Proposed Building Development Works at North Arms Public House on Mills Lane in Wroxton Oxfordshire, OX15 6PY

Bat Surveys

A report to:

Brear Associates Ltd.
The Beer House
Atherstone Hill
Atherstone on Stour
Stratford upon Avon
Warwickshire
CV37 8NF

By:

Udall-Martin Associates Ltd.
Thrush Barn, Birchend Farm
Bosbury, Herefordshire, HR8 1HF
Tel: 01531 641946
E-mail: info@umassociates.co.uk
Web: www.umassociates.co.uk

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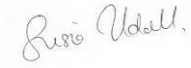
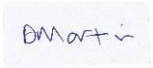
CONTRACT DETAILS	
Contract Title	**North Arms Public House, Wroxton: Bat Surveys**
Contract No.	**560/19**
Client	**Brear Associates Ltd.**
Survey Dates	**24th June and 10th July 2019**
Report Date	**05/08/19**
Report Title	**Proposed Building Development Works at North Arms Public House on Mills Lane in Wroxton, Oxfordshire, OX15 6PY: Bat Surveys**

REPORT REVIEW/QUALITY ASSURANCE				
Personnel	**Name**	**Signature**	**Position**	**Date**
Prepared by	**Susie Udall MSc MCIEEM CEnv**		**Consultancy Manager**	**05/08/19**
Reviewed by	**Dwayne Martin**		**Principal Ecologist**	**05/08/19**

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EXECUTIVE SUMMARY

Proposed Works
The proposed building works involve the renovation of an existing former public house and the conversion of outbuildings into a function room with associated kitchen/cold store.

Method of Study
The brief was to carry out a bat scoping survey and two bat dusk emergence surveys of the buildings on site, to identify potential impacts to roosting bats and make recommendations for general mitigation, compensation, enhancement and further surveys, as appropriate.

Survey Results
During the bat scoping survey a single brown long-eared bat was seen roosting between the roof joist and roof panel in the shed closest to the barn along with 30 plus fresh bat droppings. Feeding remains consistent with those produced by brown long-eared bats were found in the barn along with approximately 40 fresh bat droppings. A single pipistrelle bat dropping was found in a shed. No evidence of bats was located in or on the former pub house; however the building contains many potential bat roosting features.

During the first bat dusk emergence surveys a brown long eared bat was seen to emerge from its roost within the barn and shed. Two common pipistrelles bats and a soprano pipistrelle bat were seen to emerge from features in the former public house building. During the second bat dusk emergence survey both brown long-eared bats were recorded emerging again from the roost areas in the outbuildings as well as two common pipistrelle bats from the barn and three common pipistrelle bats from the chimney/roof area of the former public house.

Evaluation
Evidence has shown that a small number of brown long-eared bats, common pipistrelle bats and a single soprano pipistrelle currently use the buildings as day roosts, also brown long-eared bats use the barn as a night roost/feeding perch. Therefore, a European Protected Species mitigation licence from Natural England will be required for the building works to commence. Mitigation is required for nesting birds.

Mitigation Recommendations
- An EPS licence is required for the buildings works.
- The works to the former public house can be carried out at any time.
- The works to the outbuildings should be timed outside the bat hibernation period, therefore from April to October, inclusive (unless bat hibernation checks are firstly carried out).
- Carry out a destructive search of the bat roosts and potential bat roosting features under the direct supervision of a bat ecologist. This will be carried out prior to all other building works.
- Bat box installation on trees.
- A precautionary procedure is included in Appendix 3 to cover the risk of a bat being discovered during building works when the bat ecologist is not on site.
- Exterior lighting for the development should be sympathetic to roosting, foraging and commuting bats.
- If building work is to be carried out during the nesting bird season, which runs from March to September, a further nesting bird check will firstly be required.

Compensation Recommendations
- Create gaps in mortar around the chimneys and under eaves on the former public house for common pipistrelle bat and soprano pipistrelle bats.
- New bat void to be created in the converted barn/garage for brown long-eared bats.
- Re-create gaps in the stonework of the converted barn/garage for common pipistrelle bats.
- New roof liners in ALL buildings on the site to be bituminous membrane only.
- Timber treatments to be bat friendly.
- General bird boxes on trees on the site.

Enhancement Recommendations
- No further enhancement measures for roosting bats.

- Install artificial house sparrow nest terraces and swallow, swift and house martin nest boxes on the renovated former public house and converted outbuildings.

Further Survey Recommendations

- No further bat scoping or dusk surveys of the buildings are recommended. However, if works are delayed beyond 2020; further bat surveys should be carried out to update the results.
- If building works to the outbuilding are proposed for the winter months (i.e. November to March, inclusive), then firstly a bat hibernation check will need to be carried out.
- If any re-pointing of the boundary stone walls is proposed then firstly there should be a check of any gaps in the walls for roosting bats and nesting birds.
- If the building works and works to the boundary stone walls (including re-pointing and/or ivy removal) are carried out during the nesting bird season, a nesting bird check will firstly need to be carried out by a suitably experienced ecologist.

1. INTRODUCTION

1.1 General

1.1.1 This report has been prepared by Udall-Martin Associates Ltd. for Brear Associates Ltd. It provides the details of bat surveys of a former public house and outbuildings, where renovation and conversion works are proposed.

1.1.2 The site is situated at North Arms Public House on Mills Lane in Wroxton, Oxfordshire, OX15 6PY (National Grid Reference SP 414418).

1.1.3 The proposed building works involve renovation and conversion works (see Figures 1 and 2, Appendix 1). The client has provided the following details:

- Renovation of the former public house, including extensive interior works and re-pointing chimneys and re-thatching the roof. On the upper floors there will be staff rooms and offices.
- Conversion of the barn/garage into a function room, including re-roofing.
- Conversion of attached sheds/stores into a kitchen area and cold store for the function room, including re-roofing.
- It is proposed construction works will likely start January 2020 and take approximately 10 months to complete.

1.1.4 The brief was to carry out a bat scoping survey and two bat dusk emergence surveys of the former public house and outbuildings, to identify potential impacts to roosting bats and make recommendations for general mitigation, compensation, enhancement and further surveys, as appropriate.

1.1.5 To meet the requirements of the brief, a bat scoping survey and two bat dusk emergence surveys were carried out by suitably qualified, experienced and/or licensed ecologists.

1.1.6 Every effort has been made to provide an ecological appraisal for bats for the site; however, the site visits have provided an assessment of the site at limited points in time and the natural environment is unpredictable and changeable. Therefore, limited site visit investigations cannot ensure complete assessment and prediction of the

1.2 Bat Legislation

1.2.1 All species of British bat and their roosts are protected under British law by the Wildlife and Countryside Act 1981 (as amended), and bats are classified as European Protected Species under The Conservation of Habitats and Species Regulations 2017 (as amended). This makes it an offence to kill, injure or disturb a bat and to destroy any place used for rest or shelter by a bat.

1.2.2 Under this legislation development work that could affect a bat or bat roost can only be permitted under a licence from Natural England.

1.2.3 Licences in respect of European Protected Species affected by development can be granted under granted under Section 53(3) (e) of The Conservation of Habitats and Species Regulations 2017 (as amended), for the purpose of preserving public health or public safety or other imperative reasons of overriding public interest including those of social or economic nature and beneficial consequences of primary importance for the environment.

1.2.4 Under this legislation licences can only be issued if Natural England are satisfied that:

- There is no satisfactory alternative and
- The action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

1.2.5 Natural England aim to process licence applications within 30 working days of receipt.

2. SITE DESCRIPTION

2.1 Building Description

2.1.1 The buildings surveyed comprise a former public house and associated outbuildings.

2.1.2 The former public house is a large detached two and three-storeys high Cotswold stone building, with a pitched thatched roof (see photographs 1 to 8, Appendix 2). It has timber framed glazed windows and doors, with plastic and cast iron down pipes and guttering and brick chimneys.

2.1.3 The former public house has a cellar which was heavily cobwebbed (see photograph 5, Appendix 2) and also a loft void which is has large oak beams, boarded floor and no insulation, which was also heavily cobwebbed (see photographs 6, 7 and 8, Appendix 2).

2.1.4 There is a small stone extension to the former public house (north side), comprising a toilet block, with a pitched slate roof (and timber joists). It has timber framed glazed windows and doors. There is a small void, which has no boarding or insulation and is heavily cobwebbed.

2.1.5 The outbuildings comprise a reasonably large detached single-storey barn/garage, with a pitched and metal/tin roof (and no roof void) and also two smaller sheds/store rooms (see photographs 18 to 21, Appendix 2).

2.2 Habitat Description

2.2.1 Limited areas of garden, stone boundary walls and areas of hardstanding for car parking occur at the site (see photographs 37, 38 and 39, Appendix 2).

2.2.2 The site is situated within a village in a rural setting with residential properties and mature gardens (with trees and hedgerows) in the close vicinity and open countryside beyond.

3. METHODOLOGY

3.1 Desk Study

3.1.1 A limited desk study was carried out involving reviewing the National Biodiversity Network website (www.nbn.org.uk) for bat distribution/records for the site and 1km study area.

3.1.2 Consultation with the local biological records centre will be carried out as part of the European Protected Species mitigation licence application to Natural England.

3.2 Bat Scoping Survey

3.2.1 The bat scoping survey involved searching the interior of the buildings by an experienced, licensed bat ecologist to locate evidence of current or past bat roosts, in the form of bats, droppings, feeding remains, urine and fur staining, scratch marks, absence of cobwebs, surfaces worn smooth by the presence of bats, sounds emitted by bats audible to the human ear or sounds produced by their movement and smell of bats.

3.2.2 The external areas of the buildings were assessed for features which may provide potential bat roosting habitat, such as holes in walls, missing mortar and raised roofing material.

3.2.3 Equipment utilised to assist in the surveys included a powerful torch, ladders, a camera and binoculars.

3.2.4 A survey for bat evidence in buildings can be carried out at any time of year.

3.2.5 Landscape features such as trees, shrubs and hedgerows were assessed for their potential suitability for bat foraging and commuting.

3.3 Bat Dusk Emergence Surveys

3.3.1 Two bat dusk emergence/activity surveys were carried out at the buildings. This involved four surveyors (experienced licensed bat ecologists and ecologists) using bat detectors and night vision recording equipment at dusk to determine whether

any roosting bats emerged from or returned into features identified during the initial bat scoping survey as well as recording general bat passes within the site.

3.3.2 The bat dusk emergence surveys were carried out in June and July 2019, during the optimal bat survey period (i.e. May to August, inclusive) (see Section 3.4 below).

3.3.3 Equipment used was Pettersson Ultrasound 240X bat detector with an Edirol R-09 wav recorder, Magenta Bat4 Precision heterodyne bat detector and Anabat SD1 and SD2 and Anabat Express bat detector/recorders.

3.3.4 The survey climatic conditions for the bat dusk emergence surveys are shown in Table 1 below. The weather conditions were conducive to bat activity with the surveys validated by the presence of active bats.

Table 1: Bat Dusk Emergence Survey Climatic Conditions

Bat dusk Emergence Surveys	Start time	Finish time	Temperature	Wind: Beaufort	Weather	Cloud cover
First dusk						
Start of survey	21:10		23°C	0	Dry, mild, humid,	100%
Finish of survey		22:40	18°C	0	overcast and still	100%
Second dusk						
Start of survey	21:10		22°C	0	Dry, warm and still	100%
Finish of survey		22:40	20°C	0		100%

3.4 Survey Details

3.4.1 The bat scoping survey was carried out by Natural England licensed bat ecologist Dwayne Martin (licence no. 2017-27670-CLS-CLS) on the 24th June 2019.

3.4.2 The bat dusk emergence surveys were carried out by Natural England licensed bat ecologists Dwayne Martin and Dave Smith and ecologists Yasmina Ashcroft and Kate Wollen on the 24th June 2019 and 10th July 2019.

3.5 Survey Limitations

3.6.1 There were no survey limitations.

4. RESULTS

4.1 Desk Study

4.1.1 *NBN*

a) There are no previous records for bats for the site or the 1km study area from the National Biodiversity Network website.

4.2 Bat Scoping Survey

4.2.1 Bat survey results are shown in Figures 3 and 4, Appendix 1.

4.2.2 No evidence of bats was located in or on the former public house building; however the building contains numerous potential bat roosting features (see Section 4.2.6 below and overleaf).

4.2.3 Bat droppings of a size and shape consistent with those produced by brown long-eared bats (*Plecotus auritus*) were found in the barn/garage (see photographs 25, 26 and 27, Appendix 2). Ten bat droppings were found on a metal table within the building and approximately 30 fresh and old bat droppings and feeding remains (i.e. butterfly and moth wings) were found on the northern side of the barn.

4.2.4 A single brown long-eared bat was observed roosting between the roof joist and roof panel in the shed nearest the barn (see photographs 22 and 23, Appendix 2) along with approximately 30 fresh bat droppings of a size and shape characteristic of those produced by brown long-eared bats on the floor below the roosting bat/roost. Also three brown-long eared bat droppings were found in the corner of the same shed.

4.2.5 A bat dropping of a size and shape characteristic of that produced by pipistrelle bat (*Pipistrellus* sp.) was found on a filing cabinet in the northernmost shed (see photograph 24, Appendix 2).

4.2.6 Numerous features were identified on the buildings which provide good potential bat roosting habitat. These are listed overleaf and shown in Figures 3 and 4, Appendix 1 and by photographs 9 to 16 (former pubic house) and 28 to 34 (outbuildings), Appendix 2.

4.2.7 In addition, there are gaps in the boundary stone walls which provide potential bat roosting habitat (see photograph 37, Appendix 2).

Former Public House

1. Gaps in stonework.
2. Gap at top of wall under the thatch roof.
3. Hole into wall.
4. Hole in boarded door.
5. Hole next to window frame.
6. Gap at top of wall under slates of the extension.
7. Gaps under ridge tiles of the extension.
8. Gaps under porch slates, leading to small, narrow void between slates/boarding.
9. Gap under thatched 'stag' on roof.

Outbuildings

1. Gap under roof overlap.
2. Gaps in wall.
3. Gap above hay loft door.
4. Gap at top of garage block wall.
5. Gap between joists and boarded roof.
6. Gaps in internal barn walls.
7. Gap at top of wall.
8. Gaps between joists and tin roof.

4.3 Bat Dusk Emergence Surveys

4.3.1 During the first bat dusk emergence survey a single soprano pipistrelle bat (*Pipistrellus pygmaeus*) and two common pipistrelle bats (*Pipistrellus pipistrellus*) emerged from the former public house building (see Figure 3, Appendix 1) and one brown long-eared bat emerged from the barn and also a shed (see Figure 4, Appendix 1).

4.3.2 During the second bat dusk emergence survey three common pipistrelle bats emerged from the former public house and two common pipistrelle bats emerged from the barn/garage (see Figure 4, Appendix 1).

4.3.3 In addition, two brown long-eared bats were recorded on a night-vision camera; one bat emerging from the barn/garage area and one bat from a shed during both survey visits (see Figure 4, Appendix 1).

First Bat Dusk Survey (24th June 2019)

Former Public House

21:52 One soprano pipistrelle bat emerged from south east elevation of the pub.
22:04 One common pipistrelle bat emerged from beneath thatch roof of the southern elevation of the pub.

22:07 One common pipistrelle bat emerged from beneath thatch roof of the southern elevation of the pub.

Outbuildings

22.12 One brown long-eared bat emerged from shed closest to the barn (shown by night-vision camera also).
Camera One brown long-eared bat emerged from barn/garage.

Second Bat Dusk Survey (10th July 2019)

Former Public House

21:34 One common pipistrelle bat emerged from the base of the chimney on the southern gable end of the former public house.
21:37 One common pipistrelle bat emerged from chimney the base of the chimney on the southern gable end of the former public house.
21:41 One common pipistrelle bat emerged from the roof on the eastern side of the former public house.

Outbuildings

21:39 One common pipistrelle bat emerged from the roof the barn.
21:50 One common pipistrelle bat emerged from the boarded window of the barn.
Camera One brown long-eared bat emerged from barn/garage.
Camera One brown long-eared bat emerged from shed closest to barn/garage.

4.3.4 During the bat dusk emergence surveys, the following bat species were recorded foraging and commuting over the site and/or in the close vicinity of the site: brown long-eared bat, common pipistrelle bat, *myotis* bat species, noctule bat (*Nycatlus noctula*) and soprano pipistrelle bat.

4.4 Landscape Features

4.4.1 The surrounding habitat was considered to offer excellent foraging and commuting opportunities for bats as it included mature trees, gardens, hedgerows and open countryside in the vicinity.

4.5 Nesting Birds

4.5.1 An active woodpigeon (*Columba palumbus*) nest was found on the former public house (see Figure 3, Appendix 1 and photograph 17, Appendix 2).

4.5.2 There is a bird box located towards the southern end of the former public house (see Figure 3, Appendix 1) and there were bird splashings on the southern side of the building.

4.5.3 Bird nests were found in the walls of the barn (see photographs 35 and 36, Appendix 2).

4.5.4 A robin (*Erithacus rubecula*) nest was observed in dense ivy on a wall adjacent to the former barn (see Figure 4, Appendix 1).

4.5.5 In addition, there are gaps in the boundary stone walls which provide potential bird nesting habitat (see photograph 37, Appendix 2).

4.5.6 Swallow (*Hirundo rustica*), swift (*Apus apus*) and house martin (*Delichon urbicum*) were recorded flying overhead during the bat surveys.

5. EVALUATION AND POTENTIAL IMPACTS

5.1 Bats

5.1.1 From the results obtained, it is evident that there are small day-time bat roosts of brown long-eared bat and common pipistrelle bat in the outbuildings and small day-time bat roosts of common pipistrelle bats and a soprano pipistrelle bat in the former public house. The bat roosts could be used by individual male or female bats using the buildings only occasionally or over the active season. The barn/garage is also used a night-time roost/feeding perch for brown long-eared bats.

5.1.2 There was no evidence of a bat maternity roost in any of the buildings surveyed. It is considered the outbuildings provide good potential bat hibernation opportunities.

5.1.3 Three bat species are currently recorded roosting in the buildings. Brown long-eared bat, common pipistrelle bat and soprano pipistrelle bat are common bat species in the UK.

5.1.4 The proposed building works have the potential to kill, injure and disturb individual bats and to destroy bat roosts. Therefore, roosting bats would constrain development proposals and specific mitigation will be required (see Section 6.1.1 below).

5.1.5 All species of British bat and their roosts are protected under British law by the Wildlife and Countryside Act (WCA) 1981 (as amended), and bats are classified as European Protected Species under The Conservation of Habitats and Species Regulations 2017. This makes it an offence to kill, injure or disturb a bat and/or to damage or destroy a breeding site or resting place for a bat.

5.1.6 It is also an offence to disturb the animals such that it impairs their ability to survive, to reproduce, to nurture their young, or such that it impairs their ability to hibernate or migrate. It is an offence to disturb the bat(s) in such a way as it affects significantly the local distribution or abundance of the species to which they belong.

5.1.7 Under this legislation any development works that could affect a bat or bat roost as described by the legislation can only be permitted under a licence from Natural England.

5.1.8 Licences in respect of European Protected Species affected by development can be granted under Section 53(3) (e) of The Conservation of Habitats and Species Regulations 2017.

5.1.9 Under Section 53(9) of the Regulations licences can only be issued if Natural England are satisfied that:

(i) There is no satisfactory alternative to the work specification and
(ii) The action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

5.1.10 Natural England aim to process licence applications within 30 working days of receipt.

5.1.11 A European Protected Species (EPS) mitigation licence from Natural England will be required for building works affecting the bat roosts in the former public house and outbuildings. Detailed mitigation would need to be designed by an experienced bat ecologist and provided in a Mitigation Method Statement attached to the licence application which would be a condition of the licence.

5.1.12 The Bat Survey Guidelines (BCT 2016) state that up to two to three surveys are required to satisfactorily address the survey need of a building. A bat scoping survey and two bat dusk emergence surveys were carried out in 2019 during the optimal survey period (i.e. May to August), and it is considered this is sufficient survey effort to meet the guidelines.

5.2 Nesting Birds

5.2.1 Due to the nature of the habitats present on the site and in the vicinity, it is considered unlikely that any potential nesting birds on the site are specially protected, i.e. Schedule 1 species.

5.2.2 However, all birds with the exception of certain pest species are protected under the Wildlife and Countryside Act (1981) (as amended) whilst breeding. This legislation protects nests, eggs and unfledged young from damage or destruction. The bird breeding season generally lasts from March to September for most species.

5.2.3 The buildings and ivy on the boundary stone walls provide bird nesting habitat and the holes in the boundary walls provide potential bird nesting habitat. Therefore, mitigation and a nesting bird check should be carried out as part of the building works (see Sections 6.1.2 and 6.4.4 below). Also, compensation and enhancement measures are recommended (see Sections 6.2.2 and 6.3.2 below).

6. RECOMMENDATIONS

6.1 Mitigation Recommendations

6.1.1 *Bats*

a) As small day-time roosts of brown long-eared bat, common pipistrelle bat and soprano pipistrelle bat have been found in the buildings to be affected by the proposed development works, and the roost areas will be impacted, development works can only proceed under an EPS mitigation licence for bats from Natural England in accordance with The Conservation of Habitats and Species Regulations 2017.

b) A detailed Method Statement will be required in support of this application, providing details of the timing of works, safe working practices to minimise the chances of bats being present during the works and measures for the replacement of roosting habitat for bats in the long-term.

c) As no bat maternity roosts were recorded in any of the buildings on the site and the former public house provides limited potential hibernation opportunities, the building works to the former public house can be carried out at any time of year. The outbuildings provide good potential bat hibernation opportunities and therefore, we recommend the building work to the outbuildings is carried out between April and October, inclusive, to avoid the bat hibernation period. However, if works were proposed for the winter months, a hibernation check could firstly be carried out (see Section 6.4.2 below).

d) It will be essential that harm and injury to individual bats is minimised by using best practice methods to exclude bats from the areas of the proposed building works prior to works commencing. This will involve certain works being carried out by hand under the direct supervision of a licensed bat ecologist. This will include carrying out a destructive search of the bat roosting features to be affected and exposure of all potential bat roost areas to be affected by the proposed building works (as described in section 4.2.6 above).

e) Three bat roosting boxes will be installed on a nearby mature tree close to the buildings to house any bats displaced by the destructive searches, if required. Bat box details are provided in Appendix 4.

f) Replacement roosting habitat for brown long-eared bat, common pipistrelle bat and soprano pipistrelle bat suitable to comply with the bat mitigation guidelines will be required (see Section 6.2.1 below).

g) There is also a potential risk that building works could impact on breeding birds (see Section 6.1.2 below) and so the timing of work must be considered alongside that for bats so as to avoid conflicting with the bat mitigation plan.

h) Also, as a precaution, there is a procedure to follow should bats be found during building works when the bat ecologist is not present on the site (see Appendix 3). It is important that all personnel working on the building works project should be fully briefed on this procedure.

i) Any new outside lighting should conform to Bat Conservation Trust (BCT) guidelines. Lighting for the new development should be sympathetic to the needs of roosting, foraging and commuting bats. If lighting is required for security, shrouded down lighters should be used on lighting poles or lights should be positioned on posts or bollards that are closer to the ground and directed downwards. The lights should be activated by a time sensor with a low movement sensitivity, so as not to be triggered by wildlife.

j) The following measures are recommended:

- All external lighting to be on timer switches, so lights go off after 'X' seconds.
- There will be no lighting near the trees as these are especially important for bat commuting/foraging.
- Use high quality infra-red lighting if security cameras are to be installed rather than actual lighting.
- As low a Lux level as possible.

6.1.2 *Nesting Birds*

a) As the former public house and outbuildings provide bird nesting habitat if building works are carried out within the bird breeding season (which runs from March to September, inclusive), firstly a nesting bird check will need to be carried out (see Section 6.4.4 below).

6.2 Compensation Recommendations

6.2.1 *Bats*

a) To compensate for the loss of bat roosts in the buildings we recommend the following measures.

b) To provide compensation for roosting common pipistrelle bats and soprano pipistrelle bats in the former public house we recommend that bat roosting features are created on the building by leaving mortar gaps around the chimneys and under the eaves of the building on the completion of the building works.

c) For the outbuildings we recommend that a bat void is created in the roof of the converted barn/garage. This measure will provide long-term replacement and enhanced bat roosting habitat for brown long-eared bats. For common pipistrelle bats we recommend that features such as gaps in the stonework are re-created for roosting bats. The new bat void will follow best practice specifications as stated in

the Bat Mitigation Guidelines (Mitchell-Jones 2004). The following minimum specification is required.

- The barn has a pitched roof (with metal covering) on a timber frame on timber supports, with the new bat void created below the roof by installing a floor to the bat void (and therefore ceiling to the lower internal floor).

- The bat void will run the entire length and width of the building.

- The bat void will be insulated and boarded from the void floor to the ridge top.

- The roof will be underlined with bituminous felt (see below).

- The bat void will be purely for the use by roosting bats, with an inspection hatch being kept securely locked at all times.

- Gaps will be left in the roof covering to allow bats to enter the bat void, but not allow rain water to enter.

- There will be one small loft access hatch installed in the floor of the bat void of approximately 0.45m by 0.45m, allowing access for a bat ecologist to inspect, but preventing access to store items. The loft hatch will be closed and locked with a combination padlock to prevent unauthorised access.

- It will be ensured that trees and shrubs in the vicinity of the bat void are left in darkness and will not be illuminated by any new lighting as part of the new development at the site. This will help to ensure good foraging and commuting habitat from the bat void to the nearby trees and shrubs.

- Some level of lighting is likely to be required for safety and security. The lights will be shrouded down lights and will be positioned below any bat access points. Motion sensitive lighting will be used. It will be essential that the lights do not illuminate any bat access points.

- No climbing plants will be planted at the base of the converted barn/garage to ensure the bat access points are not subsequently obscured by growth.

- **It is essential that only type F1 bituminous roofing felt will be used in the roof of the new bat void. Natural England will no longer permit the use of modern breathable roofing membranes within known bat roosts and new roost creations due to bats getting caught in the fibres of the membrane. More information can be found at www.batsandbrms.co.uk.**

- **For any treatment of timbers to be used in the construction of the new roof, it will be ensured that only 'bat friendly' products approved by Natural England will be used. Information provided at:**

http://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products- and-timber-treatments-in-or-near-them

d) **It is essential that the new roofs of ALL buildings on the site (former public house and outbuildings) that only type F1 bituminous roofing felt is to be used and bat friendly timber treatments only (see above).**

6.2.2 *Birds*

a) We recommend general bird nesting boxes are installed on mature trees on the site. The boxes should be installed 2m to 3m high on the north, north east or east sides of the tree trunks, avoiding direct sunlight. Bird box details are provide in Appendix 4.

6.3 Enhancement Recommendations

6.3.1 *Bats*

a) No further enhancements for bats are recommended.

6.3.2 *Birds*

a) We recommended artificial nest boxes for house sparrow, swallow, house martin and swift are installed on the renovated former public house and converted outbuildings. The nest boxes should be placed high up under the eaves on the exterior of the buildings on the north, north east or east sides of the buildings, avoiding direct sunlight. Bird box details are provide in Appendix 4.

6.4 Further Survey Recommendations

6.4.1 *Bats – Former Public House and Outbuildings*

a) No further bat scoping or dusk surveys of the buildings are recommended unless building works are delayed beyond 2020, if this is the case then a further bat scoping and bat dusk emergence survey will be required to update the present results.

6.4.2 *Bats – Outbuildings*

a) If works to the outbuildings are proposed for the winter months (i.e. November to March, inclusive), we recommend that firstly a check for hibernating bats is carried out in the buildings by a licensed bat ecologist.

6.4.3 *Bats and Birds – Boundary Stone Walls*

a) If any re-pointing of the boundary stone walls is proposed then firstly there should be a check of any gaps in the walls for roosting bats and nesting birds by a licensed bat ecologist.

6.4.4 *Birds*

a) If building works and works to the boundary stone walls (including re-pointing and/or ivy removal) are carried out during the bird breeding season (i.e. March to September, inclusive), then a nesting bird survey must firstly be carried out by a qualified ecologist prior to works commencing. This will ensure that no active nests will be affected. If active nests are found then work will have to be delayed in that area until all young have fledged and vacated the nest.

REFERENCES

Bat Conservation Trust 2016 (3rd edition) *Bat Surveys – Good Practice Guidelines.* Bat Conservation Trust, London.

Battersby, J 2005 *UK Mammals: Species Status and Population Trends*. JNCC/ Tracking Mammals Partnership. Available at: www.jncc.gov.uk/page-3311.

Mitchell-Jones A.J. 2004 *Bat Mitigation Guidelines, Jan 2004*. English Nature, Peterborough.

Mitchell-Jones A J & McLeish A P 2004 *The Bat Worker's Manual, 3rd Edition*, English Nature, Peterborough

UK BAP website www.ukbap.org.uk.

Appendix 1: Figures

Figure 1: Proposed Building Works – Former Public House

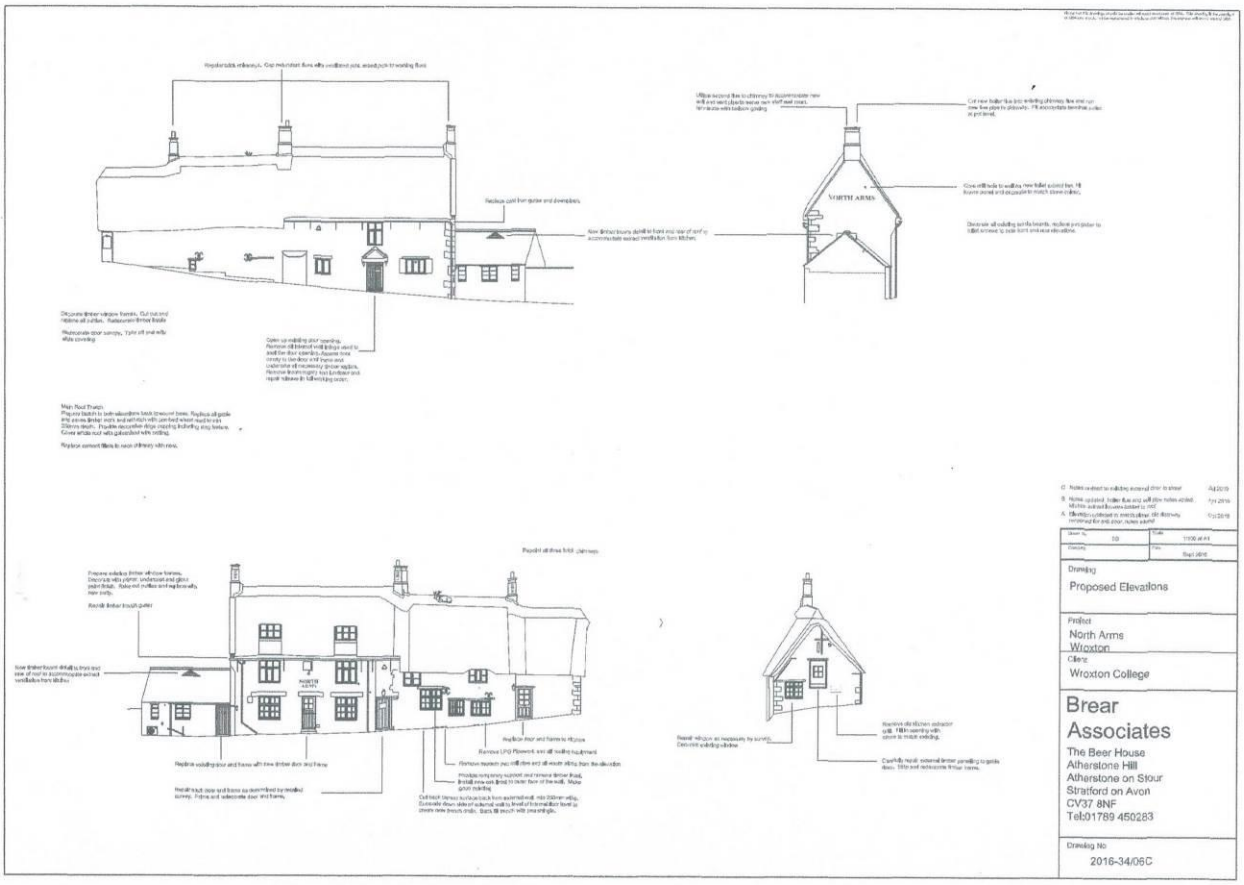


Figure 2: Proposed Building Works – Outbuildings

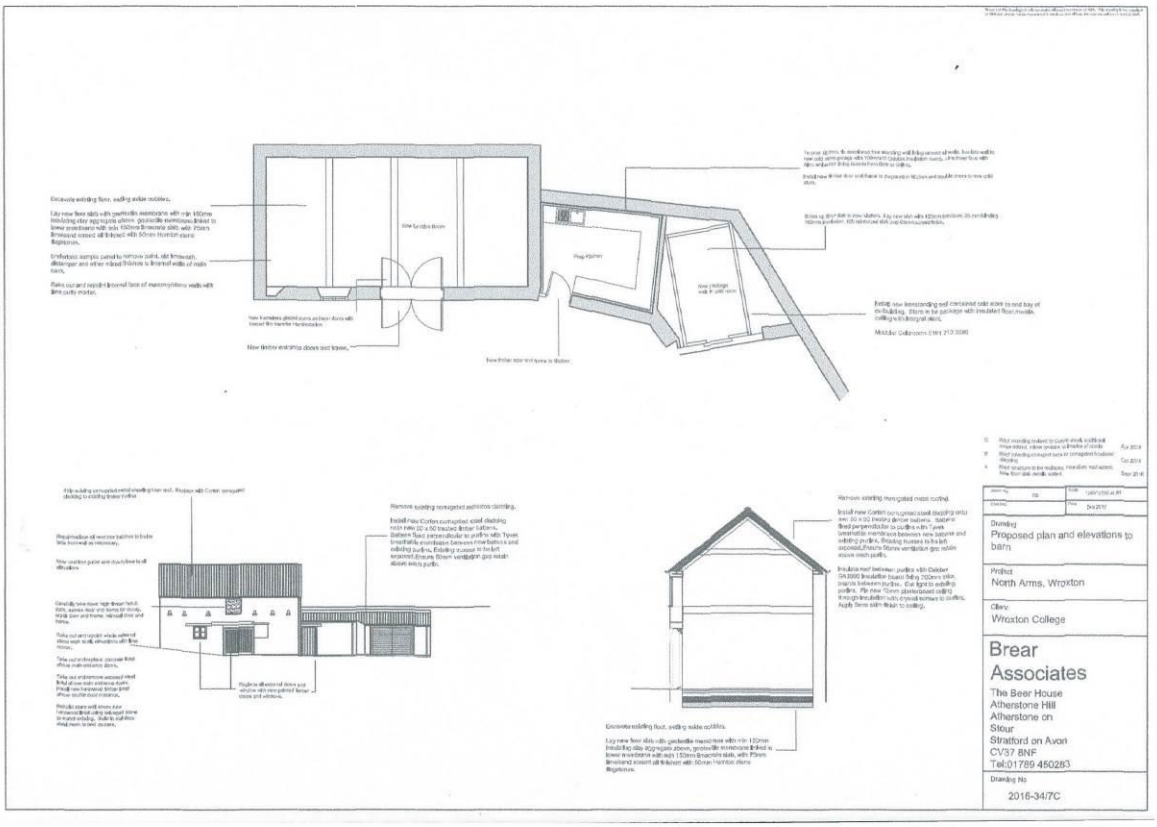


Figure 3: Bat Survey Results – Former Public House

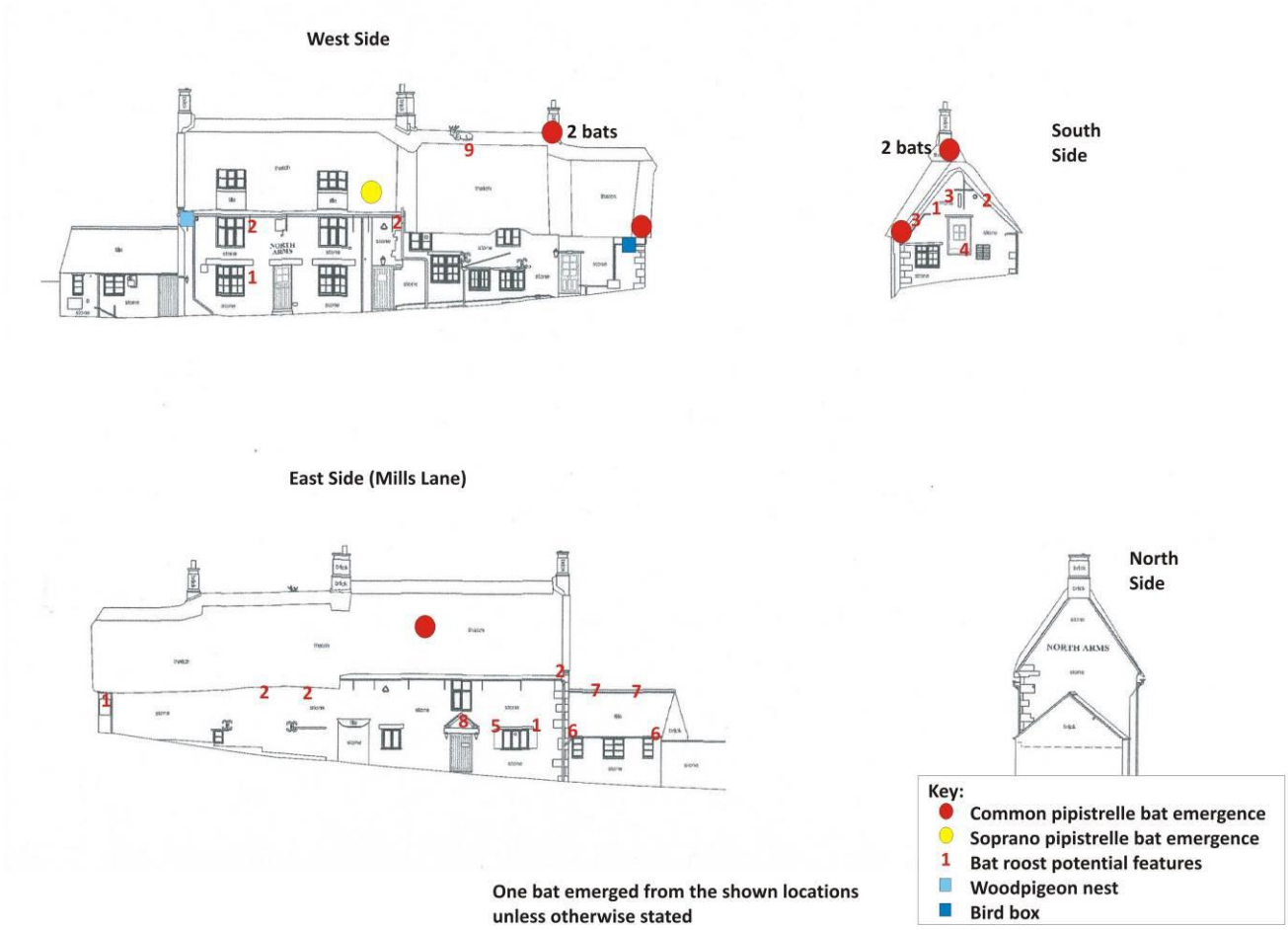
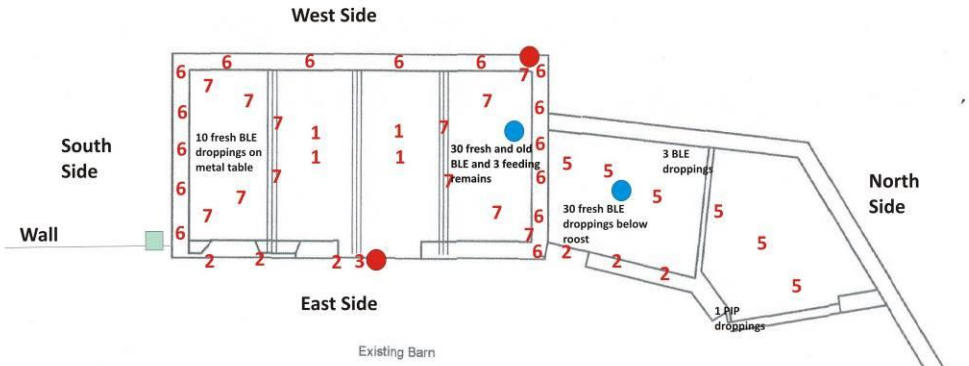


Figure 4: Bat Survey Results – Outbuildings



Key:
- Brown long-eared bat observed and emerged
- Common pipistrelle bat emergence
- 1 Bat roost potential features
- Robin nest on wall

Appendix 2: Photographs

Former Public House Building

1. Exterior of former public house

2. Exterior of former public house

3. Exterior of former public house

4. Exterior of former public house

5. Cellar of former public house

6. Loft void

7. Loft void

8. Loft void

9. Gaps in stonework

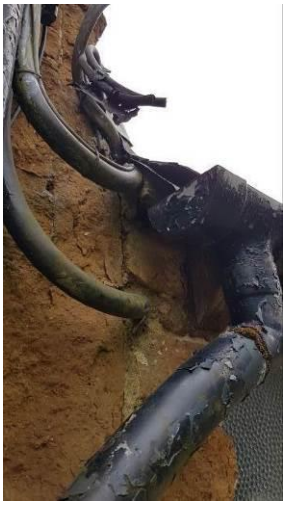
10. Gap at top of wall under thatch

11. Gap at top of wall under thatch

12. Gap around pipe work

13. Hole in wall

14. Hole in boarded door



15. Gaps under slates

16. Gaps under slates

17. Woodpigeon nest

Outbuildings

18. External view of barn

19. External view of barn and sheds

20. External view of barn

21. External view of barn and sheds

22. Brown long-eared bat

23. Brown long-eared bat

24. Pipistrelle bat dropping

25. Brown long-eared bat droppings

26. Brown long-eared bat droppings

27. Brown long-eared bat droppings and feeding remains

28. Gaps under roof overlap

29. Gaps in wall

30. Gap above hayloft door

31. Gap at top of wall

32. Gap between joists and boarded roof

33. Gaps in internal barn walls

34. Gaps between joists and tin roof

35. Bird nest in wall

36. Bird nest in wall

Surrounding Habitat

37. Gaps in stone wall

38. Surrounding landscape

39. Surrounding landscape

Appendix 3: Procedure to Follow if Bats are Discovered during Building Works

- If at any point in the building works bats are discovered then contractors must stop work immediately and telephone Udall-Martin Associates Ltd. on **01531 641946/07954 160468/07968 030448.**

- Udall-Martin Associates Ltd. will either provide an appropriately licensed bat worker to the site or provide a member of staff who will liaise directly with Natural England. Actions will then be taken following advice given. This may include removal of bats, but only where direct written or verbal permission is gained from Natural England.

- Bats are a protected species and there should be no attempt to handle a bat if discovered. The bat should be covered with a light material (cloth) and the bat ecologist called out to carry out the rescue.

- Only when Natural England is satisfied that the risk to bats is ceased will works recommence.

- Should it transpire that the operation being carried out is of more risk to bats than was originally thought, then works will be stopped until they can be supervised by an appropriately licensed bat worker.

- If a bat is found under roofing material or within any other niche to the building fabric, works will stop immediately (as above). If the bat does not voluntarily fly out, then the aperture will be carefully covered over to protect the bat(s) from the elements, leaving a small gap for the bat to escape voluntarily. Any covering should be free from grease or other contaminants, and should not be a fibreglass-based material.

Appendix 4: Bat and Bird Boxes Specifications

Images from Wildcare website: www.wildcareshop.com

1. Bat Boxes Suitable for Trees

Schwegler 1FF

Schwegler 2FN

2. Bird Boxes Suitable for Installation on Mature Trees

Schwegler 2H Open Fronted

Schwegler 1B (32mm hole)

Schwegler 1B (26mm hole)

3. Bird Boxes Suitable for Installation on the Renovated and Converted Buildings

Schwegler 10 swallow nest

Schwegler 1SP sparrow terrace

Schwegler 17 swift box

Schwegler 11 house martin nest