Outbuilding at Silver Street Farm House, Silver Street, Coaley, GL11 5AX.

Preliminary Roost Assessment

December 2023

All Ecology Ltd

[redacted]

Document Control

Site: Outbuilding at Silver Street Farm House, Silver Street, Coaley, GL11 5AX

Title: Preliminary Roost Assessment

For: [redacted]

Project Number: 1835

Document Version: 2.0

Survey Date: 3rd April 2018 and 5th December 2023

Document Date: 5th December 2023

Version	Date	Version Details	Prepared by	Reviewed by	Approved by
1.0	03/04/18	Original report	JG	VP	JG
2.0	05/12/23	Update survey and report	JG	VP	JG

England and Wales Office Scotland Office

[redacted]

Notice to Readers:

The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

All Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

All Ecology cannot accept responsibility for data collected from third parties.

Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Executive Summary

In April 2018 and again in December 2023, All Ecology was commissioned to undertake an Inspection Survey for Bat Roost Potential of an outbuilding at Silver Street Farm House, Silver Street, Coaley, GL11 5AX. The outbuilding comprises two sections, a stone barn and attached stable with clay pan tile roofs of gable end construction.

The site is the subject of a planning application to permit the conversion of the building to form additional living accommodation requiring internal and external works, including re-roofing.

On both occasions, no evidence of roosting bats was found within the building after full inspections, with any potential limited to potential future use of minor cracks and crevices in the walls of the building.

It has been concluded that roosting bats are absent from the building and no further surveys are therefore required. Precautionary methods of working have been proposed to take into account the limited potential for future use of the buildings by roosting bats.

Suggestions for potential mitigation and enhancement are also given.

Contents

1.0 Introduction

Background

1.1 All Ecology was commissioned to undertake a Preliminary Roost Assessment of an outbuilding at Silver Street Farm House, Silver Street, Coaley, GL11 5AX. The outbuilding comprises two sections, a stone barn and attached stable with clay pan tile roofs of gable end construction.

1.2 The site is the subject of a planning application to permit the conversion of the building to additional living accommodation requiring internal and external works, including re-roofing.

1.3 The main aims of the present survey were to establish the following:

Presence/absence of bat roosts, or the potential for bat roosts to be present.

Status of roosts if present.

Whether additional surveys are required.

Whether a European Protected Species (EPS) licence is required to ensure legal compliance.

Which type of mitigation measures would need to be employed.

1.4 The presence or potential presence of other protected species, including nesting birds, was also considered but given the small scale of the proposals which are concerned with the building only, a full Ecological Appraisal was not deemed necessary.

Site Location

Figure 1: Site location plan (Barn indicated).

2.0 Legislation and Status

Bats

2.1 All species of bat are listed on Schedule 5 of The Wildlife and Countryside Act (1981) and as such receive protection under Section 9 of this Act. This has been amended several times, most recently by the Countryside and Rights of Way Act 2000, which added 'or recklessly' to Section 9(4) (a) and (b). In summary, it is a criminal offence to:

Intentionally kill, injure or take a wild bat.

Be in possession of, or control, any live or dead wild bat or part of, or anything derived from a wild bat.

Intentionally or recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection.

Intentionally or recklessly disturb any wild bat whilst it is occupying a structure or place that it uses for shelter or protection.

Transport for sale or exchange, or offer for sale or exchange, a live or dead bat or any part of a bat.

2.2 The Conservation of Habitats and Species Regulations 2010, consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer or transport for sale any European species of bat or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licenses in respect of development to permit activities that would otherwise be unlawful.

2.3 Under Section 40 of the Natural Environment and Rural Communities Act (2006) public bodies, including Local and Regional Planning Authorities have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. This list forms the basis of the UK Biodiversity Framework, and in England, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Defra, 2011). Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF) to maintain, restore and enhance species and habitats.

2.4 Seven bat species are NERC Priority Species (JNCC, 2007). 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*

Lesser Horseshoe *Rhinolophus hipposideros*

2.5 Greater Horseshoe, Lesser Horseshoe, Barbastelle and Bechstein's, are afforded greater protection under European legislation, being listed under Annex II of the EC Habitats Directive which lists species whose conservation requires the designation of Special Areas of Conservation (SACs).

Birds

2.6 Nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). It is a criminal offence to:

Intentionally kill, injure or take any wild bird.

Intentionally take, damage or destroy the nest of any wild bird whilst it is still in use or being built.

Intentionally take or destroy the egg of any wild bird.

Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

2.7 The Barn Owl is included on Schedule 1 of the Wildlife and Countryside Act, 1981.

3.0 Methodology

Personnel

3.1 The survey was carried out by [redacted] BSc Hons MCIEEM, an ecologist with over 16 years' experience working as a consultant. [redacted] has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. [redacted]holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Preliminary Roost Assessment

3.2 An internal and external inspection of the building was originally conducted on the 2nd April 2018. Weather conditions on the day were patchy cloud with a moderate wind and a temperature of 11°C. The inspection was repeated on the 5th December 2023 and weather conditions on the day were overcast with a light wind and a temperature of 6°C.

3.3 All bat species resident in the UK have been recorded using buildings and built structures as roosts at some time during the year (Collins, 2016). The building was inspected externally and internally following the methodology set out in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016).

3.4 In summary, the building was searched externally and then internally, where access was available, for any evidence of use by bats and notes were made on the following:

- Location and number of any live bats.
- Location and number of any corpses or skeletons.
- Location and number of droppings.
- Notes on relative freshness, shape and size of droppings.
- Location and quantity of feeding remains.
- Location of clean, cobweb-free timbers, crevices and holes.
- Location of characteristic staining from urine and/or grease marks.
- Location of known and potential access points to the roost.
- Location of the characteristic smell of bats if no other evidence is recorded.

3.5 Notes were also made on the characteristics and features of the building as follows.

- Type, age and aspect.

Wall construction, in particular the type of brick or stone used to build the walls and whether it has cavity walls or rubble- filled walls.

Form of the roof, in particular the presence of gable ends, hipped roofs, etc. and the nature and condition of the roof covering.

Presence of hanging tiles, weather boarding or other forms of cladding.

Nature of the eaves, in particular if they are sealed by a soffit or boxed eave and the tightness of the fit to the exterior walls.

Presence and condition of lead flashings.

Gaps under eaves, around windows, under tiles, lead flashings etc.

Presence and type of roof lining.

Presence of roof insulation.

Presence of water tanks in loft (note if covered or uncovered).

Structure of the roof including the truss type, age and nature of timber work.

Information or evidence of work having been undertaken that could affect use of the structure by bats.

3.6 The presence or potential presence of Barn Owls was also investigated. Notes were made on any potential access points for Barn Owls and evidence of white excreta ('whitewash') on the walls beneath any openings. A search for direct evidence of Barn Owls or the presence of any potential nest or roost sites was made within the building paying particular attention to any evidence of streaky excreta on overhead structures such as beams or ledges and of pellets and feathers beneath or within darkened cavities of sufficient size to accommodate owls. The presence or evidence of other species of nesting birds was also recorded.

Equipment

3.7 Equipment used to aid the inspection survey included low and high-powered torches, ladders, endoscope, mirrors, binoculars and a camera.

Assessment

3.8 Where a building cannot fully be inspected or the presence of bats entirely ruled out, the potential suitability of the building for roosting bats is assessed and classified as follows (Collins, 2016):

Negligible – Negligible habitat features on site likely to be used by roosting bats.

Low – A structure with 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 – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.

High – A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3.9 The surveyed building has been evaluated to assess which of the following categories it falls into, if any (Mitchell-Jones, 2004 & Collins, 2016):

Transitional roost (April-September/October) - On waking from hibernation or in the period prior to hibernation, bats search for roosts in which they stay for only a few days or on some occasions several weeks. These transitional roosts can be occupied by a few individuals or occasionally small groups. The transitional roosts used prior to hibernation are generally cool and thus may allow bats to reduce their energy requirements before going into hibernation.

Maternity roost (May-August) - Breeding females gather together around the beginning of May to form nursery colonies. During this period gestation begins with births typically occurring between June and July. The females and their young remain within the maternity roost until the young are weaned and independent (late July-August). These roosts tend to break up between August and September. Adult males are rarely found within these colonies. However, the adult males of long-eared bats, Daubenton's, Natterer's, and horseshoe bats can be found roosting within maternity colonies with their numbers increasing throughout the active season.

Satellite roost (May-August) - Breeding females may have alternative roost sites in close proximity to the main nursery colony. These are referred to as 'satellite roosts'. The numbers of bats using these roosts can vary greatly, from a few individuals, to small groups.

Mating roost (September-November) - All British bats are polygynous i.e. males mate with several females. Mating generally takes place from late summer and can continue through the winter. A number of different mating strategies are used by bats, though males of some species establish mating roosts, whereby they defend territory and display/call to females to mate.

Hibernation roost (October-March) - Depending on the weather and food availability, bats tend to move to hibernation sites from October. Hibernation roosts can vary greatly in terms of the number of individuals and the diversity of species that occupy them. However, they tend to have a constant cool temperature and high humidity, which allows the bats to use less energy regulating their temperature. Bats will wake occasionally during hibernation to drink and feed.

Night roost (March-November) - Bats may use roosts other than traditional day roosting sites to rest in during the night. These roosts vary in their conservation significance. Night roosts may be used by a single individual on occasion or they could be used regularly by the whole colony. Studies have shown that night roosts may be of particular importance to some species i.e. the Lesser Horseshoe, providing key resting places within core foraging areas.

Day roost (March-November) - These roosts are used during the day to rest in. Males of most British species spend the summer roosting alone or in small groups with other males in such roosts. Bats may regularly use a number of day roosts, switching between

them on a daily basis, though conversely they may occupy the same roosting site for several weeks.

Feeding roost (May-November) - These roosts can be occupied by a single animal or a few individuals throughout the active season. They vary in their significance as they may be used by the whole colony or just a few individuals to feed, to shelter from the weather or to rest temporarily. Feeding roosts are often used by long-eared and horseshoe species.

Other considerations, Swarming sites - Swarming takes place between August and November, whereby large numbers of bats from several species gather, generally around caves and mines. They are often dominated by the *Myotis* species and appear to be important mating sites with some bats travelling several kilometres to reach these areas. A proportion of the bats that travel to these sites will remain to hibernate.

3.10 The building has been evaluated to assess which of the following categories it falls into, if any, in relation to Barn Owls (Barn Owl Trust, 2002):

Roosting and breeding – Where a pair may build a nest and raise young.

Roosting only – Barn Owls may have several roost sites within their home range.

Visiting occasionally – Barn Owls may visit other sites occasionally for roosting or feeding.

Limitations

3.11 There were no roof linings or any voids that could not be fully inspected. The building was therefore fully accessible with no constraints to carrying out the survey.

3.12 The survey was undertaken at a time of year and during weather conditions when bat activity is limited; however, any evidence of use by bats over the previous season would be expected to persist in the dry interior of the main barn, which apart from one end regularly used for the storage of horse feed, contained stored items which have evidently been left undisturbed for some time.

3.13 The stables are currently in use and no evidence of bats would persist here; however, these are not suitable for use by bats.

Nomenclature

3.14 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2007) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (http://www.nhm.ac.uk/nbn/), which is managed by the Natural History Museum.

4.0 Results

Preliminary Roost Assessment

Surrounding Habitat

4.1 The buildings are part of a domestic plot comprising a house, annex, gardens, and the barn and stable. The street lit road to the south would be poor for foraging bats but the site itself provides sheltered areas and it is highly likely that least a small number of common species forage on site. The site is part of a scattered cluster of houses outside the main village of Coaley. These are surrounded by open fields of arable and grazing pasture with semi-continuous networks of hedgerows and tree lines. The nearest areas of woodland are along the Cotswold escarpment approximately 1.5 km to the east. This extends into the wider area, including to Woodchester Park where significant roosts of horseshoe bats are present. A wide range of bats species are known to be present in the area but the site's situation and small size means that is unlikely to be important for foraging or commuting bats and the potential for more notable species is limited.

Buildings

4.2 There was a single building on site. This building was labelled as follows:

Building 1 – Barn and Stable

Building 1 – Barn and Stable

4.3 Cotswold stone barn and stable with a split level roof. Street light immediately to the south.

External – Cotswold stone walls with timber weather boards forming the north gable and upper portion of the south gable. Clay pan tile roof of gable end construction in N/S orientation. Two windows and two standard doors in the west elevation of the Barn. Large timber doors in the south elevation. Two stable doors present in the west wall of the stable. Open eaves throughout with no fascia boards, soffits or guttering; bargeboards only present on the south gable end.

Internal – Barn open throughout with no enclosed roof voids. Stable divided in two but open to the roof with no roof voids. Bare Cotswold stone and weather board walls. Unlined roof supported by traditional timbers including rafters, principal rafters, and beams. Stables in active use. Barn currently used mainly for informal storage with regular use of north end only where horse feed is stored

Access for Bats – Open stable doors into the stable, but potentially closed at night. Gaps around large door in the south gable end of the barn and timber weather boarding. Gaps under tiles, ridge tiles, and along the bottom row of tiles throughout. Small number of external holes/gaps in stone work. Gaps in internal stone work.

Potential Roosting Sites – The interiors are mostly well lit through the windows and open stable doors, as well as gaps in the tiles and around the barn timber weather boarding. Small semi-dark areas in the barn but unlikely to be suitable for free-hanging bats. The large numbers of gaps in the tiled roof also allow for draughty conditions. The only potential roosting sites are

therefore a number of small gaps in the internal walls, along the tops of the walls and a small number of external holes/gaps, where mortar is missing, all for individual or low numbers of crevice-dwelling species. Gaps in the timber lintels also provide similar opportunities although most were heavily cobwebbed. A full inspection of these gaps including a small number that required an endoscope, did not find any evidence of roosting bats such as droppings or staining, and none of the gaps were found to extend into any more significant cavities within the walls. No evidence of night use such as droppings or feeding remains were discovered with nothing to indicate that such evidence would not have persisted. It is concluded that roosting bats are likely to be absent from this building but with only minimal potential for future use.

Photograph 1: Barn – west elevation and south gable (April 2018).

Photograph 1a: Barn – west elevation and south gable (December 2023).

Photograph 2: Barn – south gable and east elevations (April 2018).

Photograph 2a: Barn – south gable and east elevations (December 2023).

Photograph 3: Stable – west elevation (April 2018).

Photograph 3a: Stable – west elevation (December 2023).

Photograph 4: Stable and Barn – north gables (April 2018).

Photograph 4a: Stable and Barn – north gables (December 2023).

Photograph 5: Barn and Stable – east elevation (April 2018).

Photograph 6: Barn – gaps under tiles and ridge tiles providing direct access to the interior (April 2018).

Photograph 7: Barn – one of a small number of holes in the external walls (April 2018).

Photograph 7a: Barn – one of a small number of holes in the external walls (December 2023).

Photograph 8: Barn – interior (April 2018).

Photograph 8a: Barn – interior (December 2023).

Photograph 9: Barn – gap in timber lintel – heavily cobwebbed and no evidence of use (April 2018).

Photograph 9a: Barn – gap in timber lintel above window – heavily cobwebbed and no evidence of use (December 2023).

Photograph 10: Barn – south gable interior – gaps provide direct access to interior but no potential roosting sites (April 2018).

Photograph 10a: Barn – south gable interior – gaps provide direct access to interior but no potential roosting sites (December 2023).

Photograph 11: Barn – gaps in interior walls (April 2018).

Photograph 11a: Barn – large gaps between the roof and top of the north gable wall (December 2023).

Other species

4.4 The barn interior is inaccessible to birds including Swallows and Barn Owls. No evidence of previous use was noted. The stables are the only accessible areas, through the open stable doors. There is limited potential for Swallows to build their mud nests against the rafters but no evidence of this was recorded. There are no suitable nesting or perching sites for Barn Owls.

4.5 The eaves are too low and small to be attractive to House Martins, and there was no evidence of small birds having nested in any of the gaps or holes in the walls.

4.6 No evidence of other protected species or any potential for their presence was recorded, the habitats surrounding the stable being hardstanding and a grass track.

5.0 Evaluation

Inspection Survey

Bats

5.1 The interiors are readily accessible by bats but are unlikely to be sufficiently dark for use by bats during the day with exception of a number of internal gaps and crevices in the barn that could provide shelter for crevice-dwelling species; a small number of similar gaps are also present in the exterior of the building. There is also potential for use as night or feeding roosts.

5.2 No evidence of bats was found within the building to indicate any use as night or feeding roosts, and no bats, or evidence of bats was found in the external and internal crevices in the stone walls. These crevices were generally found to be minor and only a small number extended into the walls beyond the surface. In the absence of any evidence of bats and with no indication that such evidence would have been lost, it is concluded that roosting bats are currently absent from the building with any potential for future use regarded as low and limited to individual or low numbers of crevice-dwelling species to roost opportunistically rather than established roosts.

5.3 In terms of hibernation, the building does not provide any areas that are undisturbed, dark, humid, and isolated from external changes in temperature. Any potential is limited to the same internal and external gaps in the walls described above for species such as pipistrelles that will tend to hibernate in relatively exposed locations in order to take advantage or warmer winter days to forage. However, any potential for use is minimal and no evidence of such use was recorded.

Birds

5.4 No evidence of Barn Owls was noted and there is no potential for this species to be present in the absence of access points to the barn, or suitable perching sites in the stable; it is concluded that they are absent from the buildings. No evidence of any use by nesting birds was noted, the barn interior being accessible to only small birds.

5.5 The barn is surrounded by simple habitats of hard standing and a grass track and it is concluded that the likelihood of other protected species being present or affected by the proposed conversion works is negligible.

6.0 Impacts and Recommendations

Impacts

6.1 The site is the subject of a planning application to permit the conversion of the building to additional living accommodation requiring internal and external works, including re-roofing.

6.2 The following impacts and potential impacts with regard to bats have been identified:

Barn and Stable

Conversion of the building to residential use requiring renovation and refurbishment works resulting in the loss of roosting sites of low potential in the form of gaps and cracks in the walls, both externally and internally, gaps in timber lintels, and potential use of the building as night or feeding roosts. No evidence of use by bats was recorded and it is concluded that roosting bats are both historically and currently absent from the building. No impacts but low potential for future use.

General

Temporary/permanent minor disruption of areas of sub-optimal bat foraging habitat around the building through potential increase/changes in external lighting.

6.3 The following impacts and potential impacts with regard to birds have been identified:

Loss of the building interiors in their current form, which provide limited potential for use by nesting small birds in the barn; no evidence of previous use and potential for future use is therefore low.

Further Surveys

6.4 It has been concluded that roosting bats are absent from the building and in accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines. 3rd Ed (Collins, 2016), where an absence of bats can be determined with a high level of confidence, no further surveys to determine presence/absence are required.

6.5 Given the nature of the features, the potential for future use, particularly for opportunistic roosting, cannot be entirely ruled out. See below for precautionary measures when carrying out works.

6.6 No further surveys for birds are required at this time. Works should ideally be scheduled to take place outside the nesting season, March to September in this instance to take into account the extended nesting period of Swallows, to avoid potentially disturbing nesting birds. Works during this time should be preceded by a nesting bird survey unless the building can be sealed over the preceding winter. If nesting birds are discovered then the nest and surrounding habitat must be left undisturbed until the young have fledged, which could delay works.

6.7 No further surveys for birds are required at this time. Works should ideally be scheduled to take place outside the nesting season, March to August, to avoid potentially disturbing them should they begin nesting within the building. If nesting birds are discovered then the nest and

surrounding habitat must be left undisturbed until the young have fledged, which could delay works.

Legal Compliance

6.8 The Wildlife and Countryside Act 1981 as amended by The CRoW Act 2000 and The Conservation of Habitats and Species Regulations 2010 makes it illegal to recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection, whether the bat is occupying the shelter at the time or not.

6.9 European Protected Species (EPS) Licences to permit the above for the purposes of development must be obtained from Natural England. To gain a licence the scheme must have been issued with detailed planning permission and must not result in a loss of conservation status of the species concerned. It has been concluded that roosting bats are absent from the buildings and licence to permit the conversion of the building will therefore not be required.

6.10 Nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). It is illegal to intentionally take, damage or destroy bird nests whilst it is being built or is in use. Bird nests must be left undisturbed until all the chicks have fledged.

Provision for Bats

Pre-works Checks and Precautionary Methods of Working

6.11 All works should be carried out with care and vigilance for bats. All cracks and crevices in the walls should be carefully inspected prior to repair/repointing in order to ensure that bats are absent and do not become trapped and the contractor advised to adhere to the following procedures in the unlikely event that bats are found during works:

If the roost is still in the structure and bats are not injured, stop work and contact a licensed ecologist. If help is not available, allow bats to fly out of harm's way.

If material containing a roost has been removed, the roost is not exposed and the bats are not injured, temporarily seal and isolate the roost, stop work and seek advice from a licensed ecologist. If advice is not readily available, re-open it and allow bats to relocate of their own accord.

If the roost has been exposed, and especially if bats have been injured, stop work, collect bats in a secure box or bag (using a glove) and contact a licensed ecologist.

Lighting

6.12 It is recommended that external lighting be kept to a minimum in order to minimise disturbance to foraging and commuting bats. Where lighting is necessary for reasons of security and/or health and safety, measures should include the use of lighting only where absolutely necessary utilising highly directional warm white LED lighting, an example being down spots at 2.5 m high using warm white (2700 K) 8W LED lamps, 550 lumens, 35 degree beam angle. These could be individually activated by PIR sensors on a 5 minute cut off to further reduce their impacts. These will assist in lighting only the areas where lighting is required and minimising light spill either directly or through reflected light.

Habitat Creation

6.13 No specific habitat creation for bats is required in this instance, subject to the continued absence of bats from the buildings. However, the proposed development provides an opportunity to enhance the site for bats by including new roosting sites within/on the converted building and the local planning authority will usually expect to see such enhancements included where possible. There are many ways in which a building can be enhanced for crevice-dwelling species. Bat panels, such as the Schwegler Bat Access Panel 1FE, or bat tubes such as the Schwegler 1FR Bat Tube can be incorporated into the building exterior with little visual impact. Roosts such as the Schwegler Bat Roost 1FQ can be erected externally after works are complete or if integrating roosts is not practical. Inexpensive timber boxes can also be made using untreated wood and many designs are available on the internet. The aim should be to include a new roosting feature on the north gable end of the barn; the south gable end is immediately adjacent to a road and subject to illumination from a street light making it unsuitable.

Provision for Birds

6.14 No provision for birds is required in this instance beyond a pre-works check to confirm absence should works begin during the nesting season. Opportunities for enhancement should be considered and, in this situation, single box on a north facing wall would be sufficient. This could be a colony type box, such as the Schwegler Sparrow Terrace 1SP, or an individual box, such as the Schwegler Bird Home 1MR. These should be installed at a height of at least 2 m.

7.0 References

Collins (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Ed. The Bat Conservation Trust: London.

The Conservation of Habitats and Species Regulations 2010, SI 2010/490

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007, SI 2007/1843, London: HMSO.

Countryside and Rights of Way Act 2000, (c.37), London: HMSO.

Defra (2011) *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*. Defra.

JNCC (2007). *UK BAP Priority Species*. [Online]. Available at: https://jncc.gov.uk/our-work/uk-bap-priority-species/#uk-bap-priority-species-list [accessed on 5rd December 2023]

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

Wildlife and Countryside Act 1981 (and amendments), (c.69), London: HMSO.