Bat Activity Survey Report	
For:	Mr Michael Hammond, Red House Farm, Cross Hill, Brierley, Nr Barnsley S72-9LE
Site	The Extended Barn, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD
Report Date:	13 August 2018
Report Reference:	RHF.ACT.22.6.2018

Surveying Ecologist:
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Natural England Bat Licence: 2015-12213-CLS-CLS

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Client:	Mr Michael Hammond, Red House Farm, Cross Hill, Brierley, Nr Barnsley S72-9LE
Site Name:	The Extended Barn, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD
Grid Reference:	SE 40707 11292
Report:	Bat Activity Report
Date of survey:	July / August 2018
Surveyed by:	Natasha Estrada BSc(Hons), MRes, MCIEEM

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1	-	Draft for review	7 August 2018	Natasha Chinn, Estrada Ecology Ltd	Natasha Estrada MCIEEM, Estrada Ecology Ltd
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Summary

Estrada Ecology Ltd was commissioned to conduct bat activity surveys on the extended barn at Red House Farm, Cross Hill, Brierly, Barnsley.

A preliminary ecological appraisal, conducted by Estrada Ecology Ltd in June 2018, recorded the barn on site as having confirmed field sign evidence of bats. The barn was recorded as having a high number of features which bats could utilise for roosting or as a place of shelter, mainly concentrated in the poor roof covering, and gaps in the gable ends and between the stonework of the barn. As a result, three bat activity surveys were recommended to ascertain presence and the nature of use of the extended barn by bats.

Findings and recommendations

Bats and roosts

Activity surveys, following BCT Survey Guidelines 2016, were undertaken during suitable weather conditions as outlined herein.

During the surveys a peak count of two common pipistrelle bats were recorded emerging from the gable end on the eastern elevation of the barn during the final activity survey.

As a result, the barn is confirmed as a bat roost. Under current proposals demolition of the eastern and western elevations of the barn is proposed. A European Protected Species Mitigation Licence (EPSML) will be required to facilitate demolition of the eastern section of the barn and subsequent destruction of a bat roost.

The surrounding area recorded a low level of bat activity, with solely common pipistrelle (*Pipistrellus pipistrellus*) contacts recorded.

Based on field sign evidence, the site is not thought to be a major commuting route or foraging ground for bats.

Hibernating bats

Crevice-dwelling bats, such as pipistrelle species, use buildings for shelter and protection in winter when they hibernate. During hibernation, bats need roosts that are cool and remain at a constant temperature. They are difficult to detect in hibernation, in well-concealed crevices, and leave no obvious signs of their presence. The property on site was assessed for its potential to support features

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which bats could utilise for hibernation. The property recorded some suitable features for hibernacula use, however, the majority of areas are exposed and likely subject to thermal fluctuations, and lack of thermal stability.

Breeding birds

No evidence of breeding birds was recorded at the time of survey and no impacts are predicted.

Note:

Every effort has been taken to ensure the accuracy of this report and its contents. However, in view of potential ecological constraints to development, or the likely presence or absence of species, it must only be viewed as a snap shot in time and not be viewed as definitive. Due to external factors, such as seasonality, weather etc, having the potential to affect survey results, no liability can be assumed for omissions or changes that may, or may not occur, after the date this report was produced.

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References and Bibliography

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1 Introduction and Site Description

1.1 Estrada Ecology Ltd was commissioned to conduct bat activity surveys on an extended barn located at Red House Farm, Cross Hill, Brierly, Barnsley, S72 9EE (hereafter referred to as the 'site').

1.2 During a preliminary roost assessment of the property, conducted in June 2018, a low amount of field sign evidence (2 wing cases), synonymous with brown long-eared bat (*Plecotus auritus*), was recorded inside the eastern extension of the barn. The building was assessed as having high roost suitability for use by bats, mainly resulting from gaps between wooden doors and frames, gaps in wooden windows, and in crevices in the stonework and gable ends. Internal access was limited in the western elevation of the barn due to its use for storage.

1.3 The central OS grid reference is recorded as SE 40707 11292.

1.4 Located to the east of the farmhouse, the single-storey barn is constructed from stone, with the exterior being fully rendered. The property has a metal roof which overlays a timber roofing frame. The barn is comprised of an original building with extensions on the eastern and western elevation. Gaps are found between wooden doors and frames, and in wooden windows. An abundance of ivy was recorded on the exterior of the building.

1.5 The barn is in a poor state of structural repair, with large areas of rendering absent or cracked, exposing crevices in the stonework and gable ends. Evidence of water damaged panels underneath the roof were recorded. The roof coving was recorded as poor. Potential access points which bats could utilise were noted within the roof, gable ends, and within fissures in the stonework. The western extension had an abundance of cobwebs

1.6 Internally, a low amount of field sign evidence was recorded in the eastern extension of the barn, but no bats were recorded in situ within the fissures safely available for survey.

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Figure 1: The site in its wider setting (shown with red keyline)



Google Earth

Figure 2: The extended barn





2 Protected Species Legislation

2.1 All species of bat and their breeding sites or resting places (roosts) are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended).

2.2 The Regulations prohibit: the deliberate killing, injuring or taking of bats; the deliberate disturbance of any bat species in such a way as to be significantly likely to affect:

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- their ability of to survive, hibernate, migrate, breed, or rear or nurture their young; or the local distribution or abundance of that species.
- damage or destruction of a breeding site or resting place (roost);
- the possession or transport of bats or any other part thereof.

2.3 Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:

- intentional or reckless disturbance (at any level); obstruction of access to any place of shelter, breeding or rest; selling, bartering or exchange of these species, or parts of.

2.4 Seven British bat species are listed as Species of Principle Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act 2006. These are: barbastelle *(Barbastella barbastellus);* Bechstein's (*Myotis bechsteinii);* noctule *(Nyctalus noctula);* soprano pipistrelle *(Pipistrellus pygmaeus);* brown long-eared *(Plecotus auritus);* greater horseshoe *(Rhinolophus ferrumequinum);* and lesser horseshoe *(Rhinolophus hipposideros)*.

2.5 Under the National Planning Policy Framework 2012, the presence of any protected species is a material planning consideration. The Framework states that impacts arising from development proposals must be avoided where possible, or adequately mitigated / compensated for, and that opportunities for ecological enhancement should be sought.

2.6 Under certain circumstances, a licence may be granted by Natural England to permit activities that would otherwise constitute an offence. In relation to development, a scheme must have full planning permission before a licence application can be made.

3 Survey Objectives

3.1 The objective of this survey was to establish: the presence or absence of bats; whether bats (all species) were using the site for roosting, or as a place of shelter; and, if present, to identify to species level, determine the population size and nature of any roosts within the property on site.

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3.2 The report presents the findings of bat activity surveys undertaken in July and August 2018 and aims to:

- Outline any potential impacts of the proposed development on bats, as a result of the findings of the desk study and field surveys;
- Provide recommendations for mitigation and / or compensation measures to ensure any impacts on bat activity is avoided or minimised where applicable;
- Provide recommendations for enhancing the site for bat activity where possible; and
- Provide recommendations for mitigation and / or compensation measures to ensure any impacts on breeding bird species is avoided or minimised.

4 Survey Methodology

4.1 Desktop study

4.1.1 A biological data records search was requested from Barnsley Biological Records Centre and South Yorkshire Bat Group for a 1km radius from the site.

4.1.2 Further inspection, using colour 1: 25,000 OS base maps (www.ordnancesurvey.co.uk), Magic map (www.magic.defra.gov.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

4.2 Initial inspection survey

4.2.1 An initial inspection survey of the property was undertaken in June 2018, following guidance from Collins, J., Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition 2016 by licensed bat ecologist Natasha Estrada (2015-12213-CLS-CLS).

4.2.2 Where accessible, all cavities, holes, cracks and fissures in timber, tiles and brickwork (where applicable), were examined using high-powered lamps, an explorer premium image recording endoscope and close-focusing binoculars. These features were examined for bat field signs to identify bats in situ, potential roost sites and access points and any signs of occupation such as scratch marks, droppings, smudge marks, discarded moth wings and urine staining etc.

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4.2.3 Any evidence of breeding birds within the property was also noted during the survey.

4.3 Bat activity surveys

4.3.1 Bat activity surveys were undertaken using guidance from Collins, J., Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition 2016.

4.3.2 Activity surveys were undertaken during the evenings of 9 July and 6 August 2018, and the morning of the 23 July 2018. The number of surveys on the property was determined by: its potential to support bats; any field sign evidence gathered during the initial inspection survey in June 2018; and any subsequent activity recorded during activity surveys.

4.3.3 The dusk emergence survey commenced twenty minutes prior to sunset and continued up to two hours after sunset. The pre-dawn survey commenced two hours prior to sunrise and ended thirty minutes post sunrise.

4.3.4 An Anabat Walkabout and Bat box II, Bat Box duets and Echo Meter Touch 2 Pro were used to aid identification of the species.

4.4 Timings

4.4.1 Activity surveys were conducted on 9 July 2018, 23 July 2018, and 6 August 2018 during suitable weather conditions as outlined in Table 1.

Table 1: Environmental conditions throughout the survey period

Date	Sunset/ Sunrise	Start time	End time	Weather conditions
9 July 2018	21:34	21:20	22:40	Temp 16º Celsius, Humidity 80%, No precipitation, wind speed 7mph ENE
23 July 2018	05:04	03:15	04:30	Temp 17º Celsius, Humidity 55%, 1% precipitation, wind speed 4mph NE
6 August 2018	20:54	20:25	22:38	Temp 20º Celsius, Humidity 81%, No precipitation, wind speed 4mph NNW

4.5 Personnel

4.5.1 The initial inspection survey was carried out by Natasha Estrada, BSc (Hons), MRes, MCIEEM (Natural England Bat Survey Class Licence 2015-

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12213-CLS-CLS); a full member of CIEEM and the named ecologist on several bat EPS Mitigation Licences.

4.5.2 Bat activity surveys were carried out by bat ecologist Natasha Estrada, accompanied by suitably qualified field assistants experienced in bat survey work to maximise effort and results.

5 Survey Findings

5.1 Desktop study

5.1.1 No bat records were returned by Barnsley Biological Records Centre (BBRC).

5.1.2 Thirty-three bat records were returned by South Yorkshire Bat Group (SYBG) and these are highlighted as Appendix One. These included four confirmed species: brown long-eared (*Plecotus auritus*); common pipistrelle (*Pipistrellus pipistrellus*); soprano pipistrelle (*Pipistrellus pygmaeus*); and Leisler's bat (*Nyctalus leisleri*).

5.1.3 Eight bat roost records were returned. An undetermined pipistrelle species roost was recorded 2.04km south of the site. Five undetermined Vespertillionidae roosts were recorded and were located: 1.49km north west; 0.52km south; 2.06 km south; 0.94km south; and 1.03 km south east of the site. One brown long eared roost was recorded 2.07km north west of the site, and one common pipistrelle roost was recorded 2.06km south of the site.

5.1.4 Consultation with www.magic.defra.gov.uk recorded one EPS Licence, as highlighted in Table 2.

Table 2. EPS licences recorded within a 2km radius of grid.

Licence	Location	Usage	Species
EPSM2012-4323	1.29km S	Destruction of a resting place	Common pipistrelle

5.2 Initial inspection survey

5.2.1 Prior to the start of the dusk and pre-dawn activity surveys, a visual inspection of the building was undertaken where accessible. No fresh field sign evidence to indicate use of the buildings by bats was recorded.

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5.3 Bat activity surveys

5.3.1 During the first dusk activity survey, no bats of any species were recorded emerging from or entering the extended barn. Contacts throughout the survey period comprised solely of common pipistrelle bat.

- 21:48 –One common pipistrelle observed circling trees on the eastern elevation of the site
- 21:55 –common pipistrelles (peak count three) foraging constantly, appearing on the northern elevation of the barn and dispersing to the western elevation of site.
- 22:05 – Foraging activity slowed with common pipistrelles, dispersing to the west.
- 22:28 – final common pipistrelle seen; appeared from the western elevation, disappeared into trees by road (eastern elevation). No further contacts from any species were recorded.

5.3.2 During the pre-dawn activity survey, no bats of any species were recorded emerging from or entering the extended barn.

- A low level of common pipistrelle activity was recorded.
- One common pipistrelle bat was recorded circling trees on the northern elevation of the barn
- 4:02 –One common pipistrelle bat was recorded flying towards the western elevation of the site.

5.3.3 During the final dusk activity survey, two common pipistrelle bats were recorded emerging from a fissure on the eastern gable end of the barn

Table 3: Summary results of emergence surveys at the site.

Date	Survey	Result - Emergence	Result - Re- entry behaviour	Breeding Birds
09/07/2018	Dusk emergence	Negative	Negative	Negative
23/07/2018	Dawn re-entry	Negative	Negative	Negative
06/08/2018	Dusk emergence	Positive	Negative	Negative

5.4 Commuting route assessment

5.4.1 Bats are known to utilise linear features as commuting lines to foraging grounds and between roosts. Extensive areas of mature vegetation, outside the site boundary to the north and west, currently provides a suitable linear corridor sheltered by trees and hedgerows suitable for use by bats. Under

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current proposals, no impacts on these habitats are proposed and no impacts on the loss of foraging grounds and commuting lines is predicted.

5.4.2 The site recorded a low level of bat activity during the surveys with only short bursts of foraging recorded within the site boundary.

5.4.3 No bat contacts of any species other than common pipistrelle bat were recorded during the surveys.

6 Survey and Site Assessment

6.1 Two common pipistrelle bats were recorded emerging from the eastern elevation of the extended barn at Red House Farm during the final dusk activity survey. The building is, therefore, confirmed as being used by bats on a probable transitient day roost basis.

Figure 3: Bat emergence locations



6.2 A low number of bat contacts was recorded during the survey, consisting solely of common pipistrelles crossing the site and foraging for short periods within the boundary.

6.3 No evidence of breeding birds was recorded upon or within the property at the time of survey.

6.4 Under current proposals, the demolition of the eastern elevation of the extended barn is likely to lead to the destruction of a bat roost. In order to

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legally facilitate demolition, a European Protected Species Mitigation Licence (EPSML) will be required from Natural England.

6.5 The extended barn at Red House Farm recorded some suitable features for hibernacula use. However, the majority of areas are exposed and are likely to be subject to thermal fluctuations, and lack of thermal stability.

7 Ecological Constraints

7.1 The activity surveys were undertaken during optimum weather conditions as, outlined herein, and undertaken within the bat activity season 2018 by experienced and licensed bat ecologists.

7.2 Due to the variable properties of bat echolocation calls and the format of frequency division recordings, it is not always possible to identify a series of echolocation calls down to species level.

7.3 In the majority of cases it is usually possible to identify to genus level, which is suitable to allow potential affects to be assessed and appropriate mitigation designed.

8 Interpretation and Evaluation

8.1 The property recorded emergence from the barn by two common pipistrelle bats during the final dusk activity survey. As a result, the eastern elevation of the barn is confirmed as being used by low numbers of common pipistrelle bats, as a probable transient day roost.

8.2 A low number of exclusively common pipistrelle bat contacts was recorded during the activity survey. No major foraging grounds or commuting lines were recorded during the surveys.

8. 3 Common pipistrelle bats are known to move between non-breeding roosts during the activity season for a host of reasons. However, it could be expected that surveys undertaken during the optimum periods of July and August 2018 would reveal a greater level of activity from the species, if the site were to be used regularly by larger numbers.

8.4 The survey results indicate the immediate area is one that does not support large populations of bats.

8.5 No evidence of breeding birds was recorded during the survey within the extended barn.

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8.6 Hibernating bats

8.6.1 The extended barn was recorded to contain limited features which bats could utilise for hibernation. Several areas are exposed and are likely to be subject to thermal fluctuations, and lack of thermal stability.

9 Assessment of Potential Impacts

9.1 Impacts on bats and their roosts

9.1.1 The results of the bat activity surveys confirm that the eastern elevation of the extended barn at Red House Farm is used by common pipistrelle bats as a probable day roost.

9.1.2 Under current proposals, the eastern elevation of the barn is proposed for demolition to facilitate redevelopment of the site.

9.1.3 The demolition of the barn will lead to the subsequent destruction of a common pipistrelle day roost. To legally facilitate destruction of a bat roost, a European Protected Species Mitigation Licence (EPSML) will need to be obtained from Natural England prior to demolition works.

9.1.4 No works should be undertaken on the barn until an EPSM Licence has been obtained.

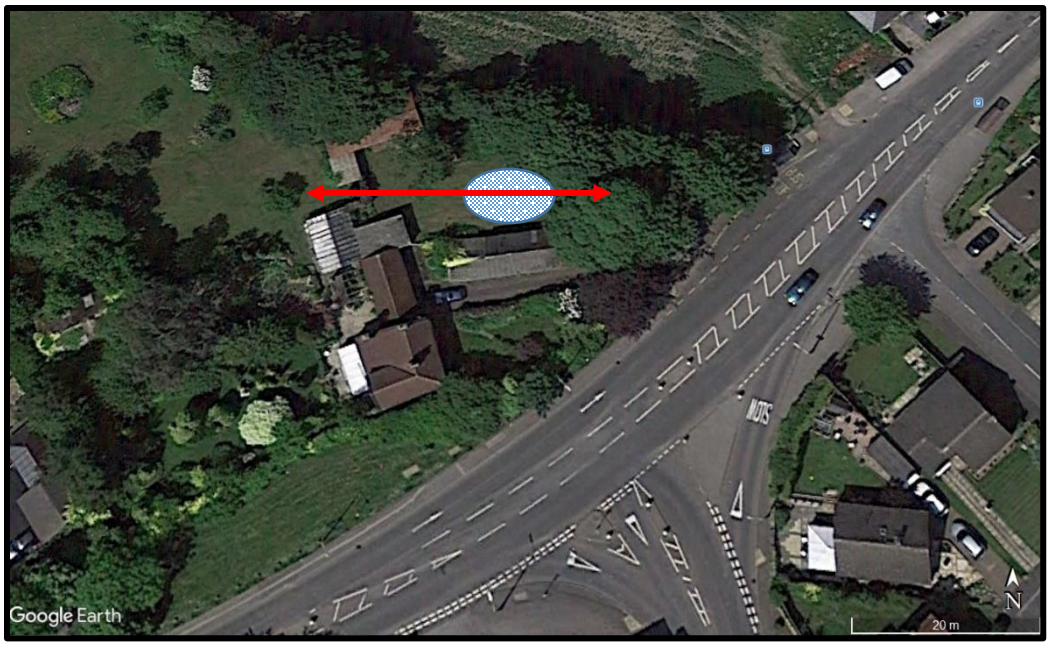
9.1.5 An indicative Method Statement has been compiled outlining proportionate mitigation in respect of destruction of a bat roost. This Method Statement will support a licence application for destruction of a bat roost.

9.2 Impacts on habitat

9.2.1 A low level of bat activity was recorded on site and, as such, the site is deemed to not be an important foraging ground for bats within the locality. Under current proposals, mature trees on the periphery of the wider site are to be retained and will likely act as suitable foraging grounds and commuting lines for bats within the locality.

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Figure 4: Summary of main bat activity recorded during the activity surveys



Google Earth

Key:	
→	Flight path of common pipistrelle bats
⬭	Area where low level foraging behaviour was recorded

9.3 Artificial lighting

9.3.1 Illuminating habitat used for foraging and commuting bats can affect the way bats respond to features in the landscape. Artificial light can act as a barrier to bats and disrupt flight paths of some species.

9.3.2 Different species of bats have differing light tolerances when commuting and foraging with bat species that emerge later in the evening, such as *Myotis* or *Plecotus* species being more sensitive to increased light levels (Stone, 2014), whereas species such as *Pipistrellus, Nyctalus* and *Eptesicus* are thought to be less affected.

9.3.3 Currently light levels on the site are low. Light levels via the redevelopment of the site are unlikely to elevate to a level which could dissuade use of the area by bats.

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9.3.4 A summary of the key bat behaviour likely to be affected by artificial light disturbance and predicted impact can be seen in Figure 5.

Figure 5: Summary of predicted impacts of lighting for each species/group according to bat behaviour, to be used as guidance only. Source: Stone, 2014.

Impact / Behaviour	High	Medium	Low
Maternity roost	All species	-	-
Night roost	*Rhinolophus hipposideros* *Rhinolophus ferrumequinum* *Myotis* spp. *Plecotus* spp.	*Pipistrellus* spp. *Nyctalus* spp. *Eptesicus serotinus* *Barbastella barbastellus*	-
Emergence	All species	-	-
Foraging	*Rhinolophus hipposideros* *Rhinolophus ferrumequinum* *Myotis* spp. *Plecotus* spp.	-	*Pipistrellus* spp. *Nyctalus* spp. *Eptesicus serotinus* *Barbastella barbastellus*
Commuting	*Rhinolophus hipposideros* *Rhinolophus ferrumequinum* *Myotis* spp. *Plecotus* spp.	-	*Pipistrellus* spp. *Nyctalus* spp. *Eptesicus serotinus* *Barbastella barbastellus*
Swarming	All species	-	-
Hibernation	All species	-	-

9.4 Impacts on breeding birds

9.4.1 No evidence of use of the property by breeding birds was recorded. No impacts are predicted.

10 Conclusions and Recommendations

10.1 Mitigation, compensation and enhancement for loss of bat roosts and bat habitat

10.1.1 Under current proposals impacts on bats and their roosts are predicted via the destruction of the eastern elevation of the extended barn.

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10.1.2 A European Protected Species Mitigation Licence will be required to legally facilitate destruction of a bat roost via the demolition of the eastern elevation of the barn.

11 INDICATIVE METHOD STATEMENT IN RESPECT OF COMMON PIPISTRELLE BATS, AT THE EXTENDED BARN, RED HOUSE FARM, CROSS HILL, BRIERLY, BARNSLEY, S72 9EE.

11.1 The following methodology has been guided by the Bat Worker's Manual 2003 and the Bat Mitigation Guidelines 2004. The statement is compiled by Natasha Estrada BSc (Hons), MRes, MCIEEM, who is suitably qualified in bat survey and mitigation proposals, having been the named ecologist on several European Protected Species Mitigation Licences (EPSML) in respect of bats. The final mitigation strategy will be confirmed with Natural England during the mitigation licence process.

11.2 Summary of the proposed mitigation strategy

- This document relates to the extended barn, Red House Farm, Cross Hill, Brierly, Barnsley, S72 9EE which is deemed to be a probable transient common pipistrelle bat day roost.
- The building is planned to be demolished to facilitate redevelopment of the site.
- Internal and external building inspections were conducted during June 2018 by Natasha Estrada of Estrada Ecology Ltd, who is licenced and experienced in undertaking inspection surveys for bats.
- Activity surveys conducted within the bat activity season (July and August 2018) recorded a peak count of two common pipistrelle bats emerging from the eastern gable end of the barn. The field survey evidence indicates use by bats on a transient day roost basis.
- Activity surveys were conducted at the site during July and August 2018 and recorded no contacts of any species, other than low numbers of common pipistrelle bat throughout the survey period.
- The demolition of the building requires a suitable mitigation strategy in respect of destruction of a bat roost.

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11.3 IMPACT ASSESSMENT

11.3.1 Pre-, mid- and long-term activity impacts

11.3.1.1 The site is identified as being used by low numbers of common pipistrelle bats, as a transient day roost. No field sign evidence to indicate use as a maternity roost was recorded during the surveys.

11.3.1.2 It is likely bats use other roosts within the locality.

11.4 Fragmentation and isolation

11.4.1 There will not be any significant long-term impacts relating to fragmentation and isolation.

11.4.2 Proposals for the redevelopment of the site are unlikely to cause any additional isolation or fragmentation in comparison to the existing site. No major flight lines, commuting routes, and foraging areas were recorded throughout the survey within the site boundary.

11.5 Predicted scale of impact

11.5.1 The overall scale of impacts at this site is judged to be low. Suitable roosting provision will be made for common pipistrelle bats pre and mid-works, to compensate for the loss of use of building to be demolished. This will be located within fifty metres of the site and will therefore be better connected to the wider environment.

11.5.2 Under current guidelines the roost identified is deemed to be of low conservation value with flexibility on timings and boxes being permitted.

11.6 Bat surveys at the site

11.6.1 A peak count of two common pipistrelle bats was recorded emerging from the eastern elevation of the barn, during the second dusk activity survey. No contacts from any other species were recorded during the surveys.

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11.7 Proposed mitigation and methods

11.7.1 Timing, efforts, methods

11.7.1.1 Timing

11.7.1.1.1 No restrictions on timings are proposed due to the occasional / transient nature of use and likely low conservation status.

11.8 WORKS TO BE UNDERTAKEN BY THE ECOLOGIST OR SUITABLY EXPERIENCED PERSON

11.8.1 Hand-strip under EPSM Licence

11.8.1.1 The roof and accessible stone work will be hand-stripped, and all roofing material will be dismantled by hand, under the supervision of a licenced bat ecologist (named ecologist). If the roof can be removed by hand to destroy the roost, the gap at the wall top will be permanently sealed (using expanding foam or similar) to prevent bats accessing the building prior to demolition.

11.8.1.2 If it is not possible to remove the areas of the roof by hand, they will be subject to bat excluders for a period of five consecutive nights when the weather is 8º Celsius or above, removed then surveyed to ensure no bats remain in situ. The roost will be sealed and filled with expanding foam to permanently exclude bats and to destroy the roost.

11.8.1.3 This will ensure no bats will be left between the roof covering and lining, at wall tops or under tiles. The roof cover will be removed from the top down to ensure that if any bats are present they will not be at risk of crush injuries.

11.8.1.4 Any other areas suitable for roosting bats will be inspected and dismantled with the named ecologist present.

11.8.1.5 A pre-works' bat inspection survey will be undertaken in areas that can be safely inspected by the named ecologist.

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11.9 WORKS TO BE UNDERTAKEN BY THE DEVELOPER / LANDOWNER

11.9.1 *New roost creation (including bat houses, cotes and bat boxes)*

11.9.1.1 Prior to the start of works, one Schwegler 1FQ bat box will be housed upon the gable end of the main farmhouse at Red House Farm.

Figure 6: Proposed location of the Schwegler 1FQ bat box within the site (shown with orange square).



11.9.1.2 The bat box will be located sufficiently high to protect any bats that use the box from predation or human disturbance, and to allow any bats enough height to emerge safely without risk of becoming grounded. This box will be retained for the long-term. The area containing the bat box should remain unlit by external lighting and no encroachment by vegetation should be present.

11.10 POST DEVELOPMENT SITE SAFEGUARDS

11.10.1 Habitat management and maintenance

11.10.1.1 Bat boxes have a finite lifespan. If bat boxes are damaged by 'natural causes' (*eg* bad weather), they will not be replaced.

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11.10.2 Population monitoring and proposed mitigation evaluation

11.10.2.1 No post works' monitoring is required for low conservation roosts.

11.11 Habitat Regulations Derogation Tests

11.11.1 Test 1

11.11.1.1 ***Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.***

11.11.1.2 The demolition of the eastern elevation of the barn and redevelopment of the site is the only route the client can follow. The property, with its current layout, does not meet the needs of the applicant.

11.11.1.3 The barn is in a state of structural decline; thus, the maintenance of the building is likely to provide a financial burden should it remain in situ and un-developed.

11.11.2 Test 2

11.11.2.1 ***There is no satisfactory alternative***

11.11.2.2 The building in its current state does not meet any of the client's requirements. Retaining the building will continue to be a financial burden in terms of maintenance and the retention of unusable assets.

11.11.2.3 To adopt the "Do nothing" option would ultimately accelerate the cycle of decline of the building leading to sub optimal conditions for bats and ultimately lead to deterioration of the existing transitional roosts.

11.11.3 Test 3

11.11.3.1 ***The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*.**

11.11.3.1.1 The proposals will permanently destroy a transient common pipistrelle bat roost. Common pipistrelle bats are deemed

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widespread and common, with an estimated UK population of 2,430,000 (Battersby et al 2005).

11.11.3.1.2 The level of impact on the site is considered low, as proportionate mitigation will be provided for the species prior to demolition.

11.11.3.1.3 The impact is deemed low in a wider context and is not thought to contribute in any way to the reduction in abundance or distribution of any bat species or roosting habitat in a regional or national context. Therefore, the favourable conservation status of the species would not be detrimentally affected by the demolition of the property.

11.11.3.1.4 No impacts in respect of changes to the foraging and commuting landscape for bats are predicted under current plans. Foraging grounds and commuting lines likely to be outside the site boundary are unaffected by the proposed works.

Figure 7: The scale of impacts at the site level on bat populations (Bat Mitigation Guidelines, Natural England 2004)

Roost type	Development effect	Scale of impact		
		Low	Medium	High
Maternity	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside breeding season	✓		
	Post-development interference			✓
Major hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference			✓
Minor hibernation	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction, modification		✓	
	Modified management		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference		✓	
	Temporary destruction, then reinstatement	✓		
Mating	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction	✓		
	Modified management	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction, then reinstatement	✓		
Night roost	Destruction	✓		
	Isolation caused by fragmentation	✓		
	Partial destruction	✓		
	Modified management	✓		
	Temporary disturbance	✓		
	Post-development interference	✓		
	Temporary destruction, then reinstatement	✓		

NB This is a general guide only and does not take into account species differences. Medium impacts, in particular, depend on the care with which any mitigation is designed and implemented and could range between high and low.

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Appendix One: Records returned by South Yorkshire Bat Group for a 2km radius from grid.

Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Eric Bennett	25/07/1999	SE3909	SE3909	SE3909		Cudworth	Barnsley					Bat found stuck to fly paper. Died later 92	Pipistrelle sp.	1	
Karen Larkin	13/07/2012	SE392100	SE392100	SE3910								Juvenile male Possible roost	Soprano pipistrelle	Unknown	
Karen Larkin	08/07/2015	SE 391100	SE 39146 10089	SE3910								Bat Care/Callout - BAT - JUVENILE - JUV	PIP	1	Bat Care/Callout
Karen Larkin	01/06/2015	SE391113	SE39191133	SE3911									Common pipistrelle	1	
SYBG/ Martin Derbyshire	04/07/2011	SE397125	SE397125	SE3912				Roost in loft				Email to SYBG - Probable maternity roost. No bats recorded after July 10th - bats have changed roost site.	Vespertillionidae	57	
BCT/NE	23/04/2009	SE390127	SE390127	SE3913			South Yorkshire				Y		Brown long-eared bat	5	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009	Stacey Crescent	Grimethorpe	Barnsley				y	P.pip roost in boiler house. 35 bats emerged.	Vespertillionidae	Unknown	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009		Grimethorpe	Barnsley				y	Roost site in boiler house, no sign in buildings.emergence count.	Common pipistrelle	35	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009		Grimethorpe	Barnsley	Boiler House				bats seen to emerge.	Common pipistrelle	35	
English Nature	28/06/2005	SE408093	SE408093	SE4009	Grimethorpe	Barnsley		Roost				Bats inside house. Council renovation works - unaware of roost. No survey done. Work stopped. Work completed when bats gone. Screw not nail fascias. Letter to BMC	Pipistrelle sp.	Unknown	
Eric Bennett	28/06/2005	SE408093	SE408093	SE4009		Grimethorpe	Barnsley	House		Gable apex soffit		Droppings on path and in loft. Report of bats in house 3 times over weekend.	Pipistrelle sp.	+	
Eric Bennett	29/06/2005	SE408093	SE408093	SE4009		Grimethorpe	Barnsley	House		Gable apex soffit		Fresh droppings reported by contractor after sweeping yesterday.	Pipistrelle sp.	+	
English Nature	18/07/2006	SE409108	SE409108	SE4010	Monument Drive	Brierley	Barnsley	Roost				Neighbour saw bats emerging from house last night.3 bats only. Probably not maternity roost.	Vespertillionidae	Unknown	
Eric Bennett	25/06/1999	SE4109	SE4109	SE4109		Grimethorpe	Barnsley					bats foun grounded during demolition of houses 87	Pipistrelle sp.	2	

Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Natural England	04/12/2007	SE413090	SE413090	SE4109	High Street	Grimethorpe	Barnsley					Dead & dried up bat found on floor of health centre. Gen info given. To dispose of bat. Info posted to TG	Vespertillionidae	Unknown	
P Middleton	08/07/2011	SE4160 0960	SE41600960	SE4109	pond			foraging					Common pipistrelle	3	
Karen Larkin	23/09/2012	SE410093	SE410093	SE4109								adult male	Common pipistrelle	1	
P Middleton	12-Sep-15	SE410096	SE41030964	SE4109	Grimethorpe Hall	Barnsley		building				roost	Common pipistrelle	2	
Eric Bennett		SE410100	SE410100	SE4110		Grimethorpe	Barnsley				y	Bats present for a couple of weeks during summer. Previously nect door.	Vespertillionidae	Unknown	
Observer name undisclosed	24/07/2004	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	Unknown	
Undisclosed	24/07/2004	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)		Species reported: Pipistrelle species
English Nature	05/07/2005	SE417110	SE417110	SE4111	Brierley	Barnsley		Roost				Baby bat found in bedroom EB visit. Roost confirmed in flat roof of extension. 2 roost sites. Advice re timing of repairs to fascia + info for estate agents if property to be sold. Id uncertain	Vespertillionidae	Unknown	
Observer name undisclosed	16/07/2005	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	3	
Undisclosed	16/07/2005	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	3	Species reported: Pipistrelle species
Eric Bennett	13/08/2005	SE417110	SE417110	SE4111		Brierley	Barnsley	House		Fascia		Owner count	Pipistrelle sp.	17	

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Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Eric Bennett	13/08/2005	SE417110	SE417110	SE4111		Brierley	Barnsley	House		Fascia		Owner count	Pipistrelle sp.	17	
Observer name undisclosed	22/07/2006	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	3	
Undisclosed	22/07/2006	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	3	Species reported: Pipistrelle species
Observer name undisclosed	21/07/2007	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	4	
Undisclosed	21/07/2007	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	4	Species reported: Pipistrelle species
Observer name undisclosed	26/07/2008	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	4	
Undisclosed	26/07/2008	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	4	Species reported: Pipistrelle species
Karen Larkin	27/06/2015	SE 415112	SE 41556 11288	SE4111								Bat Care/Callout - BAT - DEHYDRATED - RELEASED	LEISLERS	1	Bat Care/Callout

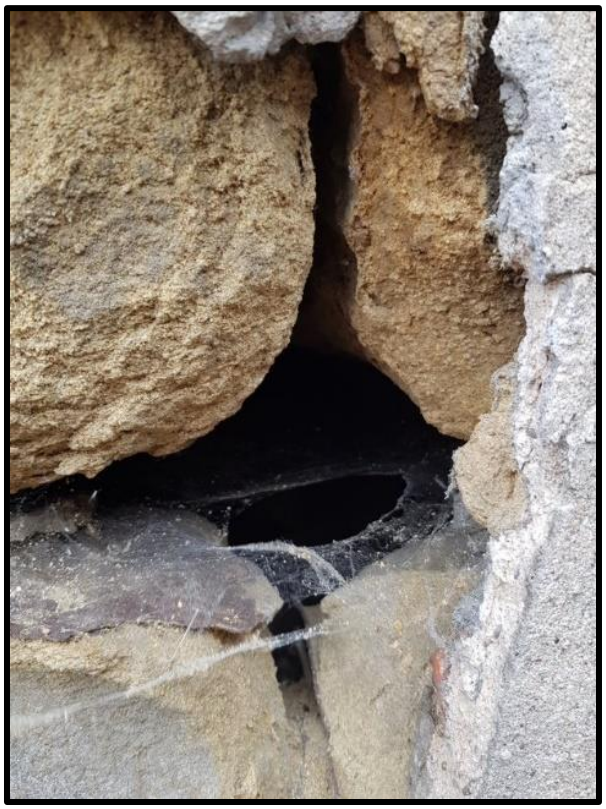
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Appendix Two: Location of recorded bat emergence



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Appendix Three: Areas of missing rendering exposing gaps in the stonework on the southern elevation of the barn





Appendix Four: Access into the barn is provided by gaps in the wooden windows, door frames, and stonework on the northern elevation of the barn





Appendix Five: Dense ivy covering on the western elevation of the extended barn



Appendix Six: Field sign evidence recorded inside the barn during the preliminary survey





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