

# Bat Survey of The Forge, Street End, Blagdon, Somerset

Client    Sworders

Reference    S1179.001

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# Non-technical Summary

## Background

In August 2020, Crossman Associates was commissioned by Sworders to undertake a bat and bird survey of The Forge, Street End, Blagdon, Somerset, BS40 7TL. The building which currently serves as a wood workers workshop has proposals for conversion into a dwelling. Works included two bat activity surveys.

## Methodology

The scoping survey was undertaken by Fairbrass Knowles, a fully licensed bat worker and experienced ecologist. The building was inspected both externally and internally for any evidence of bat presence, such as droppings, food remains, staining or actual bats. Emergence and dawn surveys were conducted in August and September 2020 and June 2021.

## Results

The forge consists of a small traditional stone built detached building with a clay tile roof situated within the rural village of Blagdon. The building currently functions as a wood workers workshop and overall the building remains in good condition, during the scoping survey no bats or evidence of bats was found. Bat roosting suitability consists of small crevices associated with the eaves and two damaged roof vents fitted to the roof. **The emergence/dawn surveys confirm the presence of a low status non-breeding soprano pipistrelle day roost.**

No birds were noted in association with any aspect of the building.

## Recommendations

It is recommended that the following be undertaken as part of the development:

- Works should be guided by a Natural England Low Impact Licence
- Exterior lighting must take into account the presence of foraging bats

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# 1. Background

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- 1.1. In August 2020, Crossman Associates was commissioned by Sworders to undertake a bat scoping survey of The Forge, Street End, Blagdon, Somerset, site Ordnance Survey grid reference ST 4993 5874.
- 1.2. The building is proposed to be converted from a workshop into a dwelling.
- 1.3. Figure 1 provides a site location map and figure 2 provides a survey results plan.
- 1.4. The objectives of the survey were to:
  - Make an assessment of the likely presence or absence of bats and birds
  - Identify any legislative or planning policy constraints relevant to the site
  - Determine the need for further surveys, compensation or mitigation

## Site Description

- 1.5. The forge consists of a small, detached and traditional building with solid stone walls and double pitched roof clad with traditional interlocking clay peg tiles.
- 1.6. The building's interior is laid out approximately 70 / 30 with the larger bay occupying the north side and serves as the wood workers workshop with the ground floor providing the main working area and a first floor which occupies the roof void that provides a small office and toilet and a larger storage area. The smaller southern end is used as a storage area by a second person and provides one single bay only with a vaulted roof and is separated from the north side by a full height solid stone wall, a standard sized connecting doorway that links the two bays has been sealed permanently shut. A small outside bay is present on the south-east corner and has a small and permanent exterior opening, this may have

- been connected with the actual forge, but is now redundant and used only for storage.
- 1.7. The property is located on north facing hill side on the western side of Street End; a minor through road located on the southern side of Blagdon. The property sits within its own small plot with the rear elevation partially built into a neighbouring field which occupy higher ground. A small area of lawn and parking area for two cars takes up the land to the immediate east and south.
  - 1.8. Immediate surroundings to the north, south and east consist of residential dwellings which line the edges of the road, while to the west lies a large pasture field of improved grassland.
  - 1.9. The wider landscape to the north, east and south is taken up predominantly by residential units, which tend to form moderately built up areas of mainly older properties with gardens. To the west the land tends to be a hilly, agricultural landscape taken up by mainly larger sized pasture fields divided by hedgerows; beyond lies significant areas of mixed broad-leaved and coniferous woodland which are formed by a series of connected woodlands, the closest of which is Fullers Hay which at approximately 250 m to the west.

## Legislation

- 1.10. In the UK all species of bats are protected under the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations, 2017. Under this legislation it is a strict liability offence to injure or destroy a bat or to disturb damage or destroy the resting place of a bat. Under this legislation the UK is obliged to fully take into account bats within the planning process and the level of bat activity on-site must be fully assessed prior to the assessment the planning application

1.11. In Britain all wild birds are granted legal protection under the Wildlife & Countryside Act ((1981) (as amended)). This legislation protects the birds, their eggs and nests whilst being built or in use.

## 2. Methodology

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### Desktop Study

#### *Data search*

- 2.1. The MAGIC website was accessed to gain information on any statutory site designations within 4 km of the site that are designated for bats.

#### *National Planning Policy*

- 2.2. National Planning Policy has been reviewed for policies that relate to nature conservation relevant to the site.

### Field Survey

#### *Bat scoping survey*

- 2.3. 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.
- 2.4. The building was also 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. Buildings 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.

*Evening emergence / activity surveys*

- 2.5. Two evening emergence / activity surveys were conducted by suitably qualified personnel. Two surveyors attended the surveys and were positioned so that all aspects of the building suitable for roosting bats could be observed. The Survey was undertaken during suitable weather conditions. The emergence survey commenced at sunset and continued for two hours. All general bat activity on site was also noted.
- 2.6. Echo meter touch and Peersonic 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 where necessary were analysed using dedicated computer software Audacity and wildlife acoustics.

*Birds*

- 2.7. The building was also inspected for the presence of birds including barn owl *Tyto alba* and barn swallow *Hirundo rustica*. The building was checked for field signs including nesting material, accumulations of droppings and/or pellets.

## 3. Results

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### Desktop Study

#### *Data Search*

- 3.1. The MAGIC website informed that there are no statutory sites within 4 km of the site designated for bats.

#### *Planning Policy*

- 3.2. 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<sup>56</sup>; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation<sup>57</sup>; and
    - b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.
  - 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<sup>58</sup> 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

### *Bat scoping survey*

- 3.3. Survey work was undertaken by Fairbrass Knowles an experienced ecologist and fully licensed bat worker; licence number 12392 CLS-CLS (Natural England) and the initial daytime scoping survey took place on the 27 August 2020. The building was fully accessible.

- 3.4. The external and internal conditions of the building are described in the table below and photographic reference can be found in Appendix II.
- 3.5. A table within Appendix III set out the criteria for the way a building is assessed for its potential to support roosting bats.

Table 1: building description and bat suitability.

Building	Feature	Feature Description	Bat suitability
<b>The Forge</b>	<b>Overview</b>	<p>A The forge consists of a small, detached and traditionally built building with solid stone walls and double pitched roof clad with traditional interlocking clay peg tiles.</p> <p>The building measures approximately 16 m x 5 m x 2.5 m to eaves.</p> <p>The building is in use as a wood-workers workshop and general store and overall remains in good condition with evidence of roof renovations.</p>	Moderate suitability ☒
	<b>Exterior</b>	<p>All walls are formed from solid 225 mm dressed natural stone with decorative red brick forming the corners, window and door surrounds and all areas remain well pointed and free of any significant cracks, holes or evidence of subsidence.</p> <p>Three timber-framed and painted windows are present on the front; eastern elevation and one on the southern elevation. The only doors are present on the front; eastern elevation and consist of two sets of double timber doors to eaves height; one set at the southern end and a slightly larger set at the northern end.</p>	

Building	Feature	Feature Description	Bat suitability
		<p>All windows and doors remain in good order and well fitted, providing no significant gaps around the frames when closed.</p> <p>The small bay present on the south-east corner has a small permanent opening on the western elevation.</p> <p>During the survey no bat droppings or any other bat related evidence was noted.</p>	
	<b>Interior</b>	<p>The interior is set over two floors and consists of the ground floor split approximately to 70 : 30 with the larger bay occupying the north side and forming the main wood workers workshop while the southern bay is separated by a full height solid stone wall and vaulted roof void with the roof timbers and sarking layer, which is traditional type 1 felt.</p> <p>A connecting internal doorway has been sealed shut as the southern bay is used by a second person and not part of the wood working business. All internal walls are composed of well-pointed and white-washed natural stonework. The wood workers bay has flat panelled ceiling.</p> <p>The first floor mirrors the size of the wood workers workshop bay and is accessed via a timber staircase at the northern end and is set out to</p>	

Building	Feature	Feature Description	Bat suitability
		<p>occupy the roof void and thus follows a triangular shaped arrangement. At the extreme northern end, two small rooms have been created using stud work with plasterboard walls and ceilings where they serve as a toilet and office. The remaining roof void which is separated from the office and toilet by a partition wall and doorway consists of the original roof which is composed of a series of substantial timber 'A' frames with rafters and with a sarking layer consisting of traditional timber under boarding formed by closely fitted timber planks. The floor to ridge height is approximately 2.1 m. A thick layer of cobwebbing hangs down from the ridge and is present along the full length of the void. The two vents that are present on the exterior ridge would have originally provided ventilation into the void; the northern has a plastic mesh screen and the southern vent has been comprehensively sealed-off with timber boards.</p> <p>Overall, all interior bays appear to remain well-sealed with no obvious access points, other than the doors and windows.</p> <p>During the survey no bats, bat droppings or any other bat related evidence was noted.</p>	

Building	Feature	Feature Description	Bat suitability
	<p><b>Roof</b></p>	<p>The roof is consists of a simple double pitched design clad with traditional clay interlocking peg tiles and simple clay ridges. The verges have been clad over with individual inter-connecting lead sheets, tightly folded and fitted.</p> <p>Refer to photograph 1.</p> <p>All tiles (peg and ridge) remain present and well-fitted and the roof has received significant refurbishment in recent times (<i>pers coms</i>). The central and north end of the roofs ridge is fitted with 2 number ornate square shaped, wood, lead and zinc constructed roof vents which protrude approximately 600 mm from the ridge line and are fitted with miniature zinc hipped roofs, they would have originally had wooden louveres on the eastern and western sides but these are mainly missing now allowing free access into the hidden cavity.</p> <p>Refer to photograph 6.</p> <p>The eaves are a basic design and consist of the rafters which protrude slightly with the intervening gaps between the rafters infilled with stone; this creates a mainly well sealed feature, however a few narrow but</p>	

Building	Feature	Feature Description	Bat suitability
		significant crevices are present where mortar / timber has shrunk back allowing access to small and hidden cavities.  Refer to photographs 3 & 5.	

Bat emergence survey

- 3.6. The property was initially assessed as having **low suitability** for roosting bats. In line with survey guidance (2016), one evening emergence survey was undertaken on 21 August 2019. The survey was led by Fairbrass Knowles; licence number 12392 CLS-CLS.
- 3.7. **The survey confirmed the presence of a non-breeding common pipistrelle roost.** A second survey was subsequently carried out.
- 3.8. Figure 2 within Appendix I provides a survey results plan
- 3.9. The table below details the results of the surveys

3.10.

Table 2: Bat emergence survey results

Survey Date	27/08/2020	18/09/2020	16/06/2021
Structure	The Old Forge	The Old Forge	The Old Forge
Survey Conditions	Weather: Dry with sporadic drizzle Cloud: 90% Wind level:0 / 1 Start temp: 16°C End temp: 15°C Sunset time: 20:09	Weather: Dry Cloud: 10% Wind level:0 / 1 Start temp: 10°C End temp: 10°C Sunrise time: 06:53	Weather: Dry with sporadic drizzle Cloud: 0% Wind level:0 / 1 Start temp: 19°C End temp: 19°C Sunset time: 21.28
Emergence survey	20:29 1 number soprano pipistrelle recorded emerging from an eaves gap in-between two rafters on the eastern, front elevation at the northern end.	No re-entry	21.42 1 number soprano pipistrelle recorded emerging from an eaves gap in-between two rafters on the eastern, front elevation at the northern end.

	The bat spent a few minutes foraging around the building before moving off.		The bat spent a few minutes foraging around the building before moving off.
General bat activity	<p><u>Common and soprano pipistrelle</u></p> <p>Low levels of common pipistrelle <i>Pipistrellus pipistrellus</i> and soprano pipistrelle bat foraging activity recorded foraging up and down Street End, the small lane that passes adjacent to the sites eastern side.</p> <p>A max of one bat at any one time was recorded.</p>	<p><u>Common and soprano pipistrelle</u></p> <p>06:09 – 06:36</p> <p>Low levels of common and soprano pipistrelle bat foraging activity. Bats were mainly recorded flying up and down Street End, the small lane that passes adjacent to the sites eastern side.</p> <p>A max of one bat at any one time was recorded.</p> <p><u>Noctule bat</u></p> <p>06:01-06:29</p> <p>5 noctule passes were recorded, the bats were</p>	<p><u>Common and soprano pipistrelle</u></p> <p>Low levels of common pipistrelle bat foraging activity recorded foraging up and down Street End.</p>

		<p>individual passes flying high over the site and were not seen.</p> <p><u>Long-eared bat</u></p> <p>06:22</p> <p>1 number long-eared bat observed flying up Street End.</p> <p><u>Greater horseshoe bat</u></p> <p>06:36</p> <p>1 number, very brief pass by a greater horseshoe bat recorded flying up Street End.</p>	
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### *Birds*

- 3.11. During the survey no birds, bird nests, droppings were found in association with either the building's exterior or interior.

## Evaluation

### *Bats*

#### Scoping survey

- 3.12. During the scoping survey no droppings, staining, feeding remains or actual bats were observed. The building is relatively simple in its layout, which allowed for a thorough inspection. Areas directly below the eaves, including window sills and the ground were checked for the presence of bat droppings and windows were examined for urine staining.
- 3.13. Overall the building remains in good condition with a well-sealed roof of clay peg and walls free of significant cracks or holes.
- 3.14. Roosting opportunities are generally confined to small crevices associated with the roofs eaves where small crevices have been identified in-between the protruding rafters, refer to Photographs 3 & 5 and the two ornate roof vents: Photograph 6. These features are considered suitable for crevice dwelling bats; typically, *Pipistrellus* bats, which will make use of such features as summer roosting sites.

#### *Bat emergence survey*

- 3.15. During one of the activity surveys in 2020 and the survey in 2021, one soprano pipistrelle bat was recorded emerging from a crevice associated with the eaves on the northern end of the building (eastern elevation), refer to Photograph 5.

- 3.16. On the second survey no bats were recorded either emerging or re-entering the identified location or any other aspect of the building.
- 3.17. On both surveys bat activity (foraging and commuting) was considered to be low with sporadic soprano and common pipistrelle bats recorded foraging and commuting activity in the grounds and general vicinity of the site.

Soprano pipistrelle bat

- 3.18. The low numbers of emerging bats and low-level foraging / commuting activity in and around the grounds of the property during the main bat activity season, confirms that the roost is not a maternity roost, but is functioning as a low status day roost. Such roosts are used by non-breeding bats throughout the main bat activity season May – September and bat occupancy can be intermittent and dependant on weather / temperature / levels of disturbance and food availability.
- 3.19. Soprano pipistrelle bats are crevice dwelling bats and will utilise various cracks and crevices in new and old buildings such as behind panelling, shutters and eaves and within holes in brickwork, stonework and woodwork.

## 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. The Natural Environment and Rural Communities (NERC) Act (2006) 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; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat'.
- 4.3. Under the Government's National Planning Policy Framework (NPPF) opportunities to incorporate biodiversity in and around developments should be encouraged.
- 4.4. Paragraph 174b) of the NPPF (2018) states 'Plans should ...identify and pursue opportunities for securing measurable net gains for biodiversity' and Paragraph 175d) states that '...opportunities to incorporate biodiversity improvements in and around developments should be encouraged especially where this can secure measurable net gains for biodiversity'.

### Species recommendations

#### Bats

*Soprano pipistrelle*

- 4.5. The surveys confirm the presence of a soprano pipistrelle roost and as such, the roost is protected whether bats are present or not; refer to paragraphs 1.11. The identified access point which consists of a small crevice associated with the eaves at the northern end of the buildings front; eastern elevation must not be blocked until a licence has been granted. The blocking of a bat roost is an offence under the Legislation.

#### Natural England Low Impact Class Licence

- 4.6. For works to legally proceed, it will be necessary to register the site under the Natural England Mitigation Class Licence scheme, which is the most appropriate licence for low status summer roosts used by common bat species.
- 4.7. Once planning permission has been granted and prior to works commencing, the site will be registered with Natural England under the Low Impact Class Mitigation Scheme.
- 4.8. The Registration requires the details of survey results, planned works and proposed mitigation, which is detailed below. Licence applications require full planning permission and Natural England aim to process applications within 10 working days of receipt.

#### Mitigation

- 4.9. The conversion of the dwelling will result in the likely loss of one number non-breeding soprano pipistrelle summer roost used by low numbers of bat. Due to the low conservation status of the roost there is not considered to be any timing constraint to the development.
- 4.10. Prior to works commencing there will be a requirement to undertake a toolbox talk which will be a conversation between the ecologist and the builders to inform them of their obligations in relation to roosting bats. The toolbox talk will cover basics such as bat biology and where bats might be found during the development and what to do with a bat is found during works.

- 4.11. Also prior to works commencing, one permanent woodcrete bat box will be installed within the grounds of the site. The bat box will function as a receptor for any bats which are found during the development works. In the event that a bat is found, it will be removed by an ecologist, using a gloved hand, and placed within the bat box. The bat box provides a safe place to put any bats that are found during the development.
- 4.12. If works are likely to take place between 1 November – 31 March, one hibernation grade bat box will be made available.
- 4.13. Key stages of development will be overseen by an ecologist and these will include the removal of roof tiles and carpentry associated with their fitment.

#### Compensation

- 4.14. Replacement bat roosts for soprano pipistrelle bat will consist of two integrated (in-built) Habibat type 001 bat roosting boxes.
- 4.15. This model is designed for a variety of bat species, including pipistrelle bats 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. The boxes can be fitted to suit any existing brick, wood, stonework or rendered finish, making the box unobtrusive and aesthetically pleasing. On existing walls a section of masonry / cladding will require removal.
- 4.16. Apart from the front entrance the Habibat Roosting Box is fully sealed preventing bats from gaining entry to any interior part of the building. The boxes should be sited approximately 3 m – 4 m high on exterior gable ends / walls. The boxes 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.

- 4.17. Bat boxes can be purchased directly from [www.habibat.co.uk](http://www.habibat.co.uk) telephone number 01642 724626.
- 4.18. An information sheet on In-built bat boxes is provided under Appendix III; Information sheets.
- 4.19. The final siting of the bat boxes will be done in conjunction with the architects / planners / ecologist and will form part of the legal agreement set out under the Natural England Low Impact Licence

*Lighting*

- 4.20. The surveys have revealed that the property is used by bats as a foraging site, therefore any exterior lighting that is to be employed should be of the modern LED-type and should take into account the presence of bats and avoid over illumination of the garden and adjacent properties / land. This can be achieved by using directional lights and or cowls. An information sheet on lighting can be found in Appendix III.

## 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. This report represents a preliminary assessment only. 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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**Mitchell-Jones, A.J , & McLeish A.P. (2012)** *The Bat Worker's Manual* (4<sup>th</sup> Edition)

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**Website** at [www.magic.gov.uk](http://www.magic.gov.uk)

**Stace, C. (1997)** *New Flora of the British Isles 2<sup>nd</sup> Edition*. Cambridge University Press

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# Appendix I – Site Figures

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Site location



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Client    Sworders  
Title    Site Location  
Site    The Forge, Blagdon  
Figure    1  
Date    27 August 2020  
Scale    indicative



## Appendix II – Site Photographs



## Photographs 1- 3



Photograph 1:

Front; eastern elevation



Photograph 2:

Southern gable



Photograph 3:

Significant crevice located near wall plate on gable end

## Photographs 4 - 6



Photograph 4:

The northern gable, which has become partially encroached by ivy.



Photograph 5:

Significant crevices associated with the eaves along the eastern (front) elevation, as highlighted

This is the location that 1 number soprano emerged from on the emergence survey 27 July 2020.



Photograph 6:

Roof vent, one of two located on the roof apex, the ventilation louvres are broken and missing on both the vents. The base of the vents have been sealed where they enter the interior roof void.

## Photographs 7 - 9



Photograph 7:

The roof, which is double pitched is clad with a type of flat interlocking clay peg tile. All tiles remain present and well fitted, resulting in a well-sealed roof.



Photograph 8:

Ground floor; approximately 3/4 of the ground floor which occupies the northern end is in use as an active carpenter's workshop.



Photograph 9:

A roof void mirroring the carpenter's workshop, lies directly above and is used as storage and an office and is accessed by a wooden staircase.

## Photograph 10 - 11



Photograph 10:

The office and toilet which is present at the extreme northern end of the roof void.



Photograph 11:

Internal; southern end. This provides a single ground floor bay with a vaulted roof void and is used as storage



## 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.

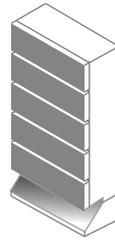
# Bat Tubes

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

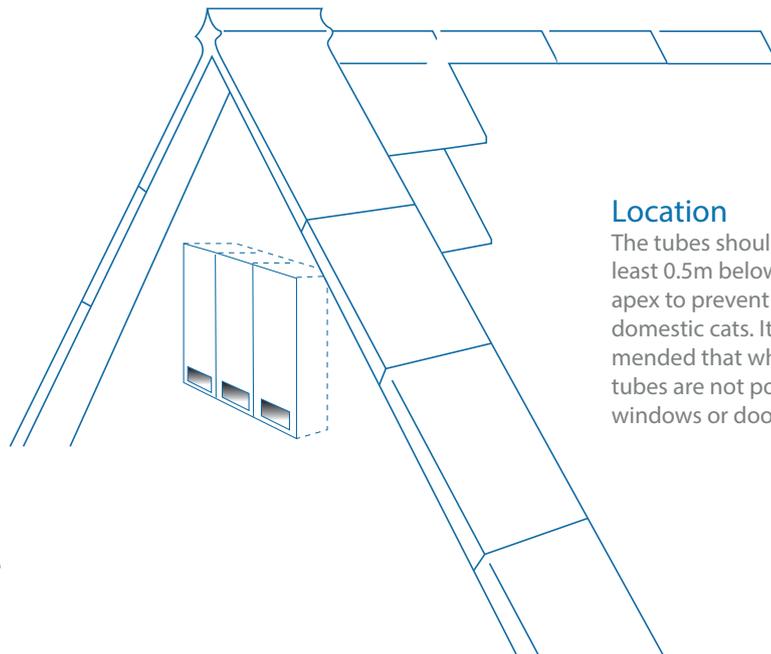
Height	47.5 cm
Width	20 cm
Depth	12.5 cm
Weight	9.8 kg

## 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.

  
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