Loft Shay Farm, Knowle Green, Lancashire

Bats: Building & Activity Surveys

Simply Ecology Limited

Ref: SE/PTQ001/02

June 2021

For

Mr and Mrs Towler
Loft Shay Farm
Clitheroe Road
PR3 2YQ

Office 7-2-6 Cameron House, White Cross, South Road, Lancaster LA1 4XF
Tel: 01524 874522 - Mob: 07754 538437 - info@simplyecology.co.uk
www.simplyecology.co.uk

CONTENTS PAGE

Control Sheet

	Name	Position
Author:	Kevin Heywood BSc ACIEEM	Ecologist
Checked and Approved by:	Jason Reynolds MSc MCIEEM	Director

Version History

Version	Date	Modified by	Approved by	Comment/Reason(s)
1	28/06/2021	N/A	JR	First Issue
2	27/07/2021	JR	JR	Minor Amendments

Disclaimer

This report has been prepared by Simply Ecology Limited with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The actions of the surveyor on site and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management. (www.cieem.org.uk).

This report has been prepared by Simply Ecology Limited for the sole use of the client and in connection with the development project described – this report cannot be relied upon by any third party without express written consent by both Simply Ecology Limited and the client.

This is a technical report and **does not** represent legal advice/ opinion.

This report remains Simply Ecology Limited property and cannot be relied upon until full payment has been made.

Simply Ecology Limited retain the right to re-publish data obtained and submit those species records produced during all ecological studies to the local recording centre.

Copyright ©

1.0 INTRODUCTION

1.1 Background Information

1.1.1 Simply Ecology Limited was commissioned by Peter Hitchen Architects in May 2021 to undertake protected species assessment of Loft Shay Farm, Knowle Green, Preston PR3 2YQ (O/S Grid SD640382; here after referred to as the site). See Plan 1: The Site Location; Plan 2: Existing aerial site view with red line boundary of proposed buildings.

1.2 Aims

1.2.1 The aims of this survey were to gather up-to-date information on the presence of bats at the site. This involved:

- Identifying potential structures of the building that could be used by bats.
- Identifying if there was any evidence of bats around the building.
- Providing an assessment of the likely importance of the site for bats and their conservation.
- Advising the client in relation to the proposed development and any impacts upon bats in order to ensure legislative compliance.

1.2.2 To achieve this, a building inspection for bats at the site was undertaken on 22nd of August 2016 and updated on 25th May 2021. This submission presents the results of the ecological surveys at the site.

1.3 Site description and Proposed Works

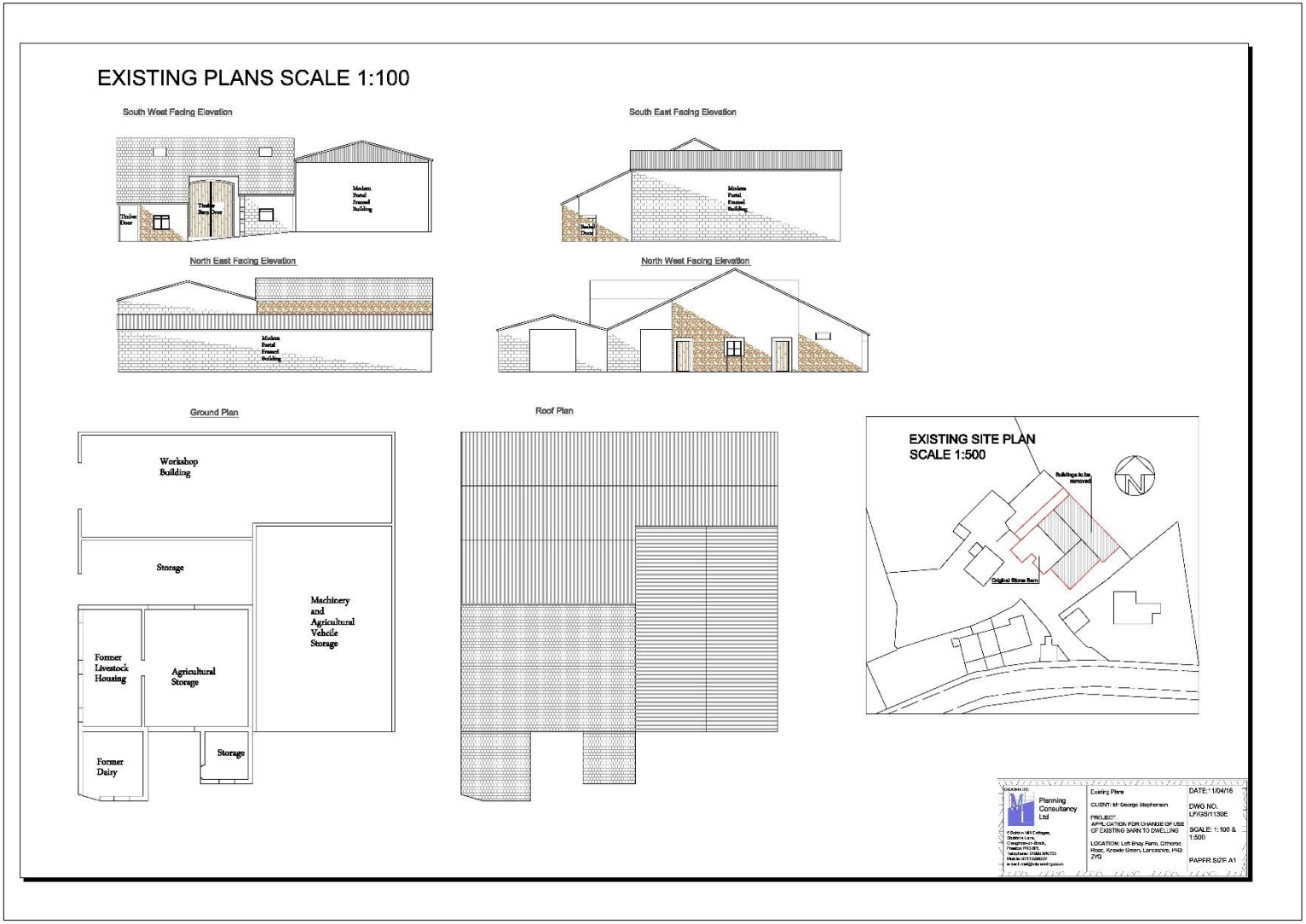
1.3.1 The site is located in the rural setting of Lancashire on the B6243 between Longridge and Knowle Green (see Plan 1 & 2). The site is surrounded by agricultural pasture with broadleaf woodland to the north. The site contains a number of buildings including residential premises, barns and sheds.

1.3.2 The survey described in this report was commissioned to inform a future planning application by Peter Hitchen Architects for the conversion of one of the existing barns and demolition of two adjoining shed(s) (See Plan 3 and Plan 4). The planning process requires up-to-date survey data the ecological value of the site and the presence of any notable habitats or protected wildlife, which this report addresses directly.

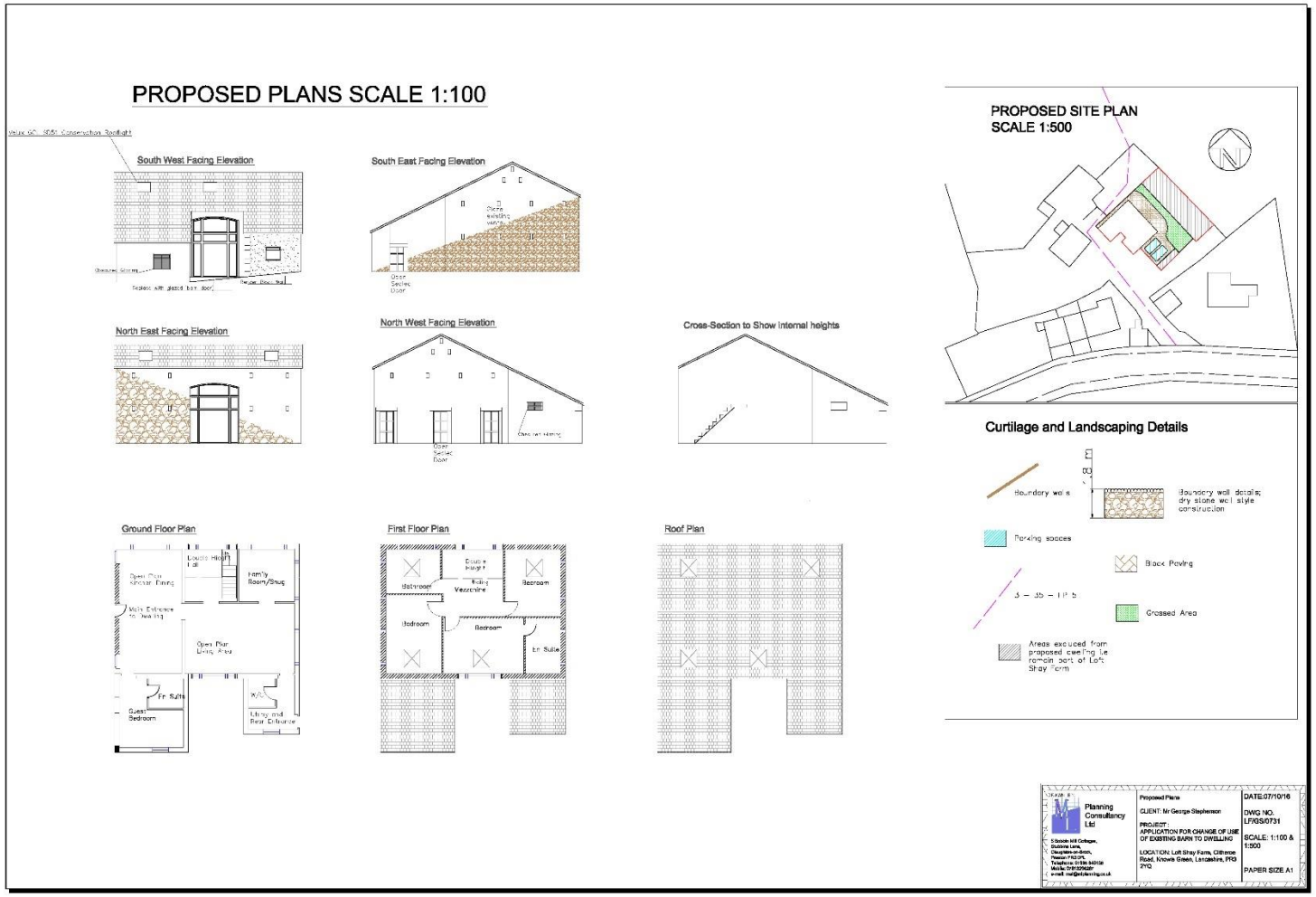
1.3.1 The findings of this survey updated ones from August 2016. These had found a low level of bat roosting in the barn, with (Simply Ecology 2016).

Plan 1: Site Location.

Plan 2: Aerial overview of site with redline boundary for building



Plan 3: Existing plan of building surveyed



Plan 4: The proposed Plans

2.0 SURVEY METHODOLOGY

2.1 External and Internal Building Survey

2.1.1 An inspection of the proposed area for development on the site was specifically carried out to search for bats. The building survey was undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2016). The survey was carried out by Tobias Palmer an experienced surveyor. In accordance with best practice, the survey comprised the following elements:

- An inspection of the exterior of the building(s) to look for obvious signs of bat activity (such as droppings) and assessing the potential for entry/exit into the property. Lighting was provided by a million candle power Cluson Clulite CB2. Any cracks or inaccessible areas were inspected using a ProVision PV-636 endoscope.
- An inspection of the interiors of all building(s) examining walls, the underside of roofs and within any loft spaces in the property to determine whether bats were present, to look for signs of bat activity (such as discarded prey items and droppings) and to assess suitability for bats. Lighting was provided by a million candle power Cluson Clulite CB2. Any cracks or inaccessible areas were inspected using a ProVision PV-636 endoscope.

2.2 Personnel

2.2.1 Tobias Palmer MSc ACIEEM is an Ecologist at Simply Ecology with over 7 years' of experience. Prior to employment at Simply Ecology, Tobias has worked for the Environment Agency as well as ecological consultants undertaking protected species surveys since 2010. Tobias studied his master's degree at Lancaster University investigating the effects of predatory regime influence on the invasion success of the freshwater killer shrimp *Dikerogammarus villosus*.

2.3 Timing and Constraints

2.3.1 The building surveys were undertaken on 22nd August 2016. The timing of the building inspection to search for signs of bats posed no constraints as building inspections can be undertaken at any time of year. An assessment of the building's potential to support bats can therefore be made according to evidence found, building condition, location and the experience of the surveyor. Although the building was large, it was possible for the surveyor to gain access to all roof areas that may be affected by any conversion works.

3.0 BUILDING INSPECTION RESULTS

3.1 Barn - External & Internal Inspection

3.1.1 The inspection began by checking the exterior of the barn building (See Plate 1 - 3). This was a large single storey stone walled barn currently used for storage. The building had a footprint of roughly 224m² with a pitched mixed slated/corrugated cement board roof. The two sheds to be discussed adjoin this building to the north and east as well as internally.

3.1.2 The inspection began by checking the south side exterior of the building for signs of bats including dropping and entrance gaps. The stone walls contained a number of gaps and cracks that could allow bats to enter and roost (See Plate 4). No droppings were discovered during the exterior inspection. There was a large entrance with a porch area indicating gaps and crevices for bats to enter into the building (See Plate 5). Beside this porch was a door leading into a small room known as Storage (See Plan 3, Plate 6). This was inspected and a few bat droppings were discovered (See Plate 7). The room had a small window which was inspected but no access was determined. The inspection continued externally to the other room known as Former Dairy (See Plan 3, Plate 8). This contained external features that could allow bats access including gaps and cracks but also under the soffit board (See Plate 9). This was inspected internally but no signs of bats were discovered. The inspection continued around the western side of the barn which contained an entrance with a lintel showing bat roosting potential (See Plate 10). Two of the entrances on this side appeared to be permanently open to the exterior (See Plate 11). The north side of the building is connected internally with an adjacent shed. **Overall it was evident that the exterior of the building contained a number of locations where bat could gain access to roost.**

3.1.3 The inspection continued on the interior of the building which revealed the internal barn was divided by some stone walls. This first section (Known as Storage, See Plan 3) contained corrugated cement board roof with bat access but limited roosting potential (See Plate 12). This section contained double sliding doors into the main section of the barn known as Agricultural Storage (See Plan 3, Plate 13). This main section was inspected for signs of bats and a number (roughly 14) bat dropping were discovered (See Plate 14). Within the main internal section of the barn there was a mezzanine section with a small milking parlour underneath known as Former Livestock Housing (See Plan 3, Plate 15). The mezzanine was not inspected due to safety. **Overall the internal inspection revealed signs of bats in the form of droppings within the interior of the main barn.**

Plate 1: The south side of the barn

Plate 2: The east side of the barn

Plate 3: The main barn west side overview showing stone walled with open doorways

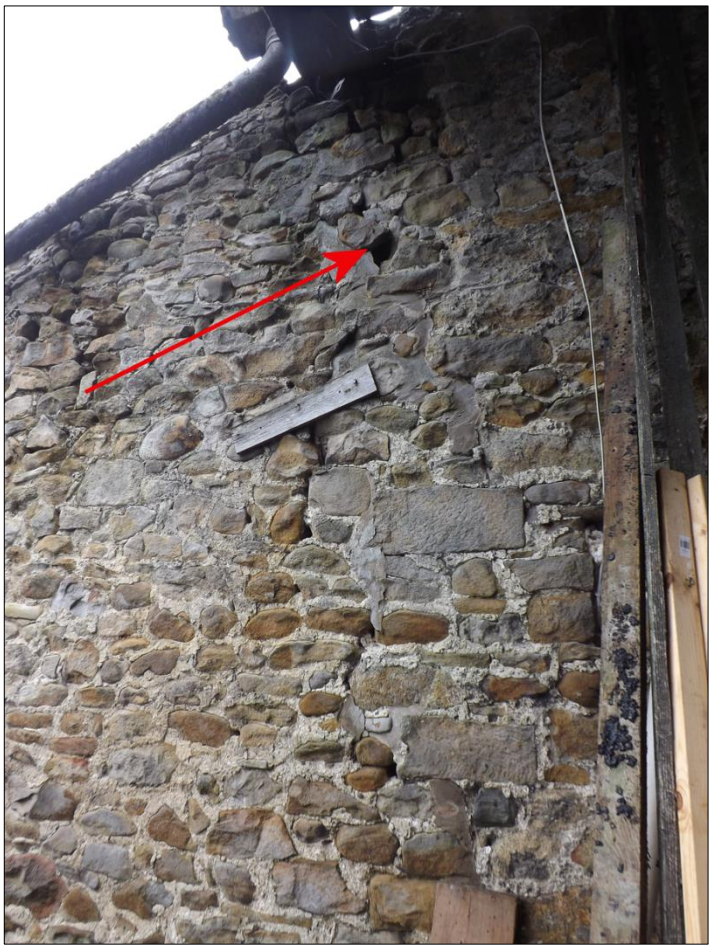


Plate 4: The building contained a number of gaps and cracks allowing access into the interior

Plate 5: The front large barn door opening and porch area had obvious gaps for bats to enter

Plate 6: One of the internal sheds as part of the main barn

Plate 7: Few droppings found in the front part of the barn

Plate 8: Swallow nest revealed in the shed within the main barn

Plate 9: The other shed in the main barn

Plate 10: The soffit board on the roof line showed bat access and roosting potential

Plate 11: One of the doorways contained lintels with bat roosting potential

Plate 12: Two of the exterior entrances were permanently open to the exterior environment

Plate 13: The interior of the main barn was sectioned of and adjoined the other sheds internally

Plate 14: The interior of the main barn showing floor to underside of roof.

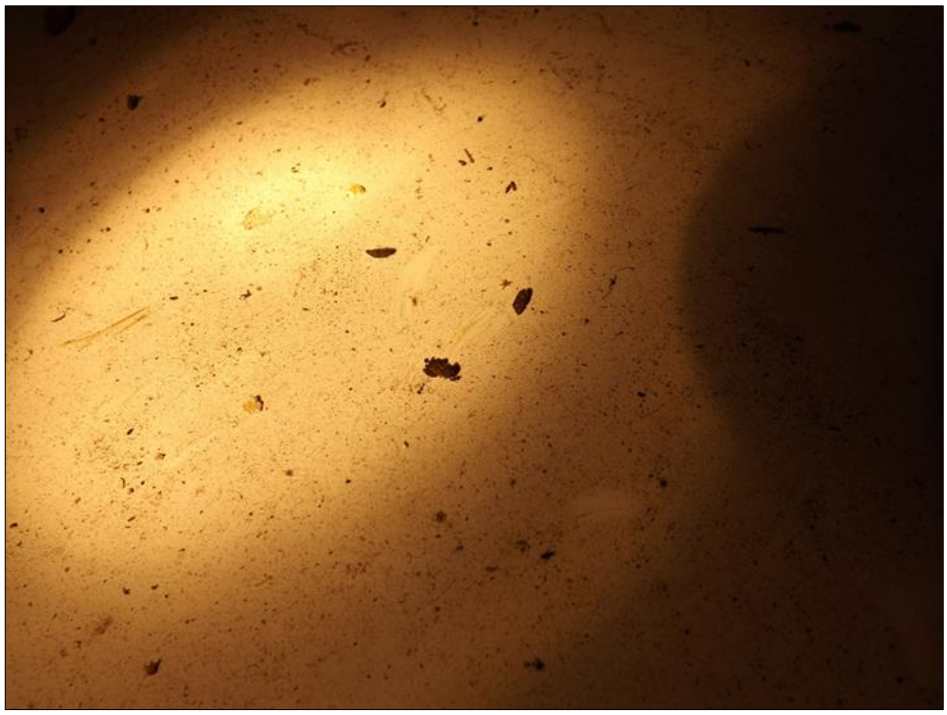


Plate 15: Bat droppings were discovered in the main section of the barn

Plate 16: A small disused milking parlour was located underneath the first floor mezzanine

3.2 Workshop Building - External & Internal Inspection

3.2.1 The inspection continued on the exterior of the shed known as Workshop Building adjoining the main barn to the north (See Plan 3, Plate 17). This was a single storey block built shed roughly 163 m² with a pitched corrugated roof. The front door entrance was permanently open to the exterior and barn swallows (*Hirundo rustica*) were seen flying in

and out. Subsequently the internal inspection revealed a number of swallow nests (See Plate 18).

Plate 17: The shed adjoining the main barn due to be demolished contained no bat roosting potential although some swallows were seen entering and nesting

Plate 18: The internal inspection revealed no bat roosting potential only some swallow nests

3.3 Machinery & Vehicle Storage Shed - External & Internal Inspection

3.3.1 The final shed known as Machinery and Agricultural Vehicle Storage adjoined the main barn to the east (See Plan 3, Plate 19). This was a modern portal frames building, two storey height, permanently open shed due to be demolished. The shed contained a corrugated roof. There was no bat roosting potential within the barn. The only exceptions to this were the possible crevices atop the back wall, and access points into the main stone barn to the west (Agricultural Storage; see Plan 3).

Plate 19: Permanently open machinery and agricultural vehicle storage shed

4.0 PROTECTED SPECIES RISK ASSESSMENT

4.0.1 During the building inspection it was concluded that there were abundant access points to potential roosts on the main barn building. These included countless gaps and holes, ideal for crevice dwelling bats, as well as open inner areas that are more suited to bats that fly within a roost space, such as brown long eared bats. Any works could impact upon bats roosting within the buildings therefore further activity surveys will be required. Without these surveys being carried out, works on these buildings could result in an unknown number of unknown species could be impacted.

4.0.2 Additionally, small numbers of Swallows are known to utilise the building for nesting purposes. As such, the development will need to incorporate plans to reduce or mitigate for potentially negative impacts on these birds.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Bats

5.1.1 In conclusion, both buildings inspected had abundant potential access points, to numerous possible roosting locations for bats. Therefore, it is likely that the proposed works is likely to have a negative impact on bats due to loss of roosts.

- ***It is recommended*** that at least three-night time bat surveys are conducted to confirm the presence/absence of bats on the site, as well as species and numbers of individuals. Only then can the development be carried out (with relevant professional ecological advice) in a way that the developers can be sure they are not negatively impacting on local bat populations (NB: SEE ANNEX B). **Reason:** This is in line with primary legislation and BCT guidelines as all UK bat species are protected by Wildlife and Countryside Act (1981) (as amended) and the Conservation of Habitats and Species Regulations (2017) (as amended).

5.2 Birds - Swallows

5.2.1 Small numbers of swallows were seen nesting in the barns during both 2016 and 2021.

- ***It is recommended*** that any renovation work takes place outside of the bird-nesting season (which is generally accepted as being between March and August inclusively) to ensure that no disturbance to nesting birds is likely. If this is not possible, a suitably qualified ecologist must be present to ensure that the nests present are no longer in use. **Reason**: As with the bats, this will ensure that no offences are committed under The Wildlife and Countryside Act 1981 (as amended). The bird-nesting season is generally regarded to extend between March and August inclusive.

- ***It is recommended*** that 4x swallow nesting cups should be incorporated under the eaves of any redevelopment in order to mitigate for loss of swallow nesting sites. These should be located away from windows and at a height no less than 3m above the ground (See Plate 20). Swallow nests can be obtained from a number of sources including http://www.gardengiftshop.co.uk/acatalog/Swallow-Nest-Box.html?utm_source=googlebase&utm_medium=feedmanager. **Reason**: This will enable the continued use of the site by nesting swallows and house sparrow and will result in no overall negative effect upon biodiversity at the site. This will ensure compliance with the Local Authorities duty under The Natural Environment and Rural Communities Act 2006, as reflected in the Local Plan and the National Planning Policy Framework.

Plate 20: Swallow nest cups

6.0 REFERENCES

BAT CONSERVATION TRUST (2016). *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

DEPARTMENT FOR COMMUNITIES AND LOCAL GOVERNMENT (2012) *National Planning Policy Framework*. HMSO. London.

JOINT NATURE CONSERVATION COMMITTEE Mitchell-Jones, A.J. & McLeish, A.P. [Eds.] (2004) *The Bat Workers Manual (3rd edition)*. Joint Nature Conservancy Council, Peterborough.

Web addresses for access to full UK legislation and policy text:

Conservation of Habitats and Species Regulations 2017:

http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

Wildlife and Countryside Act 1981:

www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

Countryside and Rights of Way Act 2000:

www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm

Natural Environment and Rural Communities Act 2006:

http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

ANNEX A: STATUTORY AND PLANNING CONTEXT

A.1 Bats

A.1.1 Bats and all places they use for shelter are afforded full protection by *The Wildlife and Countryside Act 1981* (as amended) (Section 9, Schedule 5). In addition to the above protection, bats are also protected under European legislation, which is implemented in England via The Conservation of Habitats and Species Regulations 2017 (as amended).

A.1.2 If both national and international legislation are taken together, the legislative protection afforded to the species makes it an offence to:

- Intentionally/deliberately kill, disturb, injure or capture a bat.
- Intentionally or recklessly damage, destroy or obstruct access to any breeding site or resting place of a bat.
- Possess or control any live or dead specimen or anything derived from a bat.

A.1.3 If an activity is likely to result in any of the above offences, derogation from the legal protection can be issued in the form of a European Protected Species licence issued by Natural England. Licences for development purposes are issued under the Conservation of Habitats and Species Regulations 2017 (as amended) and only allow what is permitted within the terms and conditions of the licence.

A.1.4 In addition to licensing, for activities requiring planning permission, the presence of bats is a material consideration, which must be fully considered when granting planning permission.

A.1.5 Where a development is proposed that may affect a protected species, alternative sites should be considered before granting planning permission. The planning authority may require mitigation or compensatory proposals in order for an activity to be granted planning permission.

A.2 Birds

A.2.1 The Wildlife & Countryside Act 1981 (as amended) protects all nesting wild birds in Britain. It is an offence to intentionally:

- Kill, injure, capture or take a wild bird;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- Take or destroy an egg of any wild bird.

A.2.2 There are specific penalties for committing the above offences to Schedule 1 birds. These are rarer or more vulnerable species which includes the barn owl. It is an offence to intentionally:

- Disturb a barn owl while it is building a nest or is in, on or near a nest containing eggs or young; or
- Disturb dependent young of such a bird.

A.3 Planning

A.3.1 When considering each planning application, the presence of protected species, such as those listed above, is a material consideration which must be fully considered by the Local Authority when granting planning permission. If a licence from Natural England is required, then prior to issuing any planning consent, the local planning authority will

need to be satisfied that there is no reason why such a licence would not be issued. Therefore, in reaching the planning decision the local planning authority will need to have regard to the requirements of the Conservation of habitats and Species Regulations 2017 (as amended). The three licensing tests given in the Regulations must be considered. In summary, these are that:

1. The development is required for the purpose of:
    - preserving public health or public safety,
    - other imperative reasons of over-riding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.
    - preventing serious damage to property.
2. There is no satisfactory alternative.
3. The proposal will not be detrimental to the maintenance of the population of the species at a favourable conservation status.

A.3.2 All necessary information would need to be provided to the planning authority as part of the planning application in order to address the above tests.

A.3.3 The Natural Environment and Communities Act (NERC Act) 2006 extended the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. The Duty is set out in Section 40 of the Act, and states that:

"Every 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"

A.3.4 The Duty applies to all local authorities, community, parish and town councils, police, fire and health authorities and utility companies. Section 41 (S41) of this Act (the 'England Biodiversity List') also requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. This list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40(1) of the Act.

A.3.5 Also, Local Authorities must follow the National Planning Policy Framework (NPPF) which provides guidance on the interpretation of the law in relation to wildlife issues and development. For each development proposal considered by the Local Planning Authority the NPPF states that the authority must aim to conserve and enhance biodiversity. If significant harm 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.

ANNEX B: NIGHT TIME BAT SURVEYS

CONTENTS PAGE

1.0 INTRODUCTION

1.1 Background Information

1.1.1 The conclusions from the building inspection carried out on the 22nd August 2016 recommended undertaking further activity surveys at Loft Shay farm in order to determine bat presence/use of the buildings proposed for re-development.

1.1.1 These were duly completed, the results of which are provided in this Annex. However, because a new planning application was sought in 2021, the 2016 data was too old to be used, so renewed surveys were completed.

1.2 Aims

1.2.1 The aims of this survey were to gather up-to-date information on the presence of bats at the site. This involved:

- Gaining an understanding of species/numbers of bats (if any) that utilise the features of interest on/near site.
- Observing activity with the aid of bat detectors, incorporating visual and audio cues to identify species/activity in the field.
- Conducting as many night time bat survey(s) as required depending on the relative potential for the site.
- Providing an assessment of the likely importance of the site for bats and their conservation.
- Advising the client in relation to the proposed development and any impacts upon bats in order to ensure legislative compliance.

1.2.2 To achieve this, night time surveys for bats were undertaken between the 30th August, 14th & 22nd September 2016. These were updated on 25th May and 10th June 2021. This submission presents the results of the ecological surveys at the site.

2.0 SURVEY METHODOLOGY

2.1 Bat Activity Surveys

2.1.1 In line with the relative high potential of the site for roosting bats, and the evidence of previous activity, three surveys were carried out on site. These involved two dusk (emergence) and one dawn (re-entry) survey in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (Bat Conservation Trust 2016). In accordance with best practice, the survey comprised the following elements:

- Emergence Surveys: Three night-time visits were undertaken to determine if bats were emerging from the building and to assess levels of bat activity. Two of these were in 2016 and one in 2021. Activity during the time around and post sunset was observed visually and using Wildlife Acoustics EM Touch with iPads for recording. This equipment not only records the bats but also uses automatic ID software to identify those bats detected.
- Entry Survey: Two further dawn surveys were carried out in order that bats returning to roosts could be observed. One of these was in 2016 and one was in 2021. This type of survey is excellent at determining specific locations that bats utilise on a given structure. This facilitates the ability to provide an accurate depiction of the locations of roosts, and a clear idea of the numbers of bats using each roost.
- During all surveys the observers stood at allocated locations which were judged to provide the best coverage of the building (see Plan 4). From these locations, the observers would be expected to hear and also see any bats emerging from the buildings where roosts were anticipated or likely. Importantly, surveyors actively move to 'follow' the bats when they are eliciting characteristic behaviour that indicates they may be utilising a given feature. This undoubtedly increases accuracy and efficiency when recording the key features of importance for bats.
- Recordings were critically analysed live with the aid of automatic ID but most importantly through the knowledge and judgement of the surveyor. Anything of interest or calls that were not fully identified in the field were subsequently scrutinised after the survey. Analyses of recordings involved measurement of various parameters to determine the species of bat (call frequency, shape of call, call duration, maximum energy and inter pulse interval). These parameters were compared against reference calls and tabulated reference data (Russ, 2012) with the aid of tailored in house Simply Ecology software to enable successful species identification.

Plan 4: Surveyor positioning during the three surveys. White (30/08/16), Red (14/09/16), Blue (22/09/16), Green (25/05/21) and Yellow (10/06/21).

2.2 Personnel

2.2.1 The above surveys were carried out by Kevin Heywood BSc (Hons), Tobias Palmer MSc ACIEEM and Richard Lowe in 2016.

2.2.2 Kevin is an Ecologist with Simply Ecology Ltd. Kevin graduated with a first-class honours degree in Ecology from Lancaster University in 2015. In addition to this, he has acquired experience since 2012 working as an ecologist in a freelance capacity and since 2015 as a full-time employee for Simply Ecology Ltd. During this time, he has developed numerous field skills and carried out a wide range of botanical and protected species surveys. During his time at Lancaster he completed a dissertation project looking at the effects of LED light on foraging Daubenton's bat (*Myotis daubentonii*) behaviour. His expertise predominantly lies with habitat mapping and undertaking protected species surveys including: bats, great crested newts, badgers, otters and reptiles. Kevin holds a protected species licence for all British bats and for Great Crested Newts.

2.2.3 Tobias Palmer MSc ACIEEM is an Ecologist at Simply Ecology with 7 years' of experience. Prior to employment at Simply Ecology, Tobias has worked for the Environment Agency as well as ecological consultants undertaking protected species surveys since 2010. Tobias studied his master's degree at Lancaster University investigating the effects of

predatory regime influence on the invasion success of the freshwater killer shrimp (*Dikerogammarus villosus*).

2.2.4 Richard Lowe BSc (Hons) PGCE. Richard studied Environmental Management at The University of Central Lancashire and graduated in 1996. He has worked as an ecologist since that time in a variety of consultant roles, including as a Senior Ecologist at ERAP and latterly as a freelance contractor. Richard holds a great crested newt science and education licence. He has a broad range of experience of ecological survey and reporting knowledge, covering habitat mapping, protected species surveys and Environmental Impact Assessments. Richard is also an enthusiastic environmental educator, and has previously taken out school groups in Lancashire for the RSPB in his role as a Field Teacher.

2.2.5 In 2021, the surveys were carried out by Jason Reynolds MSc MCIEEM, Kevin Heywood BSc (Hons) ACIEEM and Philip Wright MSc CIEEM.

2.2.6 Philip is an Ecologist with Simply Ecology Limited obtained his first degree in Biology from the University of Bath and an MSc in Ecology and Conservation from Lancaster University. He is a member of the North Lancashire Bat Group and is in his fifth season of bat surveying. His wider experience includes conducting botanical surveying and habitat management work with the RSPB and with the Wildlife Trust for Lancashire, Manchester and North Merseyside.

2.2.7 Kevin and Philip were accompanied on the 2021 dusk and dawn surveys by Jason Reynolds MSc MCIEEM. Jason started Simply Ecology Limited in 2007. Jason is an experienced ecologist who has been continuously employed in the field of nature conservation since 1995 (26 years' experience) and has a wealth of experience in both the statutory nature conservation agencies and private consultancy. During his career has worked in Conservation Officer roles for the Joint Nature Conservation Committee, English Nature, Environment Agency, Cumbria Wildlife Trust and Durham Wildlife Trust prior to setting up Simply Ecology ecological consultancy in 2007, where he is the Lead Ecologist. He has an MSc from The University of Aberdeen and his thesis investigated the relationship between habitat type and complexity and the foraging behaviour of Pipistrelle bats. Jason holds protected species survey licences for all British bats, white-clawed crayfish and great crested newts.

2.3 Timing and Constraints

2.3.1 The night-time activity surveys of the property were carried out between the dates of: 30th August, 14th and 22nd September 2016. This survey timing is during the ideal survey period for bats and the weather conditions were considered fine to observe and record any bat activity at the site (see Table 1). There were very few obstructions to vision around either the barn or the stables and it was possible to skyline around the buildings effectively. The only exception was a partial obstruction to sky-lining the barn on the north side. However this was not considered to be significant enough to prevent the gathering of comprehensive and accurate information during the surveys.

2.3.2 The 2021 surveys were undertaken on 25th May and 10th June. As with the 2016 surveys, these were during the optimal time for carrying out bat surveys. No constraints were encountered which would prevent the collection of accurate bat survey data.

Table 1: Weather conditions during the bat surveys.

Survey date	Temperature at start of survey	Sunset/ sunrise	Start/finish time	Weather
30th August 2016	19 °C	20:00	20:00/21:10	Still, warm and dry. 70% cloud cover. Good conditions for observing bats.
14th September 2016	21 °C	19:30	19:15/20:30	60% cloud, Breezy, dry.
22nd September 2016	13 °C	06:57	05:15/6:57	Drizzle, 100% cloud, light wind.
25th May 2021	11 °C	21:22	21:10/23:00	Still and dry. 70% cloud.
10th June 2021	15 °C	04:40	03:00/4:50	Still, warm and dry. 100% cloud cover. Ideal conditions.

3.0 RESULTS

3.1 Dusk Emergence Surveys

3.1.1 During the 2016 dusk emergence survey(s) a low numbers of bats were seen and heard emerging from the barn building at various locations (See Plan 5). These included common pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*). On the 30th August a total of 9x bats were seen emerging from the buildings. 3x common pipistrelles emerged from the Machinery Storage shed (see Plate 19 and 21), 2x common and 2x soprano pipistrelles emerged from the main doorway of the Agricultural Storage (see Plate 22) and 2x common pipistrelles emerged from the western gable end of the Former Livestock Housing (see Plate 23). In all 7x common and 2x soprano pipistrelle bats were seen roosting in the buildings.

3.1.2 On the 14th September 2016 3x common pipistrelle bats came out of the Machinery Storage shed, 2x soprano pipistrelle bats emerged from the main doorway of the Agricultural Storage barn and 2x common pipistrelles emerged from the same locations on the western gable end. In all, there were 5x common pipistrelle and 2x soprano pipistrelle bats seen emerging from the building.

3.1.3 During the 2021 dusk emergence survey no bats were observed emerging from any of the buildings. This was despite ideal survey conditions and coverage of the buildings. From 21:28 small numbers of bats were seen around the survey site. These were predominantly common pipistrelle, but with periodic soprano pipistrelle passes and a couple of noctule detections from higher over the adjoining land. Activity was of 1 or 2 bats at most and remained predictable with bats following foraging loops around the workshed and driveway. From 22:30 to the end of the survey, activity declined significantly.

3.1.3 During 2021, general activity levels on site comprised low numbers of bats flying around the site, mainly around the open fronted shed, neighbouring property and driveway/gardens. After roughly an hour of fairly regular activity by small numbers of bats (peak count 2 at any one time) the activity dropped away and became sporadic. **In all, during 2021 these buildings provided no evidence of roosting bats.**

Plan 5: Flight routes of emerging bats during 2016. Surveyors were typically roaming around the outside of the buildings to gain ideal perspectives of any given activity observed.

Plate 21: Bats seen emerging from the narrow openings during 2016. <u>These were not being used in 2021.</u>

Plate 22: Both common and soprano pipistrelle bats were seen emerging from the porch of the front large barn doors during 2016, but not in 2021.

Plate 23: A peak count of 2x common pipistrelle bats were seen emerging from the roofline on the north west side of the barn on each night in 2016, but not in 2021.

3.2 Dawn Entry Surveys

3.2.1 The 2016 dawn survey at the barn revealed lower levels of activity compared with the dusk surveys. This may have been due to slight drizzle and the later time of the year. 2x common pipistrelle bats were seen re-entering the barn building on the north west gable at the same location as identified in Plate 19 (See Plate 24). Other activity was very low around the site. A single bat was seen re-entering behind a purlin next to the gable end in the permanently open machinery and vehicle storage shed on the south east adjoin the main barn (See Plate 25). Additionally, a couple of Brandts bats (*Myotis brandtii*) were observed flying around the entrance driveway during the survey. **Overall 3 common pipistrelle bats were seen entering the buildings during the 2016 dawn survey.**

3.2.2 The 2021 dawn survey was carried out in ideal conditions. However, no bats were observed returning to any roost in the buildings. Low levels of common pipistrelle activity from only a single bat were observed around the workshed and driveway, as with the other surveys. The last bat activity was common pipistrelle at 04:12 and the only bat heard after this time was a couple of Noctule passes.

Plate 24: During 2016, bats seen re-entering the roof line on the north west side of the building gable. None were using this feature in 2021.

Plate 25: During 2016, a bat was seen re-entering behind one of the purlins next to the gable end in the open shed. None were seen in 2021.

3.3 Site Status and Protected Species Risk Assessment

3.3.1 Following from the initial bat building inspection in August 2016, the night time surveys found multiple roost locations (4 x total) on the barn building and 2x locations within the machinery and vehicle storage shed. Peak counts of 7x common pipistrelles and 2 soprano pipistrelles were seen utilising the buildings on site. The site was considered to hold value for low numbers of common roosting bat species.

3.3.2 However, the 2021 surveys failed to find any evidence of bat roosting despite multiple observations of bats during both night-time visits. Consequently it was concluded that no bat roosts are currently present in these buildings which formerly had small roosts of common and widespread species. No direct impacts upon bats or bat roosts will arise. Nonetheless, adoption of a precautionary working should address any residual risk that a bat might be encountered during the works.

4.0 MITIGATION STRATEGY

4.1 Bats

4.1.1 No bat roosts were present in the buildings, but bats were formerly known to be roosting. Local and National Planning policy requires net biodiversity gains to be delivered as part of planning applications.

4.1.2 The mitigation strategy for this site has been designed to ensure bats have provision of potential roost features on the outside of the building as a result of re-roofing.

4.2 Mitigation – Precautionary Working Method

4.2.1 Prior to works being carried out on a given area of the building, bats should be excluded from the known roost locations. This should comprise the following elements:

- A tool-box talk will be delivered to the contractors by the ecologist for this project, so any queries can be fully answered prior to the commencement of work on areas where bats used to be roosting.
- No capture of bats is predicted this site. Good information on the absence of roosting bats was gathered during the night time surveys.
- There is no need to restrict the timing of the work. There were no confirmed roosts and the use of the structure by bats is equally likely/unlikely to occur at any time of the year.
- The licensed ecology personnel will undertake a program of overseeing the roof strip from any former roost areas that will be affected. Remove all roofing materials by hand stripping.
- In the unlikely event that bats are found during work, then the Licensed ecology personnel will advise on how best to proceed in relation to Natural England Licensing. The site will need to be re-assessed in regard to its use by bats. A Natural England license may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.
- If it is necessary to remove a bat to avoid immediate harm, gloves must be worn. It should be carefully caught and placed in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found.
- Any injured bats that need treatment for will be delivered to a well-known bat carer, Gail Armstrong, 1 Bottoms Lane, Silverdale, Carnforth, Lancashire. Gail has several bats in her care at any one time and regularly deals with sick and injured bats. The risk of sick or injured bats being found at the site is however considered to be negligible.

4.3 New roost provision – a strategy for the long term

4.3.1 In order to compensate for the loss of potential roost features at the site, it is advised that roost access be provided in the converted building during re-roofing. Gaps and crevices

should be re-instated on the outer gable end verges, and within the main doorway (see Plates 26-27). These should be between 15mm-20mm in height. In addition, the installation of specially designed ridge tiles should take place in order to allow bats access to crevices in the roof (See Plan 6). We recommend that 2 of these ridge tiles be incorporated into the new roof opening out towards to the south west aspect. It is anticipated that these roost locations will ensure long term potential for bats should they chosen to use the building again in the future.

Plate 26: Narrow crevice features should be re-created for bats on the north west gable.

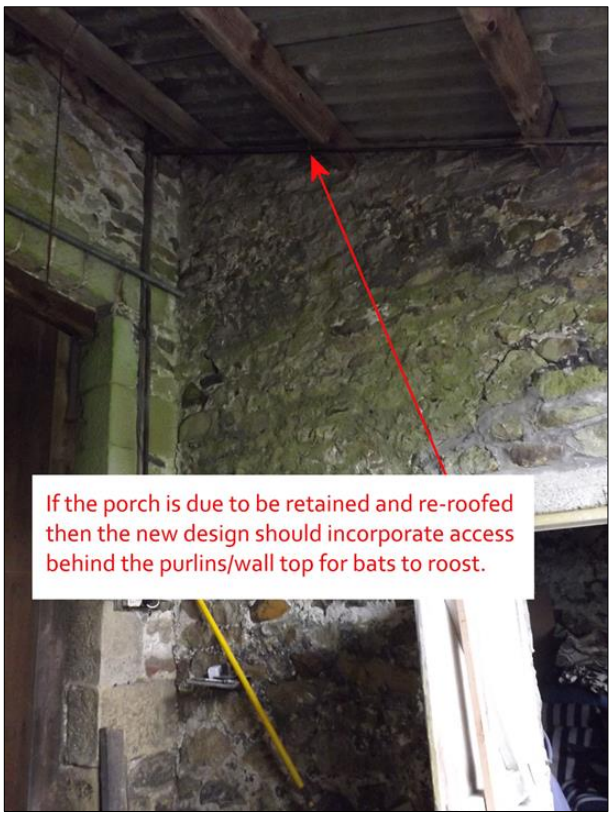
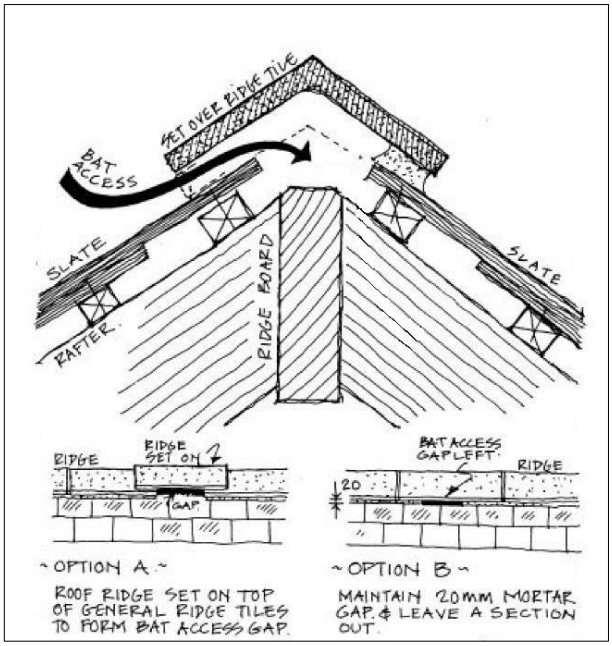


Plate 27: Features should be left/incorporated into the building design where bats were seen emerging/re-entering on the south east porch



Plan 6: Gaps will be left to enable bat access under some of the ridge tiles. This can be achieved through one of two options (A or B). Access into the new roost spaces will be provided on one side only.

4.4 Birds

4.4.1 Nesting swallow were were present in the buildings. Local and National Planning policy requires net biodiversity gains to be delivered as part of planning applications.

4.4.2 The mitigation strategy for this site has been designed to ensure that swallows have provision of potential nest features on the outside of the building as a result of conversion.

4.4.3 Any demolition and conversion work should take place outside of the bird-nesting season to ensure that no disturbance to nesting birds is likely. If this is not possible, a suitably qualified ecologist must be present to ensure that the nests present are no longer in use.

4.4.4 To mitigate for loss of swallow nesting sites 4 swallow nesting cups should be incorporated under the eaves of any redevelopment (see Plate 28).

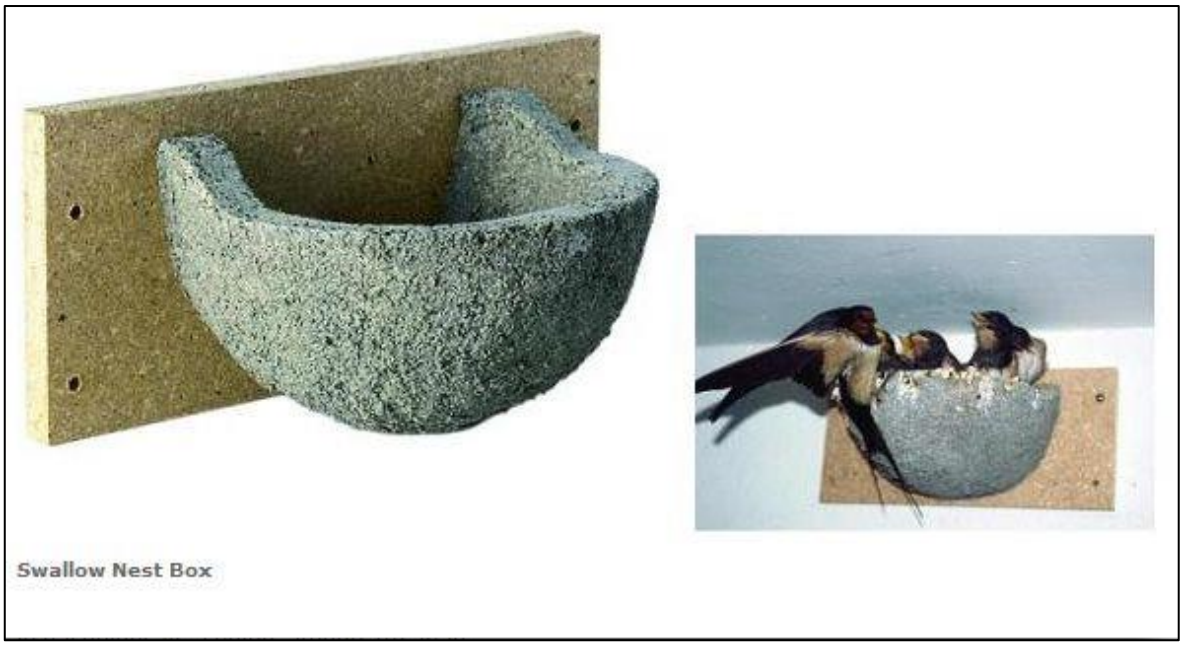


Plate 28: Swallow cups

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

5.1.1 In May 2021, Simply Ecology Limited was commissioned by Peter Hitchen Architects, to undertake surveys for bats at Loft Shay Farm, Knowle Green, Preston PR3 2YQ (see **Error! Reference source not found.**). This comprised night-time surveys to follow on f rom previous surveys carried out in 2016 which were no out of date. It is understood that the proposed works convert the building to residential use (see **Error! Reference source n ot found.**4)

5.1.2 Without mitigation, the demolition/re-development of the buildings is likely to result in loss of potential roost features for low numbers of common and soprano pipistrelle bats. No loss of bat roosts will occur.

5.1.3 The 2021 surveys failed to find any roosting bats at the site. There are multiple potential roost locations within the barns but that there were no confirmed roosts.

5.1.4 The barns also supported nesting swallows and the conversion works would result in loss of nesting opportunities.

5.2 Bats

5.2.1 The development proposals will result in the demolition of the Machinery & Vehicle storage shed/Workshop Building and the conversion of the Barn Building (Agricultural storage/storage/former livestock handling/former diary/storage) (see Plan 4). Based upon the results of the 2021 surveys, this will not cause the loss or disturbance of any bat roosts.

- ***It is advised*** that no Natural England licence will be necessary in this instance as there will be no impacts upon any known bat roosts. **Reason:** This will deliver compliance with: Section 9 (1 & 4) of The Wildlife & Countryside Act 1981 (as amended) and Part 3 (43; 1 & 2) of The Conservation of Habitats and Species Regulations 2017 (as amended).

5.2.2 The previous surveys in 2016 confirmed that protected bat roosts were present at the site. These were no longer present in 2021 although no changes had occurred to the building in the intervening period. It would be prudent to implement precautionary working methods as mitigation, as per Section 4.0.

- ***It is recommended*** that a precautionary working method detailed in Section 4.0 should be implemented at the site to address the slight residual risk that bats might be encountered. This working method is detailed below and should be agreed with the Local Planning Authority by way of a planning condition. **Reason:** This will deliver compliance with: The NERC Act (2006) Biodiversity Duty, as reflected in the Local Plan and Section 15 (170 & 175) of the National Planning Policy Framework (2018).
- ***It is recommended*** that new bat roost opportunities detailed in Section 4.0 are incorporated into the converted building and a precautionary working method using

an Ecological Clerk of Works is adopted to cover any residual risk that bats are present. **Reason:** This will deliver compliance with: The NERC Act (2006) Biodiversity Duty, as reflected in the Local Plan and Section 15 (170 & 175) of the National Planning Policy Framework (2018).

5.3 Breeding Birds

- ***It is recommended*** that any conversion work takes place outside of the bird-nesting season (which is generally accepted as being between March and August inclusively) to ensure that no disturbance to nesting birds is likely. If this is not possible, a suitably qualified ecologist must be present to ensure that the nests present are no longer in use. **Reason**: As with the bats, this will ensure that no offences are committed under The Wildlife and Countryside Act 1981 (as amended). The bird-nesting season is generally regarded to extend between March and August inclusive.
- ***It is recommended*** that 4x swallow nesting cups should be incorporated under the eaves of the redevelopment in order to mitigate for loss of swallow nesting sites. These should be located away from windows and at a height no less than 3m above the ground (See Plate 28). Swallow nests can be obtained from a number of sources including http://www.gardengiftshop.co.uk/acatalog/Swallow-Nest-Box.html?utm_source=googlebase&utm_medium=feedmanager. **Reason**: This will enable the continued use of the site by nesting swallows and will result in no overall negative effect upon biodiversity at the site. This will ensure compliance with the Local Authority's biodiversity duty under The Natural Environment and Rural Communities Act 2006, as reflected in the Local Plan and the National Planning Policy Framework.