

# Ecological Appraisal and Bat Survey: Ruslin Farm, Butcombe, Somerset

Client Mr G Aldridge

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# Non-technical Summary

## Background

In November 2021, Crossman Associates was commissioned by Mr G Aldridge to undertake an update bat survey of a traditional barn at Ruslin Farm, Sutton Lane, Butcombe, Somerset, BS40 7XQ (site Ordnance Survey grid reference is ST 5126 6274).

A tradition stone barn is proposed for conversion into a residential dwelling.

## Methods

The ecological appraisal follows standard Phase 1 habitat survey methodology that was extended to record provisional signs and potential for protected or notable species and included a bat and bird daytime assessment of all buildings on site.

## Results

The building is supporting roosts of three species of bat including a common pipistrelle day roost, a brown long-eared day roost and a lesser horseshoe maternity roost. An adjacent coal shed is supporting an associated lesser horseshoe satellite roost.

Buildings and surrounding habitats support nesting birds. Other areas may support reptiles

## Recommendations

It is recommended that the following are undertaken:

- Bat development licence prior to works.
- Retention of bat loft within building and roost in adjacent coal shed
- Sensitive clearance of buildings and vegetation for nesting birds and reptiles

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# 1. Introduction

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- 1.1. In November 2021, Crossman Associates was commissioned by Mr G Aldridge to undertake an update bat survey of a traditional barn (referred to as the '**Building**') at Ruslin Farm, Sutton Lane, Butcombe, Somerset, BS40 7XQ (site Ordnance Survey grid reference is ST 5126 6274).
- 1.2. As part of the survey, the adjacent farmhouse and associated coal shed were also surveyed.
- 1.3. Initial surveys were undertaken in 2017 and further assessments were undertaken in 2017. An update walkover was undertaken in November 2021.
- 1.4. The objectives of the ecological appraisal were to;
  - Produce a map of the habitats on site
  - Assess the likely presence of any notable/protected species
  - Identify any policy or legislative constraints relevant to the project
  - Provide recommendations for further surveys, compensation or mitigation as appropriate

## Site Description

- 1.5. The building comprises an interconnected complex of traditional stone barns at Ruslin Farm, which is situated on a minor country lane approximately 1.2 km north of the rural village of Butcombe. Ruslin Farm is a redundant farmstead, which includes a number of other traditional and modern outbuildings and a period farmhouse. The remainder of the site is composed of hardstanding, which forms accesses and yards around the buildings and gardens around the farmhouse.

- 1.6. The eastern boundary of the site is defined by a hedge-lined country lane. Along the northern and southern boundaries are hedgerow. The western boundary is open and edges directly onto an adjacent field.
- 1.7. The immediate surroundings consist entirely of an agricultural landscape, which is characterised by small to moderate-sized, fields divided by predominantly managed farm hedgerows with standard trees. The wider rural landscape is sparsely populated with scattered farmsteads. The hamlet of Butcombe lies approximately 1.2 km to the south.
- 1.8. No areas of significant woodland lie close by although the nearest wooded areas include three small blocks of woodland (including Scars Wood) that lie approximately 1 km to the north-west; these areas are well connected to one another and to the site via the extensive local hedgerow network.
- 1.9. The site has no significant watercourses. The closest watercourse is a small brook that flows through farmland approximately 500 m south-west of the site.

## Proposals

- 1.10. The building is proposed for conversion into a residential dwelling.

## 2. Methodology

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### Data Search

- 2.1. The MAGIC website was accessed for information on any statutory site designations within 2 km of the site, this was extended to 4 km in respect of bats.
- 2.2. The North Somerset and Mendip Bats Special Area of Conservation (SAC): Guidance on Development was reviewed for guidance relating to the nearby North Somerset and Mendip Bats SAC.
- 2.3. National planning policy has been reviewed for policies that relate to nature conservation relevant to the site.

### Field Survey

- 2.4. All survey work was undertaken by Fairbrass Knowles (Licence number 12392 CLS-CLS) and Alex Crossman (Licence number CLS00861) both experienced ecologists.

### *Ecological Appraisal*

- 2.5. The ecological appraisal follows Phase 1 habitat survey methodology which is a survey method and classification system that was developed by the Nature Conservation Council now Joint Nature Conservation Committee (JNCC, 2003) to map habitats and land use categories to a "consistent level and accuracy". Vegetation and habitats are mapped using standard colour codes, allowing rapid visual assessment of the extent and the distribution of the different habitat types. Where appropriate, Target Notes highlight potential features of interest.

### Species observations

- 2.6. An extended Phase 1 survey also records provisional signs of protected or notable species and assesses suitability of habitats on-site and within the assessable surroundings to support such species.

### *Bat scoping survey*

- 2.7. The initial bat scoping survey work was undertaken by Fairbrass Knowles and Alex Crossman, both fully licensed bat workers, on 4 April 2017 and update visits were undertaken on 15 May 2019, 1 June 2020 and 18 November 2021.
- 2.8. Suitability of the adjacent habitat to the site to support prey species hunted by horseshoe bats has also been considered.
- 2.9. During the bat scoping survey, the building was assessed for its suitability to support roosting bats by considering several factors including whether bats can access internal and external voids within the building and whether these voids provide adequate protection and shelter for roosting bats. If the building is not confirmed as a roost, it is assessed from High to Negligible Suitability as follows;
- **High Suitability** – many roosting opportunities. Buildings tend to be old, large and rural
  - **Moderate Suitability** – some roosting opportunities. Building tend to be old, rural with some recent maintenance
  - **Low Suitability** – few roosting opportunities. Buildings tend to be modern, urban and well maintained
  - **Negligible Suitability** – insignificant roosting opportunities. Buildings tend to be small, modern, urban and very well maintained

- 2.10. The building was methodically inspected internally and externally for any evidence of roosting bats, including actual bats, droppings, urine staining and evidence of feeding activity such as discarded insect wings and cases.

*Evening emergence surveys*

- 2.11. Two evening emergence surveys were conducted in June and July 2017 and additional surveys were undertaken in May – July 2019 as follows. In total, seven emergence surveys have been undertaken.
- 2.12. Dawn re-entry surveys were not undertaken; this was due to the adjacent farmhouse being occupied by tenants and them not wanting to be disturbed early in the morning.
- 2.13. Anabat, Echometer Touch, SSF 2 and Griffin bat detectors were used together with visual observations on flight patterns and feeding behaviour to aid identification to species level. Recordings of bat calls were made and later analysed using dedicated computer software.
- 2.14. This level of survey effort is consistent with that required under the North Somerset and Mendip Bats SAC Guidance on Development dated May 2017. The Guidance requires, for Bat Consultation Zone C (which applies here), survey effort to be informed by the advice of the consultant ecologist advising the developer and whether a commuting structure is present and the suitability of the adjacent habitat to support prey species hunted by horseshoe bats (paragraph 6.4 and page 8 of the guidance). In this case the lane to the east of the development site is a potential commuting structure as are hedgerows along the north and south of the site. The adjacent habitat being improved managed grassland has low potential to support prey species hunted by horseshoe bats. On that basis, the suite of surveys undertaken in this case, over two separate years (2017 and 2019) and over 3 separate summer months, is fully consistent with this Guidance.

## Evaluation



2.15. The site evaluation for habitat areas and species present (where appropriate) is based on published criteria given in CIEEM guidelines for ecological impact assessment. The values are assigned between International Value and Negligible Value for all habitats that are likely to be directly or indirectly affected by the proposed development.

2.16. The value categories used in assessment are as follows:

- International – Europe
- National – England
- Regional – South-west
- County – North Somerset
- District – North Somerset
- Local – Butcombe
- Site - Within the immediate zone of influence

## 3. Results

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### Data Search

- 3.1. The MAGIC website informs that there is one site designated for nature conservation within a 2 km radius of the site. Blagdon Lake Site of Special Scientific Interest (SSSI) is designated for winter birds, diverse aquatic flora and species rich grassland and lies 2 km to the south of the site.
- 3.2. There are no sites designated for bats within 4 km of the site.
- 3.3. The North Somerset and Mendip Bats Special Area of Conservation (SAC): Guidance on Development was reviewed for guidance relating to the nearby North Somerset and Mendip Bats SAC, which is located 5.1 km north-east of the site at its closest point.. According to the Guidance, the site lies within Consultation Band C. As noted above, the survey effort in this case is consistent with this Guidance.

### *Planning Policy*

- 3.4. The National Planning Policy Framework (NPPF) contains sections of relevance to nature conservation that include:
  - Paragraph 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;

- b) and 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.
- Paragraph 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 reasons 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.

## Field Survey

### *Bats*

#### Bat scoping survey

- 3.5. Survey work was undertaken by Fairbrass Knowles and Alex Crossman, both fully licensed bat worker, and took place on 4 April 2017 and an update visit was undertaken on 15 May 2019. A further update visit was undertaken on 1 June 2020 and 20 November 2021
- 3.6. The external and internal conditions of the building are described in Table 1 below and photographs can be found in Appendix II. Appendix III sets out the criteria for assessing suitability to support roosting bats.
- 3.7. Sections of the building are unsafe and were not considered safe to access in 2017. Further investigations were undertaken in June 2020 and November 2021 using binoculars, a high luminosity torch and a camera on a tripod to inspect unsafe areas.

#### Table 1: building description, bat suitability and proposals

Building	Feature	Feature Description	Bat suitability	Proposals
<b>Proposal building</b>	Overview	<p>The building is redundant and starting to show signs of deterioration.</p> <p>The building consists of three interconnected stone barns. The northern barn has a two-storey layout with a simple pitched roof configured in a north – south alignment.</p> <p>The northern barn measures 12 m x 7 m.</p> <p>The central barn adjoins the southern gable of the northern section and is aligned in an east – west direction. The southern section is offset and parallel to the central section</p> <p>The central barn measures 12 m x 4 m. The southern section lies parallel to the central section and is offset to the west.</p> <p>The southern barn measure 14 m x 7 m.</p>	Confirmed roost ☒	To be converted into residential.
	Exterior	Exterior stonework is formed from solid 450 mm random rubble, which appears sound. A few cracks were noted on the northern gable of the two-storey barn. Further holes and		

Building	Feature	Feature Description	Bat suitability	Proposals
		<p>cracks were also noted on the western elevation. Approximately 50% of the northern gable elevation has also become encroached by ivy.</p> <p>Doorways and windows are generally in a poor overall state; either missing or poorly fitted.</p> <p>The simple, open-fronted lean-to is constructed from timber uprights and modern block work.</p>		
	Interior	<p>The interior walls of the barn are formed from mainly un-rendered stonework with a few moderate cracks present in the corners of the northern barn.</p> <p>The northern section has two ground floor rooms created by a block work wall which also acts to support one of the hay lofts. The other hayloft is formed from large timber beams supporting the floor. Both haylofts were not fully accessed as the floors appeared to be in a poor state of repair. A vaulted ceiling is present throughout with exposed timber trusses,</p>		

Building	Feature	Feature Description	Bat suitability	Proposals
		<p>rafters, purlins and ridge that lack any complex joinery; timbers remain in good order. Traditional type 1f slater's felt has forms the sarking layer and remains in good order indicating that the roof has been recently refurbished.</p> <p>The central section consists of one single bay with a vaulted ceiling; exposed roof timbers which include trusses, purlins and rafters lack any complex joinery and remain in a solid state. Traditional lathe and plaster torching is present as the sarking layer, some sections have deteriorated leading to the presence of numerous gaps, splits and holes that provide access to cavities that lay beneath the roof tiles.</p> <p>The southern section consists of one single bay, which has animal stalls. The roof is held up with original timbers formed from substantial trusses, purlins, rafters and ridge some of which are connected using traditional carpentry methods. A sarking layer is present and is of the traditional lathe and plaster torching, some sections have deteriorated leading to</p>		

Building	Feature	Feature Description	Bat suitability	Proposals
		<p>the presence of numerous gaps, splits and holes that provide access to cavities that lay beneath the roof tiles.</p> <p><u>2019</u></p> <p>Both haylofts in the northern section were accessed and bat droppings attributable to lesser horseshoe bats were noted on the floor of both hayloft platforms. The greatest concentration of bat droppings was present in association with the northern hay loft platform which was directly under the main roosting area at the base of the internal gable wall.</p> <p>No long-eared bat droppings were found.</p> <p><u>2020 and 2021</u></p> <p>Bat droppings attributable to lesser horseshoe bats were noted on the floor of both hayloft platforms. The greatest concentration of bat droppings was present in association with the northern hay loft platform, which was directly under the</p>		



Building	Feature	Feature Description	Bat suitability	Proposals
		<p>main roosting area, at the bottom of the north internal gable wall.</p>		
	<p>Roof</p>	<p>The roofs of the main barns are clad with traditional double Roman clay tiles and simple half round ridges. All remain well seated in place. The roofs have an open eaves design which results in the presence of a continuous gap which provides bats with accessible points, providing entry into the significant hidden cavity which lies beneath the roof tiles; created by the sarking layer, battens and underside of the roof tiles. The roof of the lean-to is clad with a single skin of corrugated tin sheeting, all remains present and well-fixed in place.</p> <p>The roof of the southern section is clad with traditional clay pan tiles with an open eaves design the nature of which results in the presence of permanent openings which enable the hidden voids that lay beneath the roof tiles to be accessible to bats, these shallow cavities are created by the topside of the sarking layer, roof battens and the underside of the roof tiles.</p>		

Building	Feature	Feature Description	Bat suitability	Proposals
<b>Coal store</b>		<p><u>Coal store</u></p> <p>The coal store is a small outbuilding attached to the north-west corner of the dwelling and was in the past used to store coal; the room has fallen out of use and rarely entered. The room is approximately 2.1 m x 3.9 m with a floor to ridge height of 3.2 m. The room is very basic consisting of bare well-pointed brick work. No ceiling is present. Sarking felt of traditional type 1 f felt is on show. No windows are present, and a simple timber door forms the only access point on the west elevation. The door remains in good condition but is too small for the door frame aperture leaving a triangular gap over the top of the door.</p> <p><u>2020</u></p> <p>In June 2020, a small scattering of droppings (&lt;50) attributable to lesser horseshoe bat were noted on the floor of the coal store section of the building.</p>	Confirmed roost	To be retained



<b>Building</b>	<b>Feature</b>	<b>Feature Description</b>	<b>Bat suitability</b>	<b>Proposals</b>
<b>Dutch Barn</b>		A simple, traditional Dutch Barn.  The building is open on all sides.  The building has metal uprights and a half-round corrugated metal roof	Negligible	To be demolishes

*Bat activity results*

- 3.8. The results of the five bat activity surveys undertaken between May and July 2019 are detailed in Table 2 below and are also shown on Figure 3, Appendix I. Table 3 shows the results of the two bat activity surveys undertaken between June and July 2017 and the results of these previous surveys are also annotated on the same Figure 3.
- 3.9. Surveys were undertaken by Alex Crossman and Fairbrass Knowles, both licenced bat workers along with 6 assistants.

Table 2: 2019 bat activity survey data

Survey date	15/05/2019	22/05/2019	13/06/2019	01/07/2019	31/07/2019
Survey type	Evening emergence survey	Evening emergence survey	Evening emergence survey	Evening emergence survey	Evening emergence survey
Survey fundamentals	Start temperature: 18°C End temperature: 17°C Weather summary: dry, clear Wind level (1-12): 1 Sunset time: 20.56	Start temperature: 15°C End temperature: 14°C Weather summary: dry, clear Wind level (1-12): 1 Sunset time: 21.08	Start temperature: 15°C End temperature: 14°C Weather summary: dry, clear Wind level (1-12): 1 Sunset time: 21.29	Start temperature: 18°C End temperature: 16°C Weather summary: dry, clear Wind level (1-12): 1 Sunset time: 21.32	Start temperature: 20°C End temperature: 19°C Weather summary: dry, clear Wind level (1-12): 1 Sunset time: 21.06



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	Start time: 20.30 End time: 22.30	Start time: 20.45 End time: 22.30	Start time: 21.00 End time: 23.00	Start time: 21.00 End time: 23.00	Start time: 20.30 End time: 22.30
Building B	21.32 2 number lesser horseshoe bats emerged from the open doorway on the buildings eastern ground floor elevation.	20.30 10 lesser horseshoe bats recorded in roof apex at the buildings northern end. The bats were clustered tightly together. All bats emerged by 22.10 via the open doorway on the barns ground floor eastern elevation.	20.45 At least 12 lesser horseshoe bats recorded in roof apex at the buildings northern end. The bats were tightly clustered together. 5 bats emerged during the survey while 7 bats remained in place. Bats emerged via the open doorway on the barns ground floor eastern elevation.	21.15 At least 10 lesser horseshoe bats recorded in roof apex at the buildings northern end. The bats were tightly clustered together making it difficult to judge the quantity. Bats remained in place. No emergences.	20.30 At least 5 adult lesser horseshoe bats with young bats taking occasional flights. recorded in roof apex at the buildings northern end. Lesser horseshoe bats were recorded emerging and re-entering the barn throughout the survey
Building G - coal store	At start of survey; 2 number lesser	At start of survey; 2 number lesser	At start of survey; 1 number lesser	No lesser horseshoe bats in coal store.	At the start of the survey 3 adult



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	<p>horseshoe bats roosting within the coal store which is a non-living building attached to the dwellings north-west side.</p> <p>21.45</p> <p>1 number remained in place.</p> <p>1 number lesser horseshoe bat emerged from western end of building from above main door.</p>	<p>horseshoe bats roosting within the coal store which is a non-living building attached to the dwellings north-west side.</p> <p>21.10</p> <p>The bats were observed flying in and out of the coal store eventually leaving to forage at 21. 25.</p>	<p>horseshoe bat roosting within the coal store which is a non-living building attached to the dwellings north-west side.</p> <p>The bat did not emerge.</p>		<p>lesser horseshoe bat were observed in the coal store with 3 young which were taking occasional flights in the room's interior. Adult bats left to forage, young remained in place.</p>
Building H	No emergence	Not surveyed	Not surveyed	Not surveyed	Not surveyed
General activity	Low levels of common pipistrelle foraging activity recorded around the site.	Very similar to the first survey with the main concentration of common pipistrelle activity adjacent to the	Common pipistrelle activity Occasional noctule passes were also recorded with bats	Up to 2 Lesser horseshoe bats recorded flying around in-between dwelling and barn.	Occasional lesser horseshoe bats recorded flying in between barn and dwelling



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	<p>Occasional noctule passes were also recorded with bats noted passing high over the site.</p>	<p>eastern elevation of Building G.</p> <p>Occasional noctule passes were also recorded with bats noted passing high over the site.</p>	<p>noted passing high over the site.</p>	<p>Occasional common pipistrelle bats foraging around the site. A maximum of 1 bat recorded at any one time.</p> <p>Occasional noctule passes were also recorded with bats noted passing high over the site.</p>	<p>Moderate levels of common pipistrelle foraging activity recorded around the site.</p> <p>Occasional noctule passes were also recorded with bats noted passing high over the site.</p>
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Table 3: 2017 data

Survey date	28 June 2017	25 July 2017
Survey type	Evening emergence survey	Evening emergence survey
Survey fundamentals	<p>Start temperature: 17°C</p> <p>End temperature: 15°C</p> <p>Weather summary: dry, clear</p> <p>Wind level (1-12): 1</p> <p>Sunset time: 21.32</p> <p>Start time: 21.15</p> <p>End time: 23.15</p>	<p>Start temperature: 18°C</p> <p>End temperature: 17°C</p> <p>Weather summary: dry, clear</p> <p>Wind level (1-12): 1</p> <p>Sunset time: 21.10</p> <p>Start time: 21.00</p> <p>End time: 23.00</p>
Emergence results	2 lesser horseshoe bats entered building during and flew around, then hang-up.	<p>2 lesser horseshoe bats entered building during survey and flew around, then hang-up.</p> <p>1 long-eared bat observed within the building but did not emergence.</p> <p>1 common pipistrelle emerging from the south-facing elevation of the building, via open window.</p>
General activity	Lesser horseshoe bat flying between barn and coal store	Occasional common pipistrelle activity around the site.



## Habitats

3.10. The habitats on site are described in the paragraphs below and are shown in Figure 2, Appendix I. Photographs can be found in Appendix II.

3.11. The habitats on site fall into the following categories;

- Hardstanding
- Amenity grassland and introduced shrub
- Species-poor hedgerows
- Scrub and ruderals
- Trees
- Buildings

### *Hardstanding*

3.12. Areas of concrete hardstanding form a significant proportion of the site and interconnect the agricultural buildings as well as providing parking, pathways and storage areas around the buildings. The hardstanding is generally devoid of any significant vegetative growth.

### *Amenity grassland and introduced scrub*

3.13. The dwelling is served by a front, back and side garden. The front garden (southern side) is a small area of mown amenity lawn bordered by flower and shrub beds planted with ornamental species.

3.14. The rear and side garden which occupy the northern and western sides of the dwelling has been recently neglected, particularly on the northern side and has areas of bramble. Shrubs and plants, many of which are ornamental species have become overgrown. The western and southern side (beyond the driveway) consists

of an area of seldom mown lawn, which is referred to in the habitat figure as improved grassland.

3.15. Ornamental species present include holly *Ilex aquifolium*, box leaved honeysuckle *Lonicera pileata*, lilac *Syringa vulgaris*, camelia *sp*, rose of Sharon *Hypericum sp* and western red cedar *Thuja plicata*. Other species present include bramble *Rubus fruticosus agg* and ivy *hedera helix* which dominate the ground cover and ground elder *Aegopodium podagraria*.

3.16. Grassed areas are composed predominantly of typical lawn mixes including perennial rye grass *Lolium perenne*, bents *Agrostis sp.* and meadow grasses *Poa sp.*

#### *Trees*

3.17. A large mature ash tree *Fraxinus excelsior* is the only significant tree on the site. The tree is located on the northern boundary at the western end and lacks any significant structural diversity such as rot holes or broken limbs.

#### *Species-poor hedgerows*

##### Northern boundary

3.18. A partially defunct but maintained hedge forms a boundary along the eastern end of the northern boundary: the western end is composed of dense snowberry *Symphoricarpus sp*, the eastern end is defunct and composed of hawthorn *Crataegus monogyna*. The hedgerow terminates at the north-west corner of the site.

##### Southern boundary

3.19. A defunct and patchy hedgerow forms the southern boundary of the site. The hedgerow extends to the west of the site and joins the wider hedgerow network.

The hedgerow includes elder, blackthorn and ash and follows the alignment of a boundary wall, which is heavily encroached by ivy.

#### Eastern boundary

- 3.20. A species poor and occasionally managed hedgerow follows the alignment of a wall along the eastern boundary of the site, along the lane. The hedgerow is holly, privet and hawthorn.

#### *Scrub and ruderals*

- 3.21. There are areas of ruderal encroachment around buildings due to enrichment of the ground by manure; this is particularly prevalent to the east of Building B and north of Building E and to the south of Building D.
- 3.22. Small patches of scrub are encroaching on boundary walls and are also growing up around buildings, particularly at the north-west of the site and along the northern boundary where management has recently ceases.

## Species Observations

#### *Flora*

- 3.23. A large part of the garden is overgrown resulting in a mosaic of habitats, flowering and setting seed freely throughout this part of the garden.
- 3.24. The site does not contain any non-native invasive species that are listed on Schedule 9 of the Wildlife and Countryside Act (1981) as Amended.

#### *Invertebrates*

- 3.25. The site offers habitats for a moderate diversity of common and widespread invertebrates due to the variety of plants and flower species present and the maturity of the garden.

### *Amphibians*

- 3.26. Overgrown areas of vegetation provide suitable terrestrial habitat for amphibians such as common toad *Bufo bufo*. The lack of any suitable breeding ponds either on site or within a 500 m radius is likely to preclude the presence of great crested newts on the site or within close proximity.

### *Reptiles*

- 3.27. Small areas of the wider site are considered to offer suitable habitat for low numbers of common and widespread species of reptile, including slow worm *Anguis fragilis*. These areas are restricted to the northern and western sides of the garden, where a mosaic of habitats is present, and which provide open areas for basking as well as dense scrub offering ground cover and limited hibernation opportunities. Adjacent habitats including the networks of hedgerows increase the likelihood of commoner species of reptile being present.

### *Badger*

- 3.28. There are no badger setts on site or within close proximity of the site and no definitive evidence of badger activity such as mammal paths crossings the boundaries or evidence of foraging activity.

### *Birds*

- 3.29. The northern half of the garden is considered to offer good nesting habitat for the commoner species of garden bird due to the maturity and relative naturalness that has come about through a lack of maintenance. The trees, shrubs and flowering plants are left to flower naturally providing seeds and berries that provide an excellent foraging resource for birds.
- 3.30. During the surveys three species of bird have been recorded nesting within the buildings including the following;

- Swallows have been recorded nesting within the building
- A great tit nest was recorded within an external hole associated with the building

## Evaluation

3.31. The site consists of a small rural farmyard that contains a range of predominantly older farm buildings surrounded by hard-standing. The only significant area of vegetation consists of a domestic garden that has largely become overgrown. Rarity and fragility are low. The presence of the old farm buildings one of which contains a low status bat roost and the overgrown nature of the garden do afford the site a degree of permanence and naturalness. The site is considered to have ecological value at a Local Level.

### *Bats: Building evaluation*

Table 4: building evaluation summary

Building	Bat status	Conservation status
Barn	Confirmed roost	High
Dwelling (coal store)	Confirmed roost	High

3.32. The building is a traditional stone barn that is readily accessible to bats and possess a range of abiotic bat roosting opportunities that include small cavities beneath roof tiles, amongst the sarking torching / boards and in association with roof timbers.

3.33. No droppings were found in 2017, although parts of the building were not considered safe to access. The survey method was adapted by using crawl boards and binoculars, which led to the discovery of droppings attributable to lesser

- horseshoe bat. Bat emergence surveys carried out in 2017 recorded low numbers of lesser horseshoe bat (peak count of 2 adults in June and July), and one long-eared bat using this building.
- 3.34. Two lesser horseshoe bats were observed entering the building during the 2017 survey and did not emerge from the building. Subsequent surveys carried in 2019 confirmed a greater number of lesser horseshoe bats (peak count of 12 adults in June 2019 and 8 in June 2020) in association with the internal roof void of the northern wing and it was assessed that this was a lesser horseshoe bat maternity roost within the roof apex.
- 3.35. In 2017, a single brown long-eared bat was observed emerging from the building and it is assumed that the bat is roosting within an internal crevice, probably within a roof crevice. The roost is considered to be a non-breeding day roost for this species. No long-eared bats were recorded during 2019 surveys confirming the low status of this building for this species.
- 3.36. Droppings analysed in June 2020 confirm that the species is brown long-eared bat.

#### Coal store

- 3.37. The adjacent dwelling incorporates a coal store which extends from the northern side of the building and is a small open-fronted building.
- 3.38. The surveys carried out in 2019 identified a number of lesser horseshoe bats roosting within the coal store (a peak count of 6 bats) were recorded during the survey, but numbers have fluctuated significantly throughout the survey period. and it was assessed that the coal store contains a lesser horseshoe satellite roost.

#### *Species evaluation*

#### Table 5: species evaluation



Species	Estimated numbers	Roost type	Notes	Conservation status of roost
Long-eared	$\leq 3$	Day roost (non-maternity)	Cavity within internal walls and roof structure	Low
Common pipistrelle	$\leq 3$	Day roost	Not clear where bats are roosting but likely to be in cavity within internal walls and roof structure	Low
Lesser horseshoe	$\leq 20$	Maternity	The coal shed associated with Building G supports up to 6 bats including equal numbers of adults and pups.	High

### Long-eared bats

- 3.39. The building is considered to be acting as a day roost for small numbers of brown long-eared bats. Up to two bats have been recorded during the surveys, but no young have been observed or any accumulations of droppings, which rules out a maternity roost. Due to the small numbers of bats and small numbers of bat droppings, it is likely that the building is functioning as minor day roost for this species.
- 3.40. Brown long-eared bats are generally crevice-dwelling bats that prefer cracks and crevices between wooden joints or between wooden beams within large open rooms and loft spaces. They will also hang from the ceiling of a roost, particularly when in torpor.
- 3.41. In the absence of mitigation, the overall the impact on this species is considered to be *probable minor negative* at a *local level*.

### Common pipistrelles

- 3.42. A single common pipistrelle has been recorded emerging from the building in 2017. The low number of bats indicate that the building is functioning as a low status non-breeding day roost, probably for lone males or non-breeding females.
- 3.43. Pipistrelles are crevice-dwelling bats and will utilise various cracks and crevices in new and old buildings; such as behind paneling, under roofing tiles, shutters and eaves and within holes in brickwork, stonework and woodwork.
- 3.44. The building is not considered to offer optimal opportunities for hibernating bats due to the lack of any significant deep or complex voids within the walls of the building.
- 3.45. Common and soprano pipistrelle are widespread and common species throughout the UK. The roost is considered to have a low conservation status due to the low numbers of bats present and commonness of the species present.



- 3.46. In the absence of mitigation, the overall the impact on this species is considered to be *probable minor negative* at a *local level*.

Lesser horseshoe

- 3.47. This species was recorded in small numbers in 2017 and higher numbers in 2019. The presence of a total 15 bats (including pups) proves that the building is functioning as a small maternity roost for this species.
- 3.48. Fluctuating numbers of bats within the adjacent Coal Store (and its close proximity) suggest that this building is functioning as a satellite roost.
- 3.49. This species requires large open rooms and loft spaces in which to roost and is often found in old industrial buildings, barns, stable blocks and lofts of large old houses. The site is not considered to offer any hibernation opportunities for this species, which utilise undisturbed caves or similar structures that have a stable temperature.
- 3.50. The lesser horseshoe bat is rare in the UK and is confined to Wales and western England, where Somerset is a stronghold. Lesser Horseshoe bats are nationally uncommon and locally common and the JNCC estimate a national population of 17,000 bats.
- 3.51. In the absence of mitigation, it is considered likely that the proposals will have a *major negative affect* on the status of these Annex II species.

## 4. Recommendations

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- 4.1. The recommendations in the paragraphs below are provided to help ensure that wildlife and important ecological features are protected during the course of works. Recommendations also set out mitigation measures to minimise harm where this cannot be avoided and provide compensation measures to allow the proposals to meet current legislative and planning policy objectives.
- 4.2. Under the Government's National Planning Policy Framework (NPPF) (dated February 2019) opportunities to incorporate biodiversity in and around developments should be encouraged by local planning authorities. In particular, paragraph 175 (d) states that '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'.
- 4.3. The Natural Environment and Rural Communities Act (2006) ("**NERC**") states that a public authority must "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity" (section 40(1) NERC); Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat
- 4.4. Further, the Conservation of Habitats and Species Regulations 2017 states that "a competent authority, in exercising any of its functions, must have regard to the requirements of the Directives so far as they may be affected by the exercise of those functions." (Regulation 9(3)). Reference to "Directives" includes Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "**Habitats Directive**").

## Species recommendations

### *Bats*

4.5. In the UK, all species of bat are protected under the Wildlife and Countryside Act (1981) (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) (which implements prohibitions under the Habitats Directive). It is a criminal offence under this legislation to do any of the following:

- i) Deliberately capture, injure or kill a bat.
- ii) Deliberately disturb bat species. This includes, in particular, disturbance in a way which is likely to:
  - impair their ability to survive, to breed or reproduce, or to rear or nurture their young.
  - impair their ability to hibernate or migrate.
  - affect significantly the local distribution or abundance of the species to which they belong.
- iii) Damage or destroy a breeding site or resting place of a bat.
- iv) Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection.
- v) Intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection.

### Natural England Licence

4.6. Bat roosts have been identified during the course of the survey and in order for the conversion of the building to legally proceed, a Natural England Protected Species Development Licence will be required.

- 4.7. The licence application will need to be accompanied by a detailed Method Statement outlining, planned works and proposed mitigation and compensation, which is detailed below. Licence applications require full planning permission and Natural England aim to process applications within 30 working days of receipt.
- 4.8. The conditions of the licence will require that monitoring is undertaken post construction.

#### Toolbox talk, supervision and timing

- 4.9. Prior to commencement of works, key site workers will be inducted by an ecologist or an ecological clerk of works to go through their obligations in relation to bats and other species. A copy of this report will be made available and will be kept on site at all times. Throughout works, the site foreman/manager will be in regular contact with a designated ecologist.
- 4.10. Key stages of conversion works will require pre-commencement checks for bats and supervision by an ecologist. These stages are likely to include the removal of roof tiles and panels and internal/external cladding. In areas where horseshoe bats are roosting, there will likely to be a requirement to exclude the bats with polythene sheeting prior to the commencement of works and regular checks that bats are absent.
- 4.11. The building is supporting breeding bats, so there will be a timing constraint to works.

#### Bat mitigation strategy

##### *Bat loft*

- 4.12. The provision of a permanent bat roost for a maternity roost of lesser horseshoe bats provides the opportunity to maintain the conservation status of this species within the proposals. The building is no longer in use and is falling into dilapidation, so the conversion of the building provides a safe and permanent roost. This

- mitigation has the potential to have a major positive impact on the local population status of lesser horseshoe bats.
- 4.13. A new loft space will be made available to bats and will occupy the roof space of the new conversion (refer to Figure 4). The roof space will provide opportunities for void-dwelling bat species including long-eared, greater horseshoe and lesser horseshoe bats as well as providing opportunities for crevice-dwelling bats including common pipistrelle.
- 4.14. The roost will have the following dimensions (loft and first floor are continuous);
- Floorspace (width 4.7 m x length 4.5 m
  - Floor to eaves height: 1.65 m
  - Eaves to apex height: 2.4 m
  - **Total volume: 60.28 m<sup>3</sup>**
- 4.15. The roof will be constructed of traditional cut a pitch design and without trusses so that the loft space is uncluttered and open. Under-cloaking must consist of traditional slaters-bitumastic hessian 1F felt. **Modern breathable roofing membrane (BRM) is not suitable for bat roosts, as bats may become entangled within the fibres.** BRM is also known to sometimes deteriorate more rapidly when installed in bat roosts. Bitumastic roofing underlay is very durable if laid correctly and not regularly exposed to water; such exposure can lead to 'felt rot' at the eaves. To prevent this problem, the eaves course should be of non-degradable sarking felt, such as one of the Monarflex products. Where the eaves are suitable, a semi-rigid system such as Monarflex Eaves Guard is the best choice and keeps the bitumastic felt well away from water.

- 4.16. Insulation will be fitted between the floor joists rather than at the apex of the loft. A secure floor of 22 mm tongue and groove marine grade chipboard will be carefully fitted to leave no gaps along the walls. Any small gaps that remain around the edges will be sealed with a flexible sealer using a caulking gun. A secure loft hatch fitted with a T-lock will be installed within the ceiling of the office area and will allow access to the roost for maintenance and monitoring. The access hatch doorway will be constructed with a lip in order to prevent bat droppings from falling in when the hatch is raised. The hatch will be fitted with a t-lock to prevent casual access.
- 4.17. To create warm air pockets within the roof apex, triangular OSB panels approximately 1 m in height and 12.5 mm thick can be cut and fixed to the rafters to make small areas of enclosed space at the apex. These pieces of timber will be carefully cut around the ridge plate so that they make a good, airtight seal with the rafters. Three such pockets will be sufficient within a roost of this size.
- 4.18. The loft will have a party wall at the northern end, set approximately 2 m back from the northern gable wall. The partition will help to buffer the main loft from light ingress, disturbance and inclement weather and will provide a light sampling area for bats prior to emergence. The partition will be fitted with an aperture measuring 600 mm x 600 mm, which will provide access for bats to and from the loft. In the roof above the partitioned area will be a small non-opening roof light, which will provide ambient light to facilitate light sampling prior to bat emergence.

#### Roost entrance

- 4.19. The main roost entrance to the proposed bat loft will be letterbox-style and will be located on the north-facing gable of the roof. The main entry point will be located 2.00 m below the apex as measured from the top of the ridge. This position has been chosen so that the entrance to the loft faces onto open countryside with easy access to the adjacent lane and there are also no windows on this elevation. The entrances will measure 300 mm x 300 mm, which is the recommended size to

- accommodate lesser horseshoe bats and the entrance will be fitted with a hopper to prevent rain and light ingress and to deter birds.
- 4.20. The uptake of the roost will be improved by seeding the loft of with droppings to provide a scent trail.
- 4.21. An alternative entrance will be located on the eastern elevation pitch and will consist of a bespoke bat lead entry arch that will fitted to the exterior roof; these can be made by the roofing contractor or purchased from O'Brien lead fabrications (<http://www.obrienleadfab.co.uk>). The lead arch should be positioned as low down as possible while still allowing entry into the roof void. The lead bat arch is a discreet method of allowing bats access into the roof void, its low-profile silhouette allows it to blend into the roof. The lead arch it fitted in lieu of a number of roof tiles; and it will be necessary to remove an area of felt underlay and adjust a couple of roof battens to allow bats free access to the roof void.

#### Retained roost – adjacent coal store

- 4.22. The satellite roost within the adjacent coal store will be retained within the proposals. The roof of the building will be sured-up and any loose tiles and ridges will be repaired as necessary. The roof tiles are currently underlaid with bitumastic underlay, which will be retained or replaced as necessary; **there will be no replacement with breathable roofing membrane, which can endanger bats.** All internal and external walls will be repaired and repointed (as appropriate).
- 4.23. The bat access into the coal store is via a triangular gap above the door and the eaves. The door will be replaced during renovation with a new and more sturdy replacement and will be kept square at the top to maintain the current triangular access point.
- 4.24. The coal store also includes two small wooden windows which face north and onto existing boundary vegetation. The left hand (westernmost) window on the

northern elevation will be adapted to provide an alternative permanent opening that will allow bats to come and go directly into adjacent boundary vegetation. The adapted entrance will be a letterbox-style entrance measuring 300 mm wide by 150 mm tall and the entrance will be measured from the sill of the existing window and a new lintel will be installed above.

- 4.25. The vegetated boundary adjacent to the north of the coal store will be maintained to allow bats protected cover when they emerge and re-enter the building.
- 4.26. Demolition and repair works will take place during the autumn, winter or early spring when bats are less active.

#### Internal bat boxes

- 4.27. Further roosting opportunities will be provided by erecting two cavity Kent-style bat boxes in each loft; this design is a very simple and can either be made up on site or purchased from [www.nhbs.co.uk](http://www.nhbs.co.uk). The design can be adapted to suit the situation, with varying width and height. For this particular roost the design will consist of two chambers per box, with widths of approximately 250 mm and a height of 500 mm constructed of OSB board (please refer the information sheet titled 'Kent bat box' at Appendix III).

#### External bat boxes

- 4.28. Bat boxes will be installed prior to the commencement of works and can receive any bats found during the works.
- 4.29. Two crevice bat boxes will be installed on the mature ash tree that occupies the north-west boundary of the site. The boxes will provide ideal roosting conditions for *Pipstrelle sp.* and other crevice-dwelling species.
- 4.30. Two boxes will be installed including two Schwegler 1FF and two Schwegler 1FN bat boxes to be installed at a minimum height of 4 m and facing approximately south.



- 4.31. Two Habibat bat boxes (Type 001) will be incorporated within the exterior of the masonry of the new development; one on the southern and eastern elevation of the building (refer to Figure 4).
- 4.32. This model is designed for a variety of bat species and has good thermal properties making it suitable as both a maternity roost and hibernation roost. The boxes are approximately the size of a shoebox and are incorporated in the outer skin of the supporting walls as they are constructed. A variety of facings can be fitted to suit any existing brick, wood, stonework or rendered finish, making the box unobtrusive and aesthetically pleasing.
- 4.33. Apart from the front entrance of the 001, the box is fully sealed preventing bats from gaining entry to any interior part of the house. The box should be sited approximately 3 m – 4 m high on exterior gable ends / walls and away from doors and windows. The box should ideally be sited in such a location that bats are able to access into suitable habitat and away from exterior lighting. The boxes are self-cleaning and require no further maintenance. An information sheet on integral bat roosting boxes is included in Appendix III.
- 4.34. Bat boxes can be purchased directly from Habibat [www.habibat.co.uk](http://www.habibat.co.uk) telephone number 01642 724626 or [www.wildcare.co.uk](http://www.wildcare.co.uk) telephone number 01451 493885.

Conclusion: roost impacts

- 4.35. Conclusions on the roost impacts on each species of bat based on the above proposed mitigation measures:

*Brown long-eared*

- 4.36. The proposals provide various retained and protected roosting opportunities for brown long-eared bats including bat boxes, bat tubes and voids. These new roosts will be permanent and boundary commuting routes will be maintained. With mitigation, the impact is considered to be minor positive at a local level.

Common pipistrelle

- 4.37. The new crevice boxes installed within external walls will provide protected long-term shelter for common pipistrelles and boundary commuting routes will be maintained. With mitigation, the impact is considered to be minor positive at a local level.

Lesser horseshoe

- 4.38. The proposals include the installation of a large permanent roost space that will be part of a renovated building and will therefore be subject to ongoing maintenance. The roost will include a cold roost which is known to improve the abiotic favourability of lesser horseshoe roosts and is also positioned close to commuting habitat. With mitigation, the impact is considered to be major positive at a local level.

Lighting and connectivity

- 4.39. To protect bat commuting habitat, low-level lighting will be incorporated within the development. The lighting scheme will avoid light spill into adjacent habitats and proposed roost sites. The surrounding topography of the site is favourable in terms of reduction of light spill onto adjacent features as follows:
- The site is cut into the hillside, so the norther boundary rises steeply away from the development and the adjacent field to the north is beyond the brow, so will be protected from light spill
  - Similarly, the field adjacent to the south of the site descends steeply away from the site and therefore somewhat protected from lightspill from the site.

- The topography is such that the lane is shaded and buffered from the site; as the lane runs north away from the site, it enters a shallow tree-lined cutting and then rises over a brow and curves westwards away from the site. To the south, the lane, which is hedge-lined, drops down away over another brow and curves westwards away from the site. This means that the main commuting route is protected from any lightspill from the development site, so the bat commuting route will be maintained.
- 4.40. Retained and new bat roosts will remain unlit. The retained coal store (part of the dwelling) will not be lit in any way. The coal shed is in close proximity to the proposals barn and any lighting on the east of barn will be low level and hooded, so there is no light spill onto the coal store.
- 4.41. The development will use low powered LED lamps in conjunction with hoods and louvers so that light is directed where it is needed and must use timers and sensors so that light is used only when it is needed.
- 4.42. External lighting must be installed low to the ground to minimise spill. The site has walls and hedgerows along the northern boundary, so if lights are installed low down, there is less risk of light spill onto habitats to the north. The exit points and areas around existing and proposed roosts must remain dark and unlit.
- 4.43. It is considered that with these mitigation measures in place there will be a **residual negligible impact** on bats as a result of lighting.

#### Habitats Directive

- 4.44. It can be seen from the above that, in view of the proposed mitigation measures (both in relation to the roosts and lighting), any likely significant effect on the North Somerset and Mendip Bats SAC from the proposed development will be fully negated. This means that the local planning authority can conclude that there will be no adverse effect from the proposed development, either alone or in combination with any other plan or project, on the integrity of this SAC.

4.45. In addition, it is clear that the mitigation will ensure that, in respect of the bat licence needed from Natural England to deliver this development, the favourable conservation status licensing test will be fully met.

#### *Birds*

4.46. All wild birds, their nests and eggs are afforded protection under the Wildlife & Countryside Act 1981 (as amended). The offences under this Act applying to wild birds include to:

- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built.
- Intentionally take or destroy an egg of any wild bird.
- Have in one's possession or control any live or dead wild bird or any part of, or anything derived from, a wild bird.
- Have in one's possession or control an egg of a wild bird or any part of such an egg.
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb the dependent young of such a bird.

#### Mitigation strategy

4.47. Prior to the commencement of works a check will be made for birds that are nesting or have dependant young. If nesting birds are found then works in the immediate area will be deferred until the young have fledged and left the nest

4.48. Any operational work on buildings which have been found to contain bird nests must therefore take place outside of the nesting birds season which runs roughly

- between March and the end of August; an ecologist or an ecological clerk of works (ECoW) will oversee any clearance works during this period.
- 4.49. Where possible barn swallows should be provided with alternative nesting opportunities, these can include open-sided buildings such as car ports or porches. To avoid the droppings falling on cars or stored goods, a droppings board can be fitted directly below the nests.
- 4.50. Artificial nesting boxes for swallow are recommended and can be inexpensively incorporated within the development. Swallow nesting boxes such as Schwegler No. 10 Nest Box should be used and can be attached to the upper walls of the properties.



## 5. Limitations

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- 5.1. This report records wildlife found during the survey and anecdotal evidence of sightings. It does not record any plants or animals that may appear at other times of the year and were therefore not evident at the time of visit.
- 5.2. Recommendations and conclusions are subject to change should further findings significantly differ from those collected from the survey efforts to date.
- 5.3. The advice contained in this report relate primarily to factual survey results and general guidance only. On all legal matters you are advised to take legal advice.

## 6. References

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**Balmer et al. (2012)** *Bird Atlas 2007-11. The breeding and wintering birds of Britain and Ireland.* **BTO**

**Bat Conservation Trust (BCT)** *Bats and Lighting in the UK.* BCT

**Collins, J. (ed.) (2016)** *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition)* The Bat Conservation Trust, London.

**English Nature (2001)** *Great Crested Newt Mitigation Guidelines.* English Nature

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**Joint Nature Conservation Committee (JNCC)** *Common Standards Monitoring Guidance for Reptiles and Amphibians* (2004) JNCC

**Langton, T., Beckett, C. and Foster, J. (2001)** *Great Crested Newt Conservation Handbook.* Froglife

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

**Multi-Agency Geographical Information for the Countryside (MAGIC) Website** at [www.magic.gov.uk](http://www.magic.gov.uk)

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**TSO (2006)** *Natural Environment and Rural Communities Act* TSO

Appendix I – Site Figures





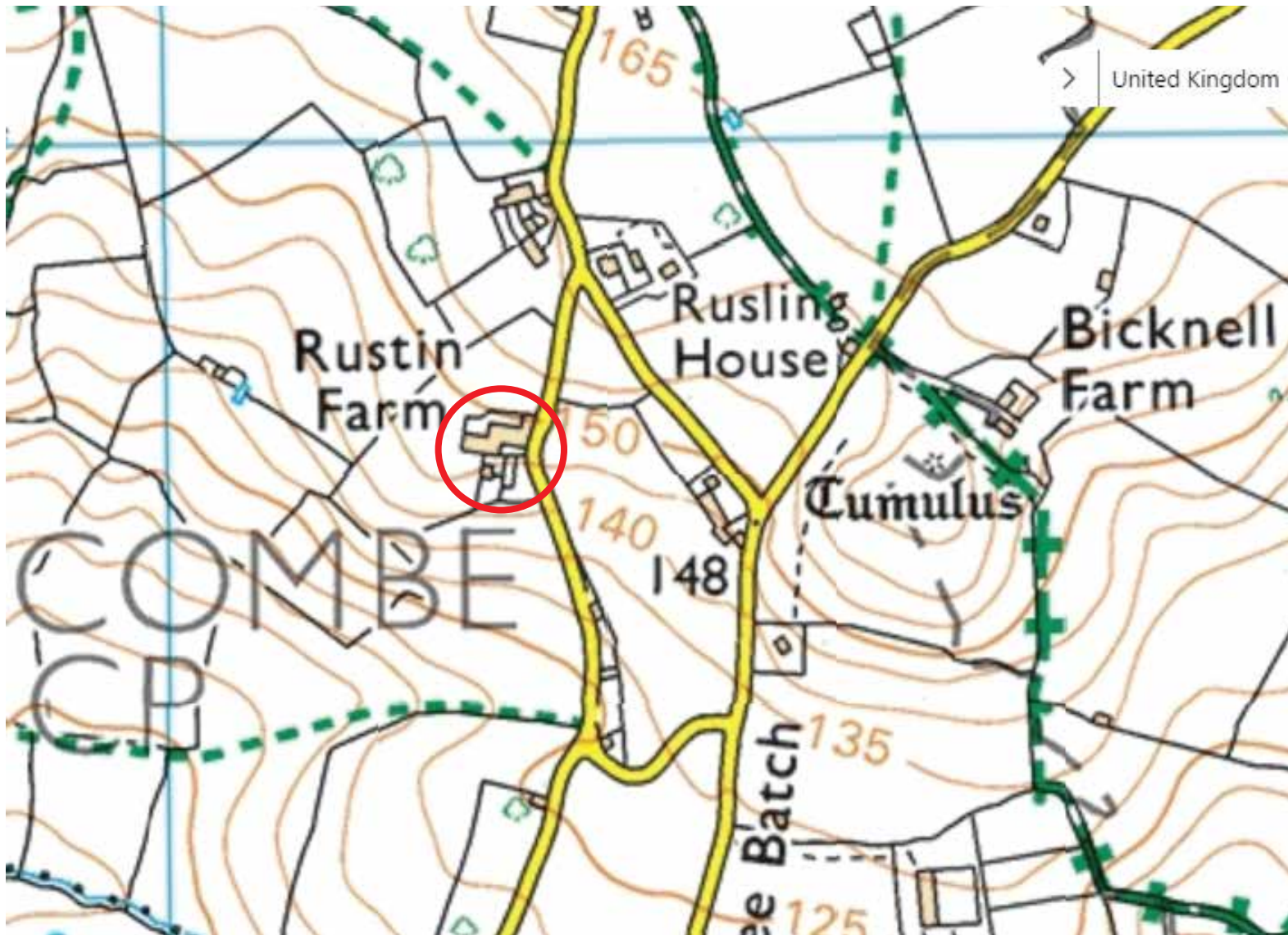
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


Site Location



Client Mr G Aldridge  
Title Location Map  
Site Ruslin Farm, Butcombe  
Figure 1  
Date 10 June 2020  
Scale Indicative



-  Site Boundary
-  Buildings
-  Amenity grassland
-  Introduced shrub
-  Ruderals
-  Trees
-  Hardstanding
-  Proposals building
-  Other buildings
-  Scattered scrub
-  Species-poor hedge
- 

Client Mr G Aldridge

Title Habitat plan

Site Ruslin Farm









Figure 2

Date 8 December 2021

Scale 1:7,500





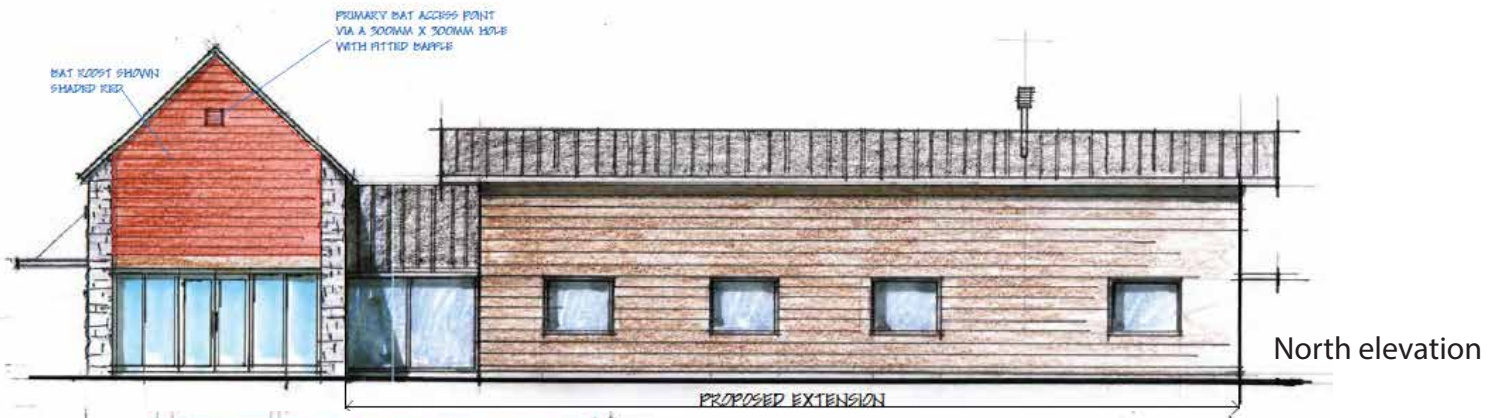
-  Site Boundary
-  Buildings
-  Long-eared bat (2017)
-  Lesser horseshoe
-  Bat droppings
-  Common pipistrelle (2017)
- 
- 

Numbers indicate maximum numbers of bats recorded during the survey year.

Client Mr G Aldridge  
 Title Bat survey result  
 Site Ruslin Farm  
 Figure 3  
 Date 6 December 2021  
 Scale 1:7,500







North elevation



West elevation



South elevation



East elevation



■ Habibat bat boxes

Client Mr G Aldridge  
Title 2019 bat survey data  
Site Ruslin Farm  
Figure 4  
Date 8 December 2021  
Scale Indicative



## Appendix II – Site Photographs





## Photographs 1-3



Photograph 1:

Eastern and southern elevations



Photograph 2:

Northern elevation; lean-to which is built up against this elevation.



Photograph 3

Detail showing cracks within exterior stonework

## Photographs 4 - 6



Photograph 4:

Northern gable (two storey wing)



Photograph 5:

Ground floor (northern side)



Photograph 6:

Roof detail (two storey wing)



## Photographs 7 - 9



Photograph 7:

Barn B; Hay loft (one of a pair)



Photograph 8:

Barn B; internal view of southern lean-to



Photograph 9:

Barn B; internal view of northern lean-to



## Photographs 10 - 12



Photograph 10:

Barn B; single storey southern wing;  
internal view



Photograph 11:

Barn C; southern elevation



Photograph 12:

Barn C; northern elevation



## Appendix III– Information Sheets

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## Bat Habitat Suitably Criteria

Bat Roosting Suitability	Criteria	Survey requirement to prove likely absence
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further survey work required
Low	A building, structure or tree with one or more potential roosting sites that could be used by individual bats opportunistically; however, these possible roost sites do not provide enough space, shelter, protection and/or suitable surrounding habitat to be used by large numbers of bats and are unlikely to be suitable for maternity or hibernation roosts.	One activity survey
Medium	A building, structure or tree with one or more potential roost sites that could be used by bats due to the size, shelter, protection, conditions and surrounding habit, but is unlikely to support a roost of high conservation status.	Two activity surveys
High	A building, structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers 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 activity surveys

Survey requirements are taken from Bat Surveys for Professional Ecologists: Good Practice Guidelines (2016), which is the recognised industry standard guidance used by local planning authorities and other statutory consultees.

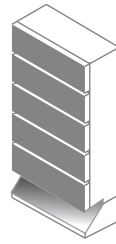
# Bat Tubes

BUILT-IN HABITATS N° 004

## Woodcrete Bat Tubes

We recommend the use of woodcrete-type bat tubes that are manufactured by Habibat or Schwegler. These are a well known brands so are always accepted as a compensation measure for planning applications and Natural England Licence applications. The tubes also have a low visual impact on the development because they can be built into the exterior wall and then rendered or painted, or in the case of the Habibat, faced with brick or stone.

## Recommended bat tubes

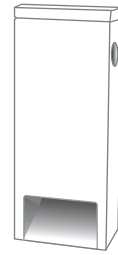


### Habibat

The great advantage of the Habibat box is that it can be faced with brick, stone or render, so that it blends in and doesn't alter the aesthetic of the build.

### Specifications

Height	44 cm
Width	21 cm
Depth	10 cm
Weight	7 kg



### Schwegler 1FR & 2FR

There are two similar designs that we use regularly. The 1FR is designed to be used singularly whereas the 2FR has transverse connecting holes (model shown) that allow tubes to be connected together.

### Specifications

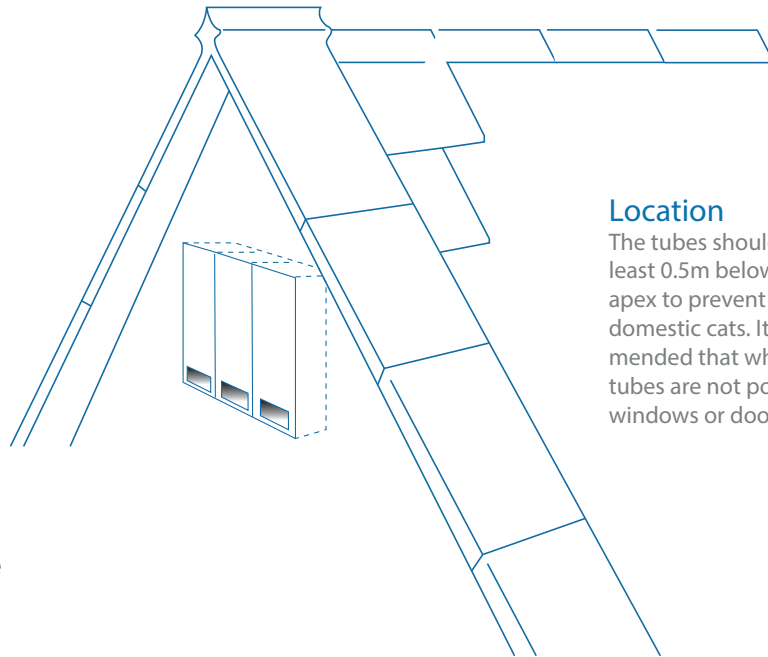
Height	47.5 cm
Width	20 cm
Depth	12.5 cm
Weight	9.8 kg

## How Many to Install

The number of bat tubes to install is dependent on the level of compensation or mitigation that is required. Typically one tube is recommended on sites where there are low number of bats and multiple groups of tubes are recommended on sites of high ecological significance.

## Installation

The tubes should be built into the exterior wall of the building, typically at the gable apex. The tubes should be installed flush with the surrounding wall and can then be rendered or painted with breathable paint if required.



## Location

The tubes should be positioned at least 0.5m below the eave or gable apex to prevent predation by domestic cats. It is also recommended that where practical, the tubes are not positioned above windows or doors.

## Bat Tubes

Bat tubes are an excellent way to provide discreet and low impact roosting opportunities for certain species of bats that tend to occupy crevices within buildings. They are relatively compact and can be installed flush or beneath a rendered surface and can be painted with an air permeable paint if required.

  
**crossman**  
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# The Kent bat box

Simple to construct, self-cleaning and low maintenance.

The only critical measurement is the width of the crevices—these should be no larger than suggested. Other measurements are approximate.

## **Materials and construction**

Box to be made from untreated rough-sawn timbers

Timber should be c.20mm thick

The box should be rainproof and draught-free

Crevices can be between 15 and 25 mm wide

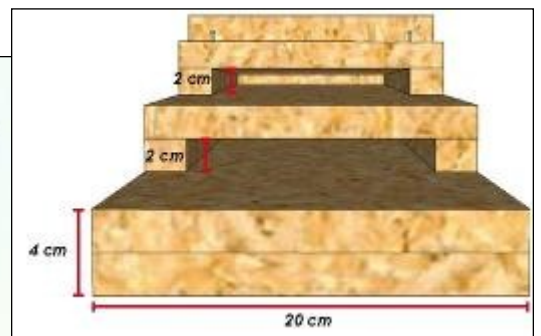
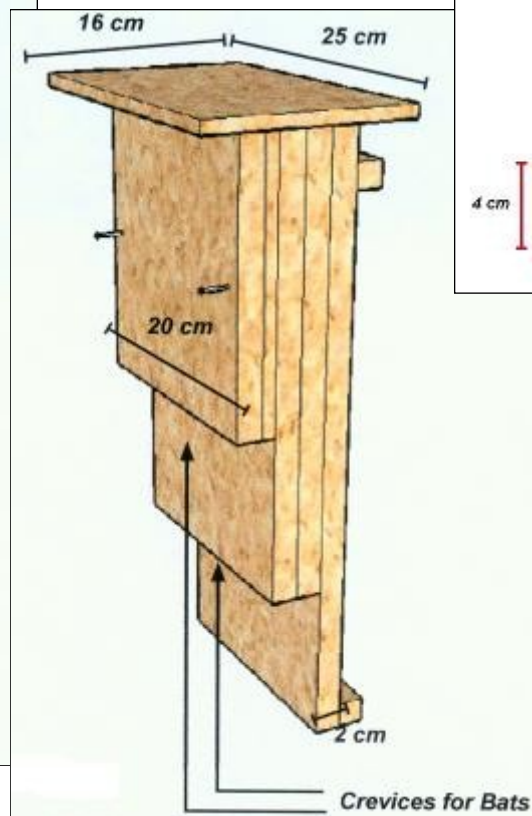
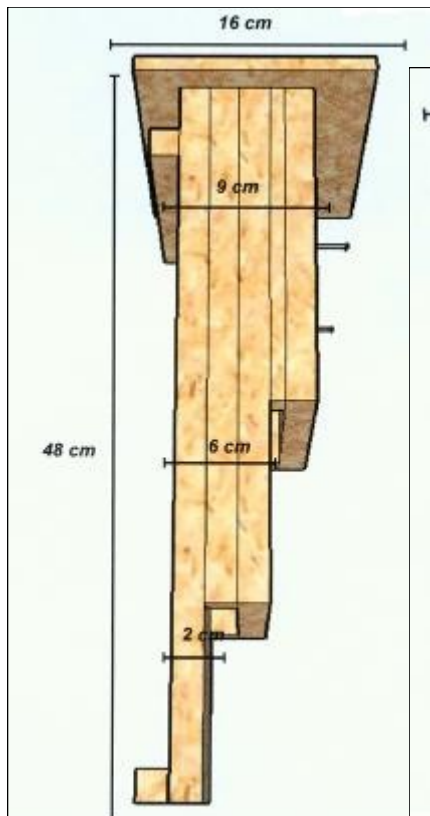
Fixing may be by use of brackets, durable bands or wires

## **Location**

Boxes are best fixed as high as possible in a sheltered wind-free position, exposed to the sun for part of the day.

They can be fitted to walls, other flat surfaces or trees

A clear flight line to the entrance is important



*This design has been developed by Kent Bat Group*

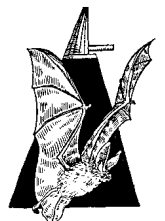
*We'd like to know how successful it is. Please send any comments or records of bats seen using it to: [records@kentbatgroup.org.uk](mailto:records@kentbatgroup.org.uk)*

*With thanks to Glen Sharman for help in producing the prototype and Lloyd Bore for providing plans.*

**Kent Bat Group**

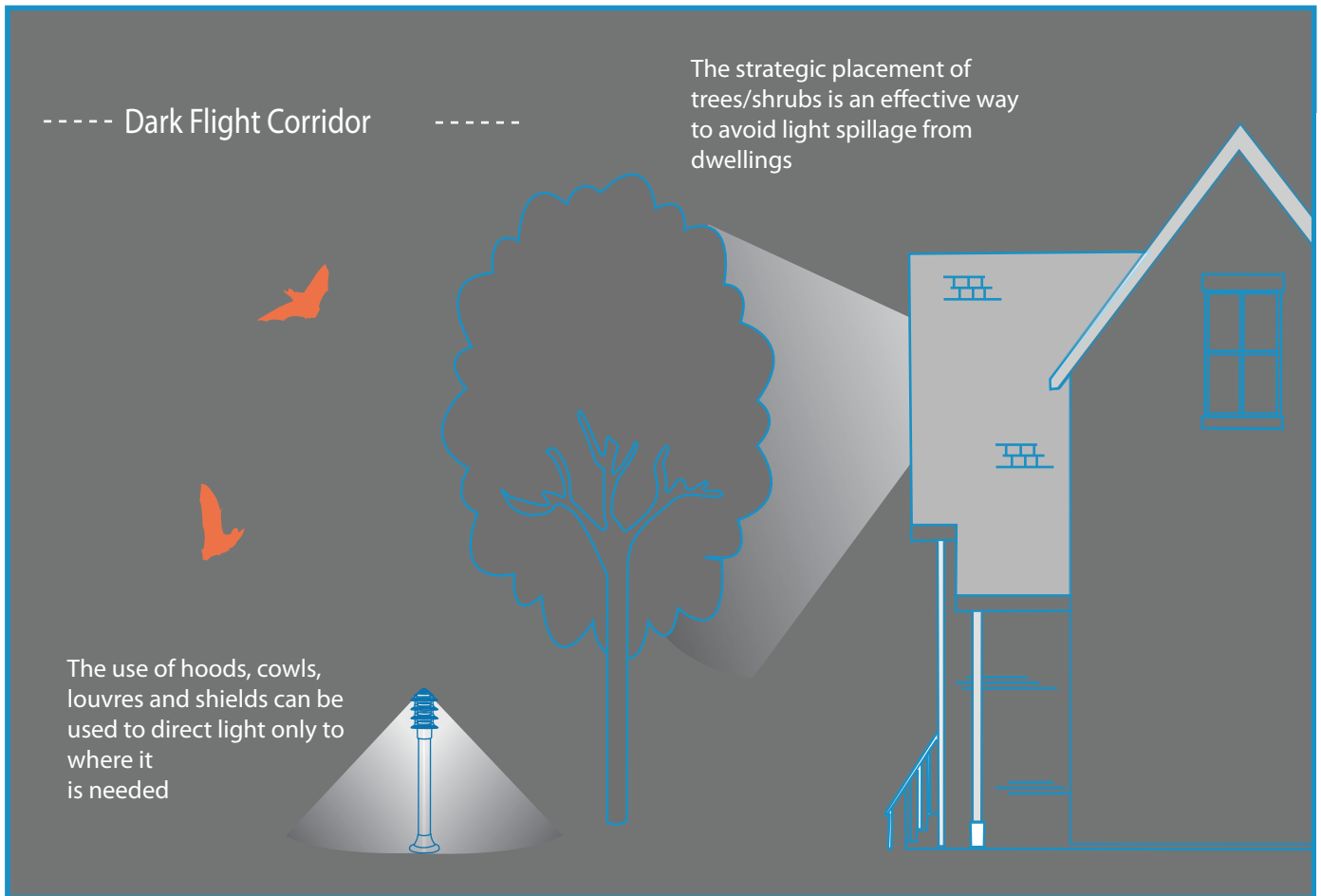
[www.kentbatgroup.org.uk](http://www.kentbatgroup.org.uk)

Reg Charity No. 1079767



# Sensitive Lighting for Bats

MITIGATION GUIDELINE N° 001



## Lamp Type

The impact of light on bats can be minimised by the use of low/high pressure sodium lamps.

## Lighting Column

The height of lighting columns should be kept as low as possible to reduce the impact of light spill. For example, when designing lighting for pedestrian walkways, use short bollard lights that produce a low level light (as low as 3 lux) directed downwards.

## Light Mapping

Mapping the light spill of a lighting scheme using computer software can prove essential in designing schemes that are fit for purpose, that minimise energy costs and create dark flight corridors and foraging areas for bats.

## Light Levels

Proposed light levels within landscape plans should be as low as possible. If lighting is not needed, don't light.

## Timing of Lighting

The times at when lighting is left on should be limited where possible. The use of movement sensors and timers for lights is useful for saving energy and reducing the amount of time a light is left on.

## Impacts of Light on Bats

As nocturnal mammals, light causes disturbance to bats and many species will actively avoid lit areas. The illumination of bat roosts can delay bats emerging and thus shorten their foraging time and may eventually lead to bats abandoning their roost. The illumination of foraging or commuting areas may also lead to an increase in the rate of predation of bats by predators.

  
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