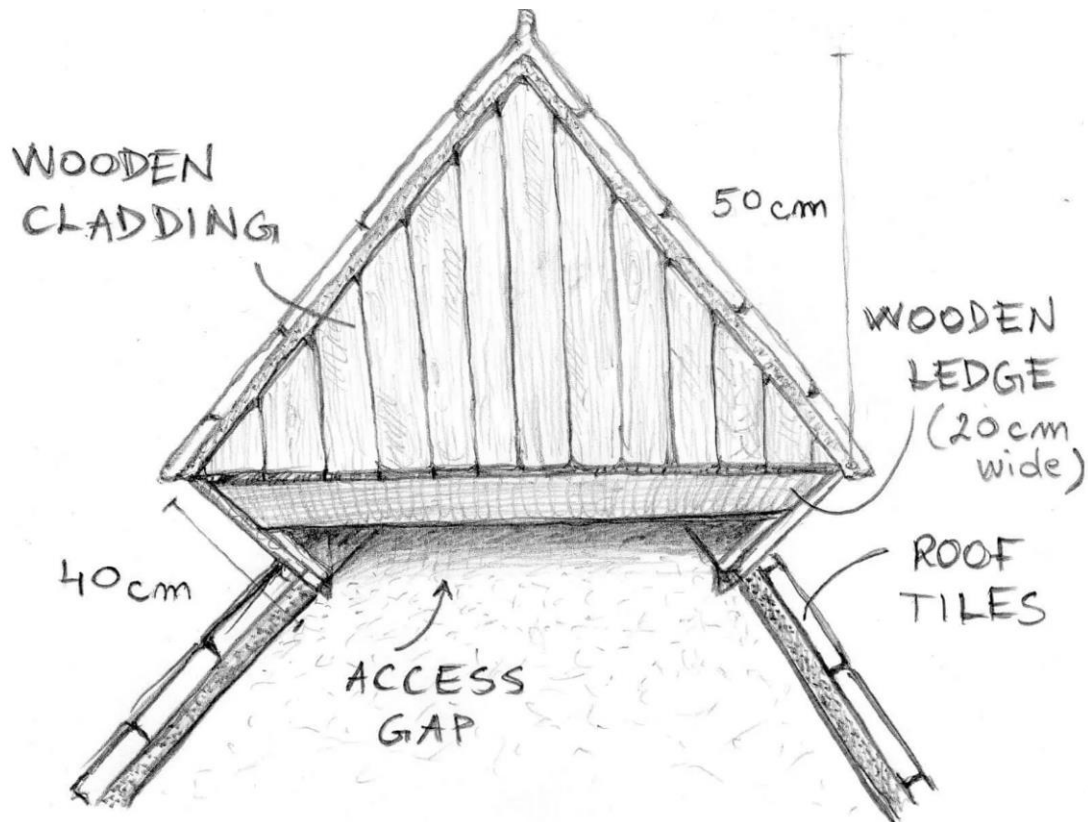
South Elevation



South Elevation



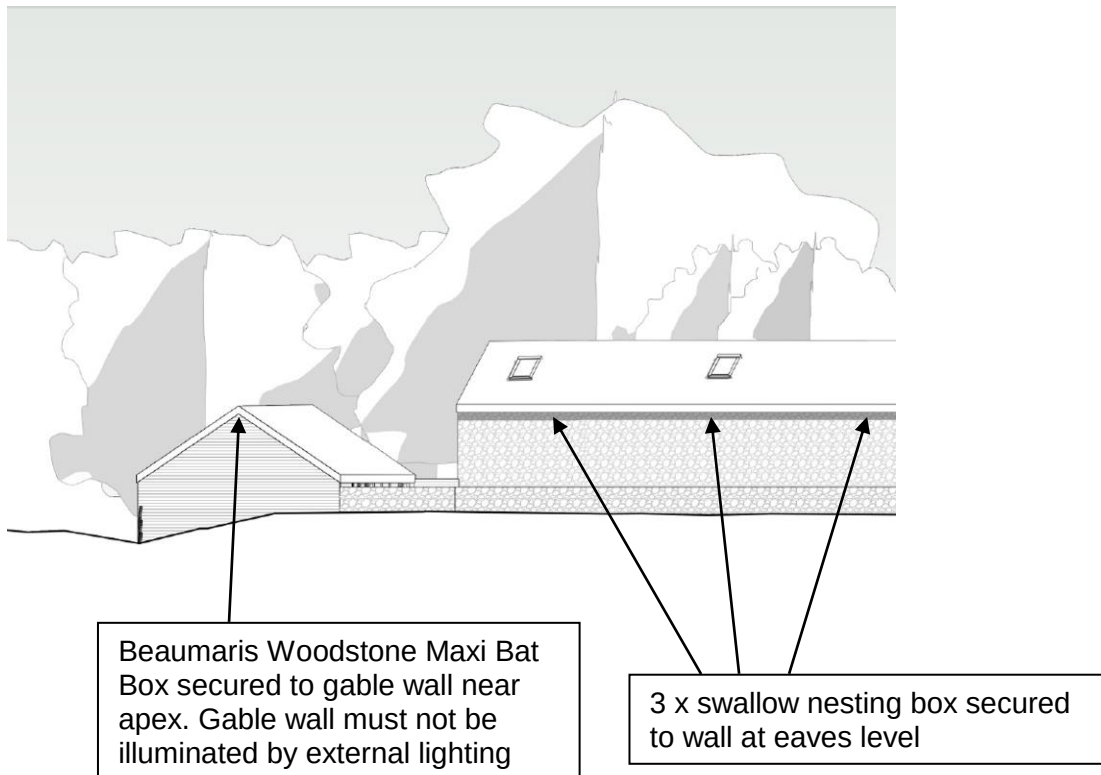
Beaumaris Woodstone Bat Box



Swallow nesting box (Design taken from acerecology.co.uk). Roof of box can be modified to suit location e.g. mono-pitch roof for eaves location



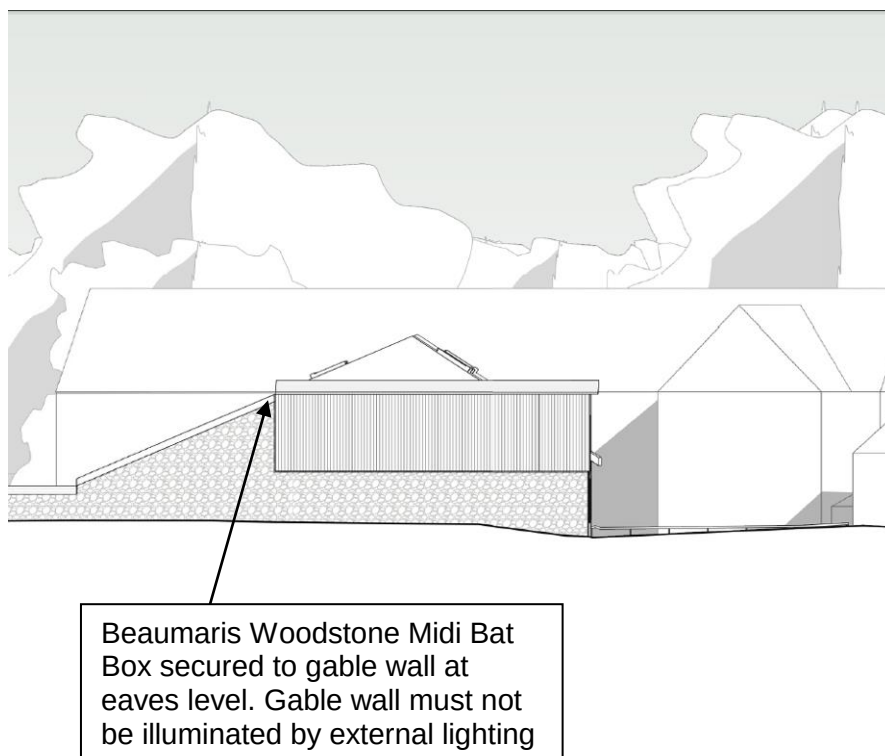
Swallow nesting box in-situ



Beaumaris Woodstone Maxi Bat
Box secured to gable wall near
apex. Gable wall must not be
illuminated by external lighting

3 x swallow nesting box secured
to wall at eaves level

West Elevation



West Elevation

D Post-development site safeguard

D.1 Habitat/site management and maintenance

The owner will be responsible for the maintenance of the bat roosting and bird nesting features. Elevations where bat and bird boxes are located must not be lit by external lighting. Trees and shrubs around the site must also remain unlit. External lighting associated with the converted building should be restricted to low luminance, down-lit lamps fitted with cowls to minimize light spill.

D.2 Population monitoring, roost usage etc.

Details of monitoring will be provided in the licence application.

D.3 Mechanism for ensuring delivery

The works will be internally audited by the licensed ecologist to ensure compliance with this method statement. The following key performance indicators will be used in the audit:

- Obtain bat development licence
- Contractors briefed by licensed ecologist prior to site works
- Inspection of building by licensed ecologist prior to site works
- Supervision of slate stripping by licensed ecologist
- Inspection of compensation features by licensed ecologist

E **Timetable of works**

Activity (in order of sequence)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Erection of 3 x Schwegler 2FN bat boxes on mature trees, under guidance of licensed ecologist	Can be undertaken at any time, prior to start of conversion works								
Slate stripping and sealing off window and door openings									