Barn adjacent The Stables

Preliminary Roost Assessment Report

Project: Barn adjacent The Stables

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Contents

1. Introduction

1.1 Background and Summary

Connected Ecology has been commissioned by Karl Flatman to undertake a Preliminary Roost Assessment (PRA) in support of an application for a change of use. The proposal is located at The Stables, Bridge Farm, Low Street, Hoxne, Eye, IP21 5AR. The proposal centres on Ordnance Survey Grid Reference TM 18036 77147 (Appendix B: Figure 1. PEA overview). The proposal is hereinafter referred to as the proposed Scheme.

The change of use is from barn into a domestic dwelling. Associated works include the provision of parking, bin presentation area, sewage drainage and landscaping (Appendix A: Drawings).

On 3 January 2024, a walkover survey was undertaken of the premises and the wider area to observe, assess, and record any potential roost features and habitats suitable for bats, which could be affected by the proposed Scheme.

The barn was assessed as having low suitability to support roosting bats. Upon internal inspection, evidence of bat activity was recorded in the loft space, i.e., a pipistrelle bat dropping. No other evidence supporting a bat roost was identified during the inspection on the day. It is considered to likely be evidence of an opportunistic bat inspecting the suitability of the barn. However, not all features could be fully explored by endoscope or torch, and therefore, there could be additional evidence of bats. Overall, it is considered that the barn could support a low number of bats.

It is considered proportionate that the works are carried out under precautionary bat method statement. This will involve a check of all accessible features by endoscope and torch prior to any construction works taking place on the premises. Where it is not possible to fully explore the features by endoscope or torch, a dawn re-entry or dusk emergence survey will be carried out. All pre-construction checks must be undertaken within 48 hours of any works taking place.

As there are features that could not be fully explored, any works affecting the roof of the barn will require either a dawn re-entry or dusk emergence survey. These surveys must be undertaken during appropriate weather and time of year. Surveys will only be valid between April and October, inclusive.

The likely and / or temporary loss of suitable features for roosting bats in the barn will be compensated through the provision of one bat box. This will be installed prior to any construction works commencing. The bat box will be installed in suitable safe location to provide safe and sheltered places for bats to roost in the future.

In order to provide a conservation gain for bats it is recommended to install an integrated bat box upon completion of the works. It would be recommended to install the box on the north gable end of two storey dwelling. Integrated boxes that are built into the wall of the building have the advantage of offering a secure permanent space for bats, with little need for maintenance[1]. An example box could be the Ibstock Enclosed bat box provided by NHBS[2].

If recommendations within this report are followed, the proposed Scheme will not affect the favourable conservation status of bats.

1.2 Rationale for the Precautionary Bat Method Statement

Due to the level of evidence recorded within the barn, it is unlikely that the activity surveys to inform the likely impact of the proposed Scheme would alter the mitigation and compensation measures already recommended within this report as any activity would be limited to a low number of bats who may choose to use it opportunistically. Therefore, the favourable conservation status for bats will be maintained if works are carried out under a Precautionary Method Statement. A summary of the key findings and conclusions that support this position include:

[1] Bat Boxes: External ready-made & integrated bat boxes - Bat Boxes - Bat Conservation Trust (bats.org.uk) (*Accessed January 2024*).
[2] Integrated bat boxes. Integrated Bat Boxes | NHBS Practical Conservation Equipment (*Accessed January 2024)*

- A single pipistrelle bat dropping was identified during the PRA walkover in January 2024;
- No additional evidence was recorded during the PRA walkover;
- The building provides low suitability for roosting bats;
- The risk of destroying a roost is unlikely, and with additional safety measures in place, the residual risk of destroying a roost is highly unlikely.

1.3 Objectives of the PRA

The objectives of the PRA are as follows:

- Undertake a survey to confirm habitat suitability for bats within the boundary of the proposed Scheme and wider area; and
- Identify if there are any features suitable for roosting bats within the boundary of the proposed Scheme and Zone of Influence (Zol); and
- Undertake detailed checks for any evidence of bats within suitable roosting locations within the boundary of the proposed Scheme and Zol; and
- Where impacts of proposed works cannot be avoided, recommend the level of appropriate mitigation measures to remove or reduce potential impacts and assess the requirement for a Natural England's European Protected Species Licence; and
- Provide clear information to the Local Planning Authority, which will make a determination on potential impacts on bats within the planning application.

2. Legislation, Licencing and Policy

A summary of the relevant legislation afforded to bats is provided below. If readers want to review the legislation, please refer to the Conservation of Habitats and Species (Amendment) (EU Exit) Regulation 2019[3], Wildlife and Countryside Act 1981 (as amended)[4] and Natural Environment and Rural Communities Act 2006[5] for the most up to date and comprehensive text.

2.1 Legislation

In England and Wales, all bat species receive full protection through the inclusion of Schedule 5 of the Wildlife and Countryside Act 1981. However, the effective protection for bats comes mostly under the European protection through the inclusion in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulation 2019. All species of bats found in the wild in the UK are European Protected Species (EPS). The list below identifies the following offences:

- Deliberately capturing, injuring or killing a bat; and/or
- Possessing or controlling any live or dead bat, or any part or derivative; and/or
- Intentionally or recklessly obstructing access to a roost; and/or
- Deliberately disturbing a bat whilst it is occupying a roost; and/or
- Deliberately disturbing bats in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young; and/or
- Selling, offering for sale, possessing or transporting for the purposes of sale, any live or dead bat, or any part or derivative, or advertising any of these for buying or selling; and/or
- Damage or destroy a bat roost (this is an 'absolute' offence).

A bat roost is any structure or place that a wild bat uses for shelter or protection. Seeing as bats tend to reuse the same roosts, the legal opinion holds that the roost is protected whether or not the bats are present at the time.

Deliberate action, in this context, may be interpreted as that committed by a person, who, although not intending to capture/injure or kill a bat, performed the relevant action, being sufficiently informed and aware of the consequence his/her action will most likely have.

Natural Environment and Rural Communities Act (NERC Act) 2006, requires due consideration to be given to biodiversity and its potential enhancement when considering proposed developments. Seven bat species are listed as species of principal importance, which include Barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe bat.

There are defences under the current legislation, which include taking a disabled bat, for the sole purpose of tending to it and releasing it when no longer disabled, or killing a bat if the person can show that the bat was seriously disabled. These acts can only be undertaken when there are no reasonable alternatives and will not be detrimental to the maintenance of the species at a Favourable Conservation Status (FCS) in its natural range.

Actions, which would otherwise be illegal, can be made lawful if licensed by the appropriate Statutory Nature Conservation Organisation (SNCO). In the case of the proposed Scheme, it would be Natural England.

2.2 Licencing and Policy

There are two main types of licences relevant to the current legislation, i.e., a survey licence and European Protected Species (EPS) licence.

Survey licences

Survey licences are issued to ecologists under the Habitats Regulations, permitting them to enter a bat roost, cause temporary disturbance to bats (including using an endoscope and torching) and, in some cases, capture and handle bats.

[3] GOV, UK. Conservation of Habitats and Species (amendment) (EU Exit) Regulation 2019. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (legislation.gov.uk) (*Accessed January 2024*).
[4] GOV, UK. Wildlife and Countryside Act 1981. Wildlife and Countryside Act 1981 (legislation.gov.uk) (*Accessed January 2024*).
[5] Natural Environment and Rural Communities Act 2006. Natural Environment and Rural Communities Act 2006 (legislation.gov.uk) (*Accessed January 2024*).

Survey licences do not cover the damage or destruction of a roost site for development. This is covered by an EPS Licence, where circumstances allow.

Natural England Development Licences

The EPS licences are issued under the Habitat Regulations, but only after three tests have been satisfied in relation to the proposed action, as follows:

1. The proposed action must be for the purpose of preserving health or public safety or other imperative reasons of overriding public interest, which includes those of social or economic nature and beneficial consequences of primary importance for the environment; and for preventing serious damage to property; and
2. There is no satisfactory alternative to the proposed action; and
3. The action authorised will not be detrimental to the maintenance of the species concerned at a Favourable Conservation Status (FCS) in their natural range.

FCS is defined in the Habitat Directives where:

- The population data on a species concerned indicates that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is and will probably continue to be sufficient habitat to maintain its population on a long-term basis.

For the tests to be correctly applied, it is essential that baseline survey information of sufficient quantity, quality and standards is supplied. Without this survey information, an EPS Licence may not be granted.

Where the impacts on bats are limited to a small number of roosting bats of low conservation status, it may be possible to undertake works under a Low Impact Class Licence (LICL) by a registered user of the class licence. Similar to a full EPS licence, this would provide a defence to an otherwise unlawful act. LICL would cover any disturbance, injury or killing of bats or proposals where the works would result in the destruction or obstruction of a bat roost. Where the impacts do not meet the threshold of the LICL, a full EPS licence will be required. Both licence types can only be processed once all relevant permissions that would make the proposal a lawful operation are in place, i.e., the planning permission has been granted.

3. Methodology

3.1 Zone of influence

The Zone of Influence (ZoI) is defined by the CIEEM Guidelines for Ecological Impact Assessment[6] as: "area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities". The ZoI of the proposed activities may be different from the site boundary.

3.2 Desk Study

Initial scoping was carried out to assess the building and habitats within the ZoI for their potential to support bats and to identify likely impacts. The exercise was conducted using a combination of aerial imagery, Ordnance Survey (OS) maps and Geographical Information Systems (GIS) to identify suitable features for bats.

A desktop study was carried out for European statutory designations for bats within 2km of the proposed Scheme, using Defra Magic Map Application[7].

A review of the Defra Magic Map Application was also completed to identify Natural England European Protected Species (EPS) Licences issued for bats within 2km of the proposed Scheme.

3.3 Surveyors Experience

Lee Rudd of Connected Ecology is a principal ecologist with over 14 years of professional bat experience. He is a member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and is working under the current Natural England licences 2023-11646-CL17-BAT and 2023-65470-SCI-SCI.

3.4 Field Surveys

A walkover survey of the proposed Scheme was carried out by Lee Rudd on 3 January 2024 to observe, assess and record any habitats suitable for bats to roost, commute, and forage on site and in the surrounding area (i.e., Zol). Connectivity of habitats and how the proposed Scheme would affect them was also recorded. This preliminary ecological appraisal for bats was carried out following the latest professional guidance as shown in Table 1. All potential roosting habitats within the boundary of the proposed Scheme were assessed and investigated.

A review of the Defra Magic Map Application was also completed to identify any other previously issued Natural England European Protected Species (EPS) Licences and priority habitats within 2km of the proposed Scheme.

[6] CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland. https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/ (*Accessed January 2024*).
[7] Defra Magic Map Application: https://magic.defra.gov.uk/MagicMap.aspx. (*Accessed January 2024*).

Table 1. Guidelines for assessing habitat suitability for commuting and foraging bats. Extracted and adapted from '*Bat surveys for professional ecologists*' [8].

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site that are likely to be used by commuting or foraging bats.
Low	Habitat that could be used by a small number of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by other habitats. Suitable, but isolated habitat that could be used by a small number of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape, which is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Continuous, high-quality habitat that is well connected to the wider landscape, which is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses, and grazed parkland. Site is close to and connected to known roosts.

Lee Rudd undertook the preliminary roost assessment on the 3 January 2024, which involved a detailed inspection of the exterior and interiors of the buildings and trees within the footprint of the proposed Scheme. Checks were carried out for any potential entry/exit points of features that could accommodate roosting bats. The roost suitability assessment was undertaken in line with the guidance provided in Table 2. The level of suitability dictates what further survey effort is required. Negligible or low suitability features may require no further survey effort, whilst moderate to high will require further checks. The required level of survey effort is shown in Table 3 and follows the professional guidance to give confidence in a negative result.

Search for signs of bats was carried out concurrently with the assessment. Evidence of bats' presence includes droppings, moth wings, entrance scratches/markings, staining and/or odour. Searching for evidence of bats can involve using specialist equipment, which is listed within the Section 3.4.1.

[8] Collins. Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition. Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition - Guidance for professionals - Bat Conservation Trust (*Accessed January 2024*).

Table 2. Guidelines for assessing roosting habitats within structures taken from Collins, 2016. Extracted and adapted from 'Bat surveys for professional ecologists'[6].

Suitability	Roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	Contains one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation).
Moderate	Contains one or more potential roost sites that could be used by bats due to their size, shelter, protection, condition and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessment in this table is made irrespective of the species conservation status, which is established once presence is confirmed).
High	Contains one of more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, condition and surrounding habitat.

Table 3. Guidelines for a minimum number of survey visits for presence/absence surveys. Extracted and adapted from '*Bat surveys for professional ecologists'*[6] and Bat Conservation Trust Interim Guidance Note[9].

Low Roost suitability	Moderate roost suitability	High roost suitability
One visit. One dusk emergence.	Two separate survey visits. One dusk emergence and a further dusk or dawn re-entry survey.	Three separate survey visits. Two dusk emergence and a further dusk or dawn re-entry survey.

3.4.1 Field Surveys

Ecologist Lee Rudd carried out the checks for bats using several types of equipment, which included a powerful torch (with red filter), head torch (with interchangeable red filter), extendable mirror, close-focus binoculars and an endoscope. A ladder was used to gain access to potential features higher up to confirm their suitability and to check for signs of bats. A measuring device was used to determine the size and position of any potential access points and feature dimensions.

3.5 Survey Conditions

The walkover survey was conducted on 3 January 2024. The weather conditions during the survey were 10°C, light rain, sunny intervals and a gentle breeze from the west. There had been heavy rain within the previous 48 hours.

[9] Bat Conservation Trust. Interim Guidance Note May 2022: Use of night vision aids for bat emergence surveys and further comment on dawn surveys (*Accessed January 2024*).

3.6 Deviations, Constraints and Limitations

Surveys were carried out in line with the professional guidance provided in the Bat Surveys for Professional Ecologists[6]. There was good access across the entire site.

It is therefore considered there are no limitations or constraints with the data collected.

4. Results

4.1 Local Context

The survey covered the barn, which is proposed to be converted into a domestic dwelling (Appendix A: Drawings).

The Preliminary Roost Assessment (PRA) was undertaken at the same time as the Preliminary Ecological Appraisal (see Appendix B: Figure 1-3).

4.2 Desktop Survey Results

4.2.1 Protected Sites

The proposed Scheme does not coincide with any statutory designated sites of ecological interest[Error! Bookmark not defined.]. There is one designated site within 2km of the proposed Scheme.

Hoxne Site of Special Scientific Interest (SSSI) is approximately 640m to the south-west of the proposed Scheme. The site is not designated for its ecology, but for its geological value. The citation relating to the SSSI is provided below.

“Hoxne Brick Pit is a world-famous geological site. Research dates back to the 18th Century, when John Frere recognised that flint implements from here had been fashioned by early man. Detailed description of the sediments has demonstrated that interglacial lacustrine deposits here occupy a basin in the chalky till and are in turn overlain by fluviatile deposits penetrated by ice-wedge casts. The lacustrine deposits, the type deposits of the Hoxnian Interglacial, have been shown by pollen analysis to cover the 'Anglian' late glacial – early Hoxnian (Holl) interval. The upper series of largely fluvial deposits contain abundant vertebrate material attributable to late Hoxnian and Wolstonian Stages. Finds include fishes, voles, Norway lemming, extinct beaver, horse, several deer and a macaque. Hoxne is undoubtedly one of the most important Pleistocene sites in Britain.”

Due to the location of the site, reason for designation and nature of proposed works, it is not considered that the proposed Scheme would influence the condition of any of the features of the designated site. Therefore, it is concluded that the proposed Scheme will not influence any designated sites, and will not be considered any further within this report.

4.2.2 Bat Records

There is one case reference for a European Protected Species (EPS) Licence application within 2km of the proposed Scheme within the past 10 years, which covers a number of common bat species.

Case 1: Destruction of a resting site of brown long-eared bat, common pipistrelle bat and soprano pipistrelle bat. These roosts were located approximately 1km to the south-west of the proposed Scheme and dates back to 2020.

4.3 Field Results

The barn is the only building that makes up the proposed Scheme.

4.3.1 Buildings

The barn has been divided into six sections for the purpose of describing the building and suitability for bats (see Table 5 & Appendix B: Figure 2 & 3). Photographs are provided within Appendix C.

Table 5. Building references, building description, bat features and photograph references

Building ref	Building description	Bat features	Photo #
B1 and loft space	A single storey building with a loft space. The loft space extends over B1 – B4. The roof is cladded with clay pantile and plastic under sheeting. There are also clear pantiles. There are timber fascia and soffits. Brick construction with timber cladding. The brick laying pattern is Flemish bond. The wall is solid with no cavities. There is also flint infill. There is a single door with no windows on the ground floor. There is a single window in the loft on the north gable end. There are missing panes of glass.	Low suitability for bats. Pair of butterfly wings present in loft, by window. Alongside this was the presence of mouse droppings. There are voids between exterior cladding and the brick wall on the south gable end. Limited checks were possible due to the height of gaps and presence of adjoining greenhouses restricting access by ladder. Where accessible checks were made by endoscope. No evidence of bats was recorded. There are remnants of wattle and daub on the southern wall, in the loft space. This has suffered from weathering, and has voids suitable for bats. The majority of this feature was checked by endoscope. No evidence of bats was recorded. Large void between southern gable brick wall and vertical timber giving access to loft space from eastern aspect. Mostly cobwebbed. Explored by endoscope. No evidence of bats recorded. There are some gaps between the joists and northern wall. Mostly filled with cobwebs. This was explored by endoscope and torch. No evidence of bats. There is a vertical crack in the brick wall on the southern wall. This was not large enough to support bats. Bats could use the voids between the clay pantile and plastic under sheeting, although its value is limited due to being exposed and prone to large temperature fluctuations. There is a metal tie support on the rear of the property (west aspect) in line with the dividing wall of B1 & B2. Small gap, cobwebbed. There are voids where bats could access the loft space from under the eaves. The white timber work between the timber frame on the front of the barn (east aspect) is chipboard. There are some gaps between the timber work and chipboard where bats could access the loft space. Partially daylighted loft due to clear pantiles and window on southern gable end.	B1 1,4,6 & 13-16 Loft 35-43

Building ref	Building description	Bat features	Photo #
B2	Loft space and roof description included within B1. Brick construction with timber cladding. The brick laying pattern is Flemish bond. The wall is solid with no cavities. There is a double door with no windows on the ground floor.	There is a gap of approximately 10cm above the double doors, providing possible access for bats into the first floor. There is a metal tie support on the rear of the property (west aspect) in line with the dividing wall of B2 & B3. Small gap, cobwebbed. No other notable features within the ground floor. No evidence of bats recorded.	1, 2, 5, 6, 11, 16 & 17
B3 & B4	Loft space and roof description included within B1. Brick construction with timber cladding. The brick laying pattern is Flemish bond. The wall is solid with no cavities. Two windows on the ground floor of B3 and single window on B4.	Access to B3 is made from B4. Access to the loft space is gained from the timber staircase in B3. A single pipistrelle bat dropping was identified on the wall at the top of the stairs. Exposed mortice and tenon joint on exterior of barn between B3 and B4. Also other gaps between vertical timbers and cross member timber work. Bats could access these joints, which are mostly open into the loft. Fully explored by endoscope and torch. No evidence of bats recorded. Additional exposed mortice joints under the ridge. Mostly clear of cobwebs. Fully checked by endoscope. No evidence of bats recorded. Timber cladding on brickwork is very tight, with no suitable access points for bats. There is a metal tie support on the rear of the property (west aspect) in line with the dividing wall B3 & B4. Small gap, cobwebbed.	1, 5, 11 & 18-24
B5	A single storey building which is open to the rafters. The roof is cladded with clay pantile and plastic under sheeting. There are also clear pantiles. Brick construction with timber cladding. The brick laying pattern is Flemish bond. The wall is solid with no cavities. There is also flint infill. There is a double door with windows above.	The roof is in poor condition, which has been partly repaired with plastic under sheeting. Due to the missing clay pantiles, there is significant ingress of light. There is a timber sheeting installed on the rear wall (west aspect) which is has external timber cladding. The cladding is tightly fitting with no gaps suitable for bats. Lifted cladding on the front aspect, which is cladded in ivy. Provides additional access points into barn. There is a hessian sack on the north interior wall. No notable features suitable for bats. No evidence of bats recorded.	1-3, 7, 11, 25 & 26

Building ref	Building description	Bat features	Photo #
B6	In addition to B5. There are timber fascia and soffits.	In addition to B5, there are voids between exterior cladding and the brick wall on the north gable end, where accessible checks were made by endoscope. No evidence of bats was recorded. Damage brickwork on north gable, but with no obvious void suitable for bats. Half of the fascia/soffit is missing. No evidence of bats recorded.	3, 7 & 27-34

4.3.2 Bat Evidence and Suitability

There was a single pipistrelle bat dropping identified during the inspection. The overall suitability of each section of the barn is provided below in Table 7, along with any constraints.

Table 7. Summary of suitability for roosting bats

Reference	Suitability[8]	Evidence of Bats	Surveyor Constraints/confidence of assessment low, medium and high.
B1	Low	None	None/High
B2	Low	None	None/High
B3	Low	Single pipistrelle dropping in loft space	None/High
B4	Low	None	None/High
B5	Negligible	None	None/High
B6	Negligible	None	None/High

4.3.3 Commuting and Foraging Habitats

The walkover survey identified suitable habitats for both commuting and foraging bats (see Figure 2 & 3). Suitable foraging habitats identified within the footprinted of the proposed scheme were limited to ivy which has negligible value. There were suitable habitats immediately adjacent to the proposed Scheme for foraging and commuting bats, which include shrubs, grassland and linear features (i.e. walls as provides shelter).

Highly suitable habitat for foraging bats was identified adjacent to the site along the river and tree belt.

There will be a loss of suitable foraging habitat in the form of ivy which is cladding part of the barn. Albeit it has negligible value. Otherwise, there will be no loss of suitable commuting or foraging habitats for bats as a result of the proposed Scheme.

5. Discussions

An internal and external inspection of the premises was carried out on 3 January 2024. Low suitability features for bats were recorded across the barn. There was a single pipistrelle bat dropping identified during the inspection of the loft. A single dropping could be evidence that a single bat on a single occasion visited the barn to inspect for its suitability. It does not provide conclusive information on the status of the roost.

There were also a pair of butterfly wings. Butterfly wings are typically associated with brown long-eared bats, but it is considered the loft space is likely too cluttered to support them. No other evidence of brown long-eared was identified, which typically would include droppings located below the ridge. It was not possible to fully explore all of the voids across the barn. Features that could not fully explored were mainly associated with the southern gable end, between the timber cladding and brick work and behind and within the wattle and daub.

Due to the fact that the barn has low suitability to support roosting bats and a single pipistrelle bat dropping was identified, it could support a low number of opportunistic bats. Any works may, if unmitigated, lead to the disturbance, injury and/or killing of a low number of bats, which would be an unlawful act (see Section 2 & Appendix E). Mitigation is also required to compensate for the losses of potential roost sites due to the proposed works. A single bat box will be required ahead of any construction works to compensate for the loss of potential roosting sites.

Therefore, works will be carried out under a Precautionary Bat Method Statement, which is provided in Section 6.

In order to provide a conservation gain for bats, it is recommended to install an additional integrated bat box upon completion of the works. It would be recommended to install the box on the southern gable. The bat box should be installed as near to the apex of the roof as possible, and at least 3-4m above ground. Integrated boxes that are built into the wall of the building have the advantage of offering a secure permanent space for bats, with little need for maintenance[10]. An example box could be the Ibstock Enclosed bat box provided by NHBS[11].

Consideration of foraging and commuting bats in the local vicinity is also required. Light pollution can significantly affect the way bats use the space. All lighting should be installed in accordance with Bats and Lighting in the UK, Bats and the Built Environment Series[12]. Temporary lighting associated with construction works should be sensitively designed. Lighting should be of the lowest luminosity necessary for safe delivery of works and on-site security. It should be designed, positioned, and directed to reduce the intrusion into adjacent habitats. As a minimum, any external security lighting should be set on motion-sensors and short (1min) timers. The inclusion of baffles, hoods or louvres should be used to reduce light spill and direct it only to where it is needed.

[10] Bat Boxes: External ready-made & integrated bat boxes - Bat Boxes - Bat Conservation Trust (bats.org.uk) (*Accessed January 2024*).
[11] Integrated bat boxes. Integrated Bat Boxes | NHBS Practical Conservation Equipment (*Accessed January 2024)*
[12] Bat Conservation Trust. Guidance Note. Bats and Artificial Lighting in the UK. Bats and the Built Environment Series. Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals (theilp.org.uk) (*Accessed January 2024*).

6. Mitigation Methods

Precautionary Bat Method Statement

The proposed Scheme is likely to lead to a loss of roosting features for bats within the barn. Therefore, installation of one bat box is recommended to compensate for the losses. Compensation bat boxes must be installed prior to the commencement of construction works as required by the UK Bat Mitigation Guidelines[13]. Bat boxes should be of a type that does not encourage access by birds. Access apertures should be ≤17mm. Boxes should be installed at least 3m above the ground, ideally 4m above ground. It is recommended that the bat box is installed on the sweet chestnut tree (ref T1).

An example box would be 2F Schwegler Bat Box[14], which is ideal for crevice dwelling bats, such as pipistrelle bat species, which are the species most likely to use the features lost as a result of the proposed Scheme. Boxes should be installed on south-easterly to south-westerly aspect and away from any artificial light sources[15]. It would be recommended to install the bat box on the near by retained tree (ref T1) or adjacent buildings, including the two storey house to the south.

Once the contractor has been appointed and the working methods agreed, this will have to be provided in writing to the local planning authority. As a minimum, all suitable features for bats must be soft stripped under the supervision of a licenced bat ecologist before they are disturbed by construction works.

Prior to undertaking any construction works, a pre-construction check is required to ensure that no evidence of bats is present. Where possible, any suitable roost features must be inspected with an endoscope and torch (with red filter) by a licenced bat ecologist. The check also includes looking for any evidence of a bat roosting within the building (i.e. droppings are present). The check must be done within 48 hours of any construction works commencing. Where a feature cannot be fully explored by endoscope or torch, then either a dawn re-entry or dusk emergence survey will be required, such as for removal of the soffit/fascia and wattle and daub wall.

Prior to undertaking any works, a toolbox talk will be provided to the construction team. The subjects covered will include the barn being suitable for bats and that prior to any work activities, a pre-construction check by licenced bat ecologist is required to confirm that no bats are present. A toolbox talk poster will also be provided, which will include photographs of bats, with scale. Legislation covering bats will be discussed in brief, so that the construction team understand that bats are protected and it is against the law to cause disturbance, injury or killing of bats. It will also provide instructions on what to do if a bat is discovered. The licenced bat ecologist's contact details will be added on the poster. Following the toolbox talk and issuing the site poster, all workers will have to sign the record of attendance document (see Section 8: record of attendance). At this time, the key contact information will also be collected and shared with the wider team. Key contact details will be collected from the following: Project Manager, Site Foreman and Licenced Bat Ecologist.

Where there are delays between construction works of more than a week, a further pre-construction check is required. This is to ensure that during the period of no disturbance, bats have not moved in.

If a bat is discovered during the pre-construction check, all works must cease until otherwise covered by a Natural England licence (see Appendix E: Bat Legislation).

Any bats that are encountered during the construction works, where they cannot be left in situ, have to be captured by the licensed bat ecologist and either cared for appropriately in a ventilated box or transferred to a bat box located on site.

[13] UK Bat Mitigation Guidelines: Bat-Mitigation-Guidelines-2023.pdf (cieem.net) (*Accessed January 2024*).
[14] 2F Schwegler Bat Box: 2F Schwegler Bat Box - Bat Boxes | Green-tech (*Accessed January 2024*).
[15] Bat Box Information Pack: Bat Box Information Pack May 2018[1] (bats.org.uk) (*Accessed January 2024*).

7. Bat Risk Assessment

Each of the offences will be detailed in Table 8, below, along with the risk of that offence occurring with and without mitigation measures in place. The risk of the offence taking place will be rated as either highly unlikely, unlikely, possible, likely or highly likely.

As the features can be fully explored, it is not considered there should be any seasonal constraints imposed on the pre-work check as the check can confidently confirm if bats are absent or not.

Table 8. Bat Site Specific Risk Assessment.

Offence	Site Specific Risk (i.e., hazards)	Risk (without mitigation)	Mitigation control measures	Residual risk (with mitigation)
Destruction of a roost (absolute)	There are multiple features for roosting bats across the barn. They are considered low suitability roost features which could support a low number of bats. A single pipistrelle bat dropping was identified during the inspection, but no roosts were identified during the internal inspection caried out in January 2024. However, the barn could support a low conservation status roost in the future. Any construction works on, if not mitigated could lead to the disturbance, injury and/or killing of a low number of bats. The building works could also lead to the modification or loss of a bat roost.	Unlikely	A pre-work check is required to confirm the absence of a bat roost prior to any works associated with the proposed Scheme being carried out. This will involve a combination of a dusk/dawn survey during appropriate weather conditions and endoscope inspection. Supervision by a licensed ecologist to block or modify all suitable features for bats following confirmation there is no evidence of bat presence. Toolbox talk provided by licensed bat ecologist to contractors onsite. If any evidence of a bat or bat roost is recorded during the pre-work check, then all works will cease and the appropriate licence applied for.	Highly unlikely
Injure or kill a bat		Unlikely		Highly unlikely
Intentionally or recklessly disturb a bat at a roost		Unlikely		Highly unlikely
Intentionally obstructing access to a roost		Unlikely		Highly unlikely
Possess, control, transport, sell or exchange or offer for sale.		Unlikely		Highly unlikely

8. Responsible Persons and Auditing

There must be accountability and traceability to ensure that no offence is committed. Therefore, all responsible persons delivering the proposed Scheme must be identified and signed up to the Precautionary Bat Method Statement. Table 9, below, should be updated once their details are known.

Table 9. Contact Information.

Position	Full Name	Email	Phone
Project Manager	TBC	TBC	TBC
Licensed Bat Ecologist	TBC	TBC	TBC
Site Foreman	TBC	TBC	TBC

Table 10, to be signed off by all staff to confirm they have read the Precautionary Bat Mitigation Method Statement and that they have received the toolbox talk.

Table 10. Record of Attendance.

Full Name	Position	Date	Signature

9. Conclusions

The proposed Scheme will not affect any statutory designated sites.

There will be negligible loss of suitable foraging habitat for bats, as a result of the loss of ivy cladded to the front of the barn. There will be no loss of other features that would affect commuting bats. It is therefore considered the proposed Scheme will have a negligible impact on foraging or commuting bats.

A single pipistrelle bat dropping was identified in the loft space at the top of the stairs above B3. No other evidence supporting a bat roost was identified. It is considered this is likely evidence of an opportunistic bat inspecting the suitability of the barn as a roost space only. However, not all features could be fully explored by endoscope or torch, and therefore, there could be additional evidence of bats. Overall, it is considered that the barn provides low suitability for bats and it could support a low number of opportunistic bats.

Therefore, a check is required ahead of any construction works. The check will involve the internal inspection by endoscope and torch prior to any construction works taking place on the barn. Where it is not possible to fully explore the features by endoscope or torch then a dawn re-entry or dusk emergence survey will be carried out. All pre-construction checks must be undertaken within 48 hours of any works taking place.

Dawn re-entry or dusk emergence surveys must be undertaken during appropriate weather and time of year. Surveys will only be valid between April and October, inclusive.

Supervision by a licensed ecologist is required to block or modify all suitable features for bats following confirmation that there is no additional evidence of bat presence. Toolbox talk provided by licensed bat ecologist to contractors onsite.

The likely and or temporary loss of suitable features for roosting bats in the barn will be compensated through the provision of one bat box. This will be installed prior to any construction works commencing. The bat box will be installed in suitable safe locations to provide safe and sheltered places for bats to roost in the future. It would be recommended to install the bat box on the nearby retained tree (ref T1) or adjacent buildings, including the two storey house to the south.

In order to provide a conservation gain for bats, it is recommended to install an integrated bat box upon completion of the works. It would be recommended to install the box on the north gable end of two storey dwelling. The box should be installed near to the apex and at least 3-4m above ground. Integrated boxes that are built into the wall of the building have the advantage of offering a secure permanent space for bats, with little need for maintenance[16]. An example box could be the Ibstock Enclosed bat box provided by NHBS[17].

If recommendations within this report are followed, the proposed Scheme will not affect the favourable conservation status of bats.

It is considered that the features on site could support a low number of bats who may choose to opportunistically use it. If evidence of roosting bats is recorded during the pre-works check, then works must stop, until otherwise carried out under a European Protected Species (EPS) Licence or a Low Impact Class Licence (LICL).

[16] Bat Boxes: External ready-made & integrated bat boxes - Bat Boxes - Bat Conservation Trust (bats.org.uk) (*Accessed January 2024*).
[17] Integrated bat boxes. Integrated Bat Boxes | NHBS Practical Conservation Equipment (*Accessed January 2024)*

Appendix A. Drawings

Appendix B. Figures

Appendix C. Photographs

Photo 1. Barn. East aspect.

Photo 2. Barn. East aspect.

Photo 3. Barn. East aspect. Shows brick wall adjoining barn.

Photo 4. South gable of the barn. Greenhouses seen to the left.

Photo 5. West aspect of the barn. Taking from neighbours garden. Tree (ref T1), grassland and ornamental bed also shown.

Photo 6. South-west corner of barn. Shows brick wall heading south of barn. Close up of ornamental shrubs.

Photo 7. Shows brick wall to the north of barn along with the mature tree (ref T1). Also shows significant area of gravel.

Photo 8. Shows gravel driveway between the barn and the existing dwelling, The Stables.

Photo 9. Shows The Stables, concrete paving and gravel driveway.

Photo 10. Shows west aspect of the barn.

Photo 11. Shows west aspect of the barn, green house and ornamental bed. Mowed grassland also showed.

Photo 12. Shows grassland area extended to river to west of The Barn. Also shows recently planted trees.

Photo 13. Internal view of The Barn, section B1. Shows vertical crack in southern wall to left.

Photo 14. Shows gaps between timber and brickwork. B1.

Photo 15. Shows gaps between ceiling joists and brickwork. B1.

Photo 16. Shows endoscope being used to explored under the external timber cladding on the south gable wall of the barn, B1.

Photo 17. Internal view of The Barn, section B2.

Photo 18. Internal view of the barn, section B3.

Photo 19. Internal view of the barn, section B3.

Photo 20. Internal view of the barn, section B3.

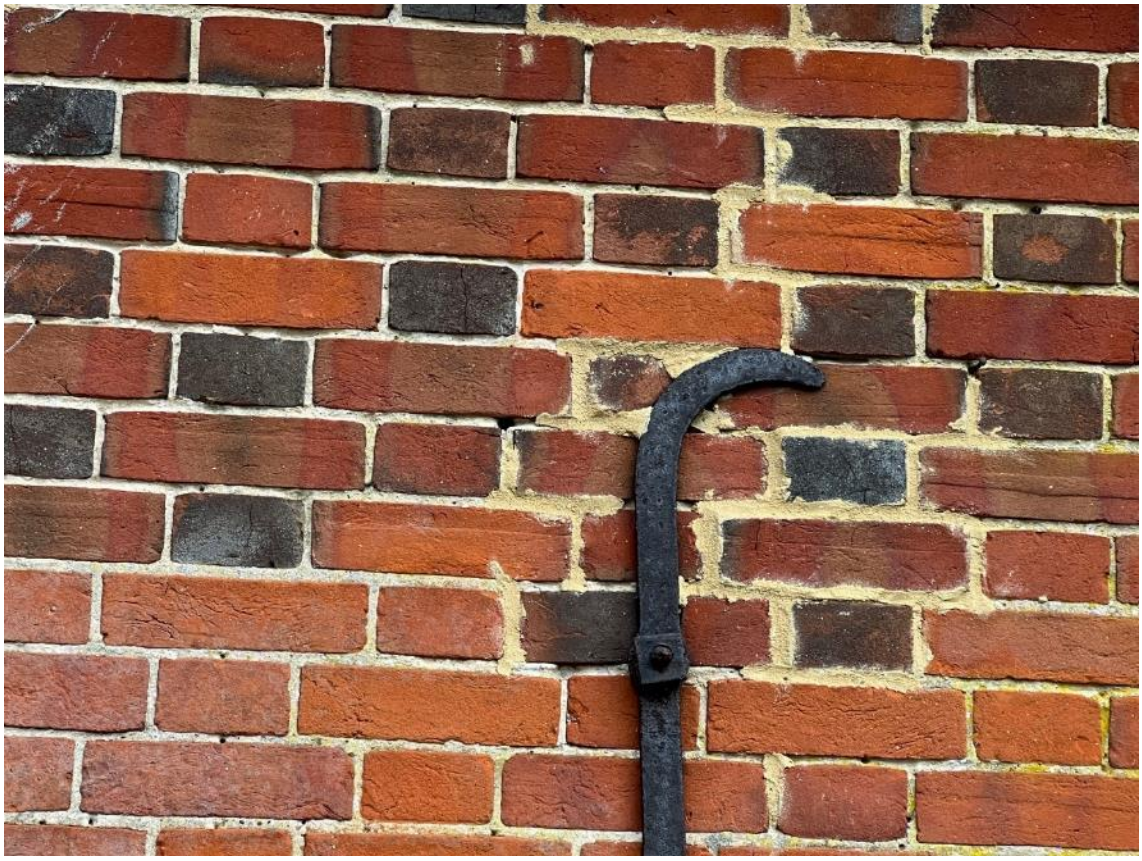

Photo 21. Shows metal tie support on rear of barn (west aspect).

Photo 21. Internal view of The Barn, section B4.

Photo 22. Exposed mortice and tenon joint and gaps between timber work. Located between B3 & B4.

Photo 23. Close up of void as shown in photo 22.

Photo 24. Shows mortice gaps under eaves along front of barn.

Photo 25. Internal view of the barn, section B5.

Photo 26. Internal view of the barn, section B5.

Photo 27. Internal view of The Barn, section B6.

Photo 28. Internal view of The Barn, section B6.

Photo 29. Internal view of The Barn, section B6

Photo 30. Internal view of The Barn, section B6. Looking west.

Photo 31. Shows barn, section B6 and adjoining store. Looking west.

Photo 32. Shows barn, section B6 and adjoining store. Looking east.

Photo 33. View of the barn, b6. West aspect.

Photo 34. View of north gable end of the barn. Shows damaged brick work, missing soffit/fascia and lifted timber cladding.

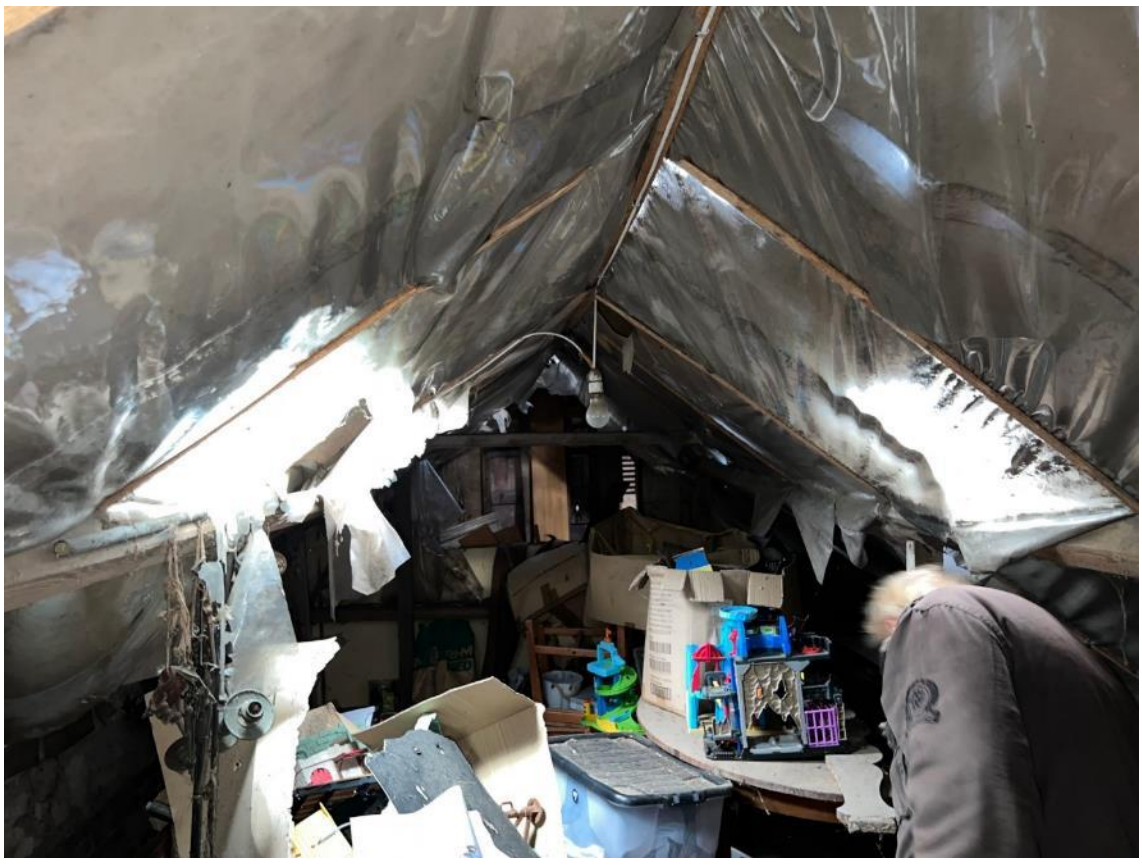

Photo 35. View of loft. Shows plastic under sheeting and light ingress.

Photo 36. Shows wattle and daub on southern end of barn. Above B1.

Photo 37. Shows south-west corner of loft space. Shows crack in wall. Gap between horizontal timber and brick work and light ingress.

Photo 38. Shows close up of crack in brickwork shown in photo 27. Mostly filled with cobwebs.

Photo 39. Shows butterfly wings, and mice droppings. South end of barn.

Photo 40. Shows gap between ridge board and pantiles.

Photo 41. Shows loft space and plastic sheeting.

Photo 42. Show clear pantile.

Photo 43. Single pipistrelle bat dropping on western wall of the barn. Above B3 at top of stairs.

Photo 44. Inspecting small gap behind metal tie support.

Appendix D. Legislation

Statutory designated sites

Special Areas of Conservation (SACs) are protected areas in the UK, designated under:

- the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales (including the adjacent territorial sea), and
- the Conservation of Offshore Marine Habitats and Species Regulations 2017 in the UK offshore area.

Under these Regulations, the UK Government and devolved administrations are required to establish a network of important high-quality conservation sites that will make a significant contribution to conserving the habitats and species identified in Annexes I and II, respectively, of European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the Habitats Directive. The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). Of the Annex I habitat types, 78 are believed to occur in the UK. Of the Annex II species, 43 are native to, and normally resident in, the UK.

Special Protection Areas (SPAs) are protected areas for birds in the UK. They are protected through the same regulations as SACs as detailed above.

Ramsar Sites are wetlands of international importance designated under the Ramsar Convention. Sites proposed for selection are advised by the relevant statutory nature conservation body (or bodies) within the UK. The designation of UK Ramsar Sites has generally been underpinned through prior notification of these areas as Sites of Special Scientific Interest (SSSIs). Accordingly, these receive statutory protection under the Wildlife & Countryside Act 1981 (as amended). Government have also issued policy statements relating to Ramsar Sites which extend to them the same protection at a policy level as Special Areas of Conservation and Special Protection Areas.

Protected species

In Britain, **all bat species** and their roosts are legally protected by both domestic and international legislation. They are protected under both Wildlife and Countryside Act (1981) (as amended) and the Conservation of Habitats and Species Regulations (2017) (as amended).

The Animal Welfare Act 2006 is the principal law relating to animal welfare. Animal cruelty includes causing unnecessary suffering to an animal and poisoning an animal. The 2006 Act applies to all vertebrate animals, including grey squirrel, badgers, bats, foxes and rabbits (this is not an exhaustive list).

National Planning Policy - National Planning Policy Framework (NPPF). Section 15 of the National Planning Policy Framework. Planning policies and decisions should contribute to and enhance the natural and local environment by "… minimising impacts on and providing net gains for biodiversity… 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."

Natural England Licensing - EPS Mitigation Licensing - Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).