PROTECTED SPECIES (BAT) SURVEY

CHURCH OF ST JOHN THE BAPTIST
CHURCH LANE
GRIMSTON
LEICESTERSHIRE
LE14 3BZ

A report to:

Peter Rogan & Associates Ltd
46, St. Mary's Gate
Nottingham
NG1 1QA

By:

B J Collins – Protected Species Surveyors Ltd
Elvina Cottage
Wilson's Lane
Morton
Southwell
Nottinghamshire
NG25 0UF
Tel: (01636) 830058
www.bjcollins.co.uk

October 2017

Contents

List of Photographs

SUMMARY

This report has been prepared by B J Collins – Protected Species Surveyors Ltd for Peter Rogan Associates Ltd. The report provides the results of a protected species survey, focussed upon bats (*Chiroptera*) and breeding birds of the Grade II* listed church of St John the Baptist in the Leicestershire village of Grimston, at Ordnance Survey grid reference SK 68552189. The proposed works include repairs to the stonework of the chancel, nave and south transept and to the parapet wall and roof of the tower. The objective of the survey was to establish whether the proposal would impact upon protected species, primarily roosting bats.

The church was subjected to a previous ecological study carried out by BJ Collins PSS Ltd in the summer of 2008 which identified a roost site used by Common Pipistrelle bats in the wall between the south porch and nave and an access point and potential roost site on the exterior north wall of the nave. A single Brown Long-eared bat was found to be roosting on the timber roofing frame of the chancel.

The 2017 survey methodology included a preliminary roost assessment of the church and an emergence and activity survey for bats in accordance with the national survey guidelines published by the Bat Conservation Trust (2016). An ecological walkover of the site was conducted to assess the habitat for breeding birds and other protected species.

The preliminary roost assessment identified a potential roost site used by one of the Pipistrelle species and an access feature above the south door. Scattered droppings and an established feeding perch were found in the nave and chancel respectively. Numerous crevices were located in the exterior fabric of the building which have potential to serve as roost sites.

During the emergence and activity survey no bats were observed emerging from the church by the surveyors. Activity around the church included that of Common Pipistrelle and Brown Long-eared bats. A camera set to film the porch door recorded a bat emerging from above the door and activity by Brown Long-eared bat and one of the Pipistrelle species. No ultrasonic calls were recorded by the remote detector placed inside the nave.

It is the conclusion of the report that the church porch supports roosting by low numbers of Common Pipistrelle. There is no evidence to suggest the presence of a maternity roost. The top of the door serves as an access feature to the interior of the church for Brown Long-eared bats to use a feeding perch located in the chancel. The scope of works does not extend to the church porch and therefore it is deemed that the proposed repairs are of low risk of disturbing roosting bats.

Numerous cracks and crevices were identified in the exterior fabric of the building which have potential to support roosting by crevice dwelling species in the future. As a precaution, it is advised that a visual inspection by a licensed bat worker is undertaken prior to repairs to the stonework.

There is potential for the proposed works to be constrained by the presence of breeding birds if they are carried out during the bird breeding season from mid-March to September in any given year. A precautionary approach has been provided to address this.

No evidence of or habitats associated with other protected species were found.

1 INTRODUCTION

This report has been prepared by B J Collins – Protected Species Surveyors Ltd for Peter Rogan Associates Ltd. The report provides the results of a protected species survey, focussed upon bats (*Chiroptera*) and breeding birds of the Grade II* listed church of St John the Baptist in the Leicestershire village of Grimston, at Ordnance Survey grid reference SK 68552189. The proposed works include repairs to the stonework of the chancel, nave and south transept and to the parapet wall and roof of the tower. The objective of the survey was to establish whether the proposal would impact upon protected species, primarily roosting bats.

The church was subjected to a previous ecological study carried out by BJ Collins PSS Ltd in the summer of 2008 in preparation for the replacement covering of the nave roof. The suite of surveys, including a period of remote monitoring, identified a roost site used by Common Pipistrelle bats in the wall between the south porch and nave and an access point and potential roost site on the exterior north wall of the nave. A single Brown Long-eared bat was found to be roosting on the timber roofing frame of the chancel. Two feeding perches, most likely to have been used by Brown Long-eared bats were located within the tower and body of the church.

A review of the data collected during the remote monitoring period of seven nights during August 2008 found that most of the activity detected was predominantly of Common Pipistrelle between 23:00 and the early hours of the morning demonstrating that there were no peaks in activity around dawn and dusk associated with roosting bats. No maternity roost was identified and it was concluded that the roost sites were used regularly by low numbers of bats.

The legislation with regards to the protected species relevant to the site is listed below.

1.1 Legislation applicable to bats

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 2010 (as amended). 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. 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. Under this legislation development work that could affect a bat or bat roost can only be permitted under a licence from Natural England.

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 2010 (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.

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

- There is no satisfactory alternative to the work specification 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.

Natural England aim to process licence applications within 35 working days of receipt.

1.2 Legislation applicable to breeding birds

Under the Wildlife and Countryside Act 1981 (as amended), all native birds and their nests, whilst in use, are protected from harm, disturbance or destruction during the breeding season. To avoid conflict, development work that could affect breeding birds should be timed to take place outside of the breeding season, variable between March and September. Note that a nest is protected from the beginning of its construction until the young have fledged and have left the nest.

2 SITE DESCRIPTION

2.1 Situation of St John the Baptist church, Grimston

Photograph 1: Situation of St John the Baptist Church, Grimston

The church is situated in the centre of the village of Grimston in the Leicestershire Wolds. Beyond the village the landscape is predominantly agricultural comprised of arable fields interconnected by hedgerows. Within a 2.5km radius of the church are small areas of deciduous woodland and in-use railway tunnel lies to the east. A review of the Magic database identified three granted EPS licenses relating to bat roosts of Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared (*Plecotus auritus*) within the nearby villages of AB Kettleby, Wartnaby and Welby ranging from 2.9 to 4.9 km to the east and south east of the church.

2.2 Description of St John the Baptist church

Photograph 2: East aspect of St John the Baptist church

The church is comprised of a west tower, chancel, nave with clerestory, south transept and porch. The walls are constructed from squared ironstone with notable repairs using brick and dressed stone. The chancel and south porch roofs are pitched and covered with slate. Stone copings edge the roof at east gable of the chancel. The nave and south transept have shallow pitched roofs covered with lead. Guttering is mounted to the eaves of the nave, porch, transept and chancel with metal brackets inserted into the stone work.

The windows are stone tracery with hooded moulds and contain leaded glass. There is only one obvious access point into the interior of the church for bats, via the timber door at the south porch. The door at the north aspect of the nave has been in-filled with stone. The porch roof is supported by a timber roofing frame with plastered ceiling panels inserted between the rafters.

The tower is constructed from ironstone with a dressed stone parapet wall with battlements. it contains two stages housing a redundant clock mechanism and bells. The bells are hung from an internal timber frame. There are arched louvered windows at all four aspects of the tower which are sealed with wire mesh from the inside. At present there is no safe access to the tower roof.

Inside the church the nave's roof is supported on an arched timber roofing frame and underlined with dark stained timber sarking. The nave and chancel are divided by a chancel arch constructed from stone. The chancel roof has a timber roofing frame with white washed plasterboard panels inserted between the rafters.

Photograph 3: North aspect of St John the Baptist church

Photograph 4: Interior of nave and chancel arch

2.3 Description of immediate surrounding area

Photograph 5: Church yard and north boundary

The church is situated on raised ground in the centre of the village of Grimston and is accessed from Church Lane to the south. The building is surrounded by a church yard which is well maintained. Mature trees are situated to the west of the tower and along the north and south boundaries. Neighbouring houses and associated gardens lie to the east and west of the church yard. There is no exterior lighting in the church yard.

3 SURVEY METHODOLOGY

3.1 Bat preliminary roost assessment

A visual inspection of the interior and exterior of the church was undertaken on 1st August 2017 by an experienced, licensed bat ecologist. Equipment used included binoculars, camera and a powerful torch. The purpose of the survey was to identify features that have potential to serve as roost sites or provide access to a roost and assess the likelihood of these features being used by bats. This entailed looking for bat droppings, feeding remains, worn surfaces, urine staining and the bats themselves (alive or dead).

3.2 Bat emergence and activity survey

An emergence and activity survey was conducted on 29th August 2017 by two licensed bat ecologists. The methodology was informed by the findings of the visual inspection. The surveyors were positioned at the south east and north west aspects of the church. A digital video camera with infra-red lighting was used to film the interior of the porch and a Batbox Duet detector tuned to 45kHz was placed with the camera. A remote detector, an Anabat SD2 was positioned in the nave close to the chancel arch.

Surveyor 1 (MM) used a Pettersson D240X heterodyne and time expansion bat detector coupled with a digital recorder, Roland Edirol R-09HR and Surveyor 2 (AR) used a Pettersson D230 frequency division and heterodyne detector with a digital recorder, Olympus VN3500. Ambient temperature was measured with an ETI Hygro-Therm hygrometer. The survey started prior to sunset at 20:00 and ran for 94 minutes. All bat activity detected or observed by the surveyors was documented.

3.3 Survey constraints

The surveyor could not gain access to the tower roof due to the safety concerns of the timber frame supporting the bells and therefore the view of the nave roof was limited to what was visible from ground level. The nave roof is outside the scope of works and therefore this constraint did not impact upon the conclusions of the report. The visual inspection identified numerous crevices within the exterior stonework of the building, no droppings were found associated with these features to indicate roosting behaviour but it is recognised that these could have been washed off by rain. This constraint is addressed in the Recommendations section of the report.

3.4 Survey intensity

The results of the visual inspection identified no evidence of roosting behaviour within the area of the scope of works consequently a single emergence and activity survey was undertaken in accordance with the national guidelines published by the Bat Conservation Trust (2016).

3.5 Other protected species

An ecological walkover of the area immediately surrounding the church was carried out to assess the habitat for other protected species.

3.6 Weather conditions

The conditions for the visual inspection component of the survey were dry and bright allowing the surveyor to obtain good views of the exterior fabric of the building. The weather conditions for the emergence and activity survey on 29th August 2017 were dry with an overcast sky and no wind. The ambient temperature at sunset was 17.5°C which dropped to 13.8°C during the survey. Sunset was at 20:00.

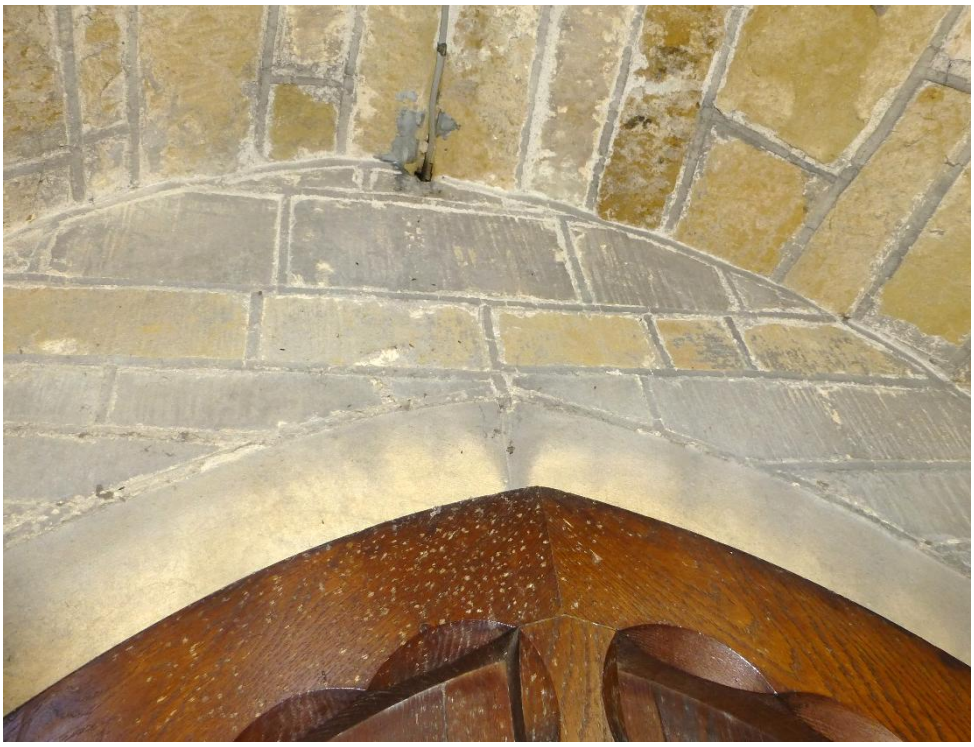
3.7 Personnel

The preliminary roost assessment was carried out by Mrs M. Mackinnon MSc (Natural England class licence no. 2015-16652-CLS-CLS). The emergence and activity survey was undertaken by Mrs M. Mackinnon and Mr A. Roe (Natural England Class Licence: 2015-12980-CLS-CLS).

4 SURVEY RESULTS

4.1 Preliminary bat roost assessment results

A summary of the findings of the visual inspection are provided in an annotated plan of the church in Appendix 1. The visual inspection identified a potential roost location within the wall between the nave and south porch where the wiring is inserted into the wall. Droppings of mixed ages, and of the size and shape typically voided by Pipistrelle bats were found on both sides of the wall. Urine staining was particuarly noticeable at the top of the timber door. This evidence is consistent with the findings of the 2008 survey. A gap exists between the door and stone surround which could serve as a potential access point.



Photograph 6: Interior of south door with urine staining from bats and droppings stuck to the stone work above

Small aggegrations (six of less) of droppings of mixed ages of the size and shape typically voided by Brown Long-eared bats were found at the bases of the chancel arch and the south west corner of the nave. Scattered droppings were also found on the benches, floor and walls of the south side of the nave.

A feeding perch was identified in the chancel. Feeding remains of Yellow Underwing moth (*Noctua* sp.) had been collected from the same location on the floor of the chancel on a regular basis throughout July 2017 by the carers of the church. There is gap between the junction of the timber roofing frame of the nave and chancel arch which has potential to support roosting bats.

Wing fragments of overwintering butterfly species and old bat droppings were found on the floor and stuck to the walls beneath the bells and bell frame in the tower. It is possible that the butterflies have been consumed by a gleaning species of bat such as the Brown Long-eared which arouses regularly during winter to feed. This finding was also consistent with the results of the 2008 survey which identified a summer feeding perch in the tower.

A gap was identified at the apex of the chancel roof at the junction of the exterior east wall of the nave. Day light could be seen penetrating through the roof covering and therefore it is possible this feature could serve as a potential access point into the church. Within the interior fabric of the church a potential roost feature exists between the plaster and the top of the stone surround of the south chancel window. There is also a large crack in the plaster to the east of the same window which also has potential to allow bats to roost behind the plaster.

Photograph 7: Gap at apex of chancel roof and chancel arch

Photograph 8: Gaps associated with plaster at south aspect of chancel

The exterior stonework is deteriorating creating numerous potential roost features suitable for crevice dwelling bat species, such as the Pipistrelles. Areas that were particularly badly affected include the east and north chancel walls, the north nave wall and the west and north aspects of the tower. Photographic examples are provided below. The gaps could serve as potential roost sites in themselves or as access to cavities within the walls. Areas of missing mortar were also identified at the eaves of the of south nave wall to the west of the porch and behind the timber barge board that supports the guttering on the west elevation of the porch.

Photograph 9: East chancel wall containing potential roost features

Photograph 10: North chancel wall with numerous gaps behind down pipe and below eaves

Photograph 11: West aspect of tower with gaps in stonework indicated

4.2 Bat emergence and activity survey results

A review of the camera footage confirmed the potential access identified above the nave door in the south porch. At 20:43 a bat emerged from above the door and flew out of the porch over the camera. It was not possible to determine a species as no echolocation call was detected. At 21:07 a Brown Long-eared bat flew into the porch from the outside and up to the top of the door but did not enter the church. The bat was filmed flying around the camera and it is possible that the presence of the camera could have influenced the bat's behaviour. At the 21:13 a Common Pipistrelle bat was filmed foraging within the porch and flying repeatedly up to the top of the door.

No bats were observed emerging from the church by the surveyors, with just a single bat emerging from out of the porch recorded by the nightvision camera.

A total of 41 observations of bat activity were documented; a complete list of is provided in Appendix 2. The first bat detected was a Common Pipistrelle at 20:08 by both surveyors.

Foraging activity by Common Pipistrelle was detected by surveyor MM positioned at the south east corner of the chancel. It is likely that the bats were foraging along the Church Lane which is enclosed by trees on both sides out of view of the surveyor. The surveyor noted that the east elevation of the chancel and part of the north aspect of the church were illuminated by an exterior light from one of the houses situated to the east of the church yard. This was deemed likely to have a deterrent effect on bat activity.

Surveyor AR positioned at the north west corner of the tower detected activity by Common Pipistrelle foraging around the trees to the west of the tower. Several passes by Brown Long-eared bat(s) were detected between 20:39 and 20:50.

Social calls and song flights by Common Pipistrelle were observed and detected by both surveyors which is typical of the time of the year when males produce vocal advertisements to attract females whilst warding off other males. Repeated social calls unaccompanied by echolocation calls were detected by the surveyor positioned at the north west corner of the tower indicating that a stationery bat was nearby.

Other species detected during the survey included one pass by a Noctule at 20:27 and one pass by a *Myotis* species at 20:24.

No ultrasonic calls were recorded by the Anabat detector placed inside the nave.

4.3 Breeding birds

There was no evidence of breeding bird activity identified during the scoping survey. An old nest was found on the window sill of one of the louvered windows of the tower. The niches in the exterior stone work have potential to support small species of breeding birds.

4.4 Other protected species

No habitats associated with protected species were found during the survey.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Bats

Based upon the evidence collated from the preliminary roost assessment and the emergence and activity survey it is the conclusion of this report that the south porch supports regular roosting by low numbers of Common Pipistrelles. There is no evidence to suggest the presence of a maternity roost. This is consistent with findings of the 2008 survey.

The interior of the chancel of is also used regularly as a feeding perch by Brown Long-eared bats but there is no evidence to suggest that this species is using the church for day roosting purposes. The low numbers of loose aggregations of droppings and collections of feeding remains were consistent with bats flying inside the church and hanging up to consume a large prey item such as a Yellow Underwing moth. The urine staining at the top of the church door and the activity filmed by the video camera confirm that the gap between the door and stone surround serve as an access feature.

As the south porch and door are outside of the scope of works it is the conclusion of the report that proposed repairs are of low risk of disturbing roosting bats. There are no grounds which warrant an application for an EPS derogation licence.

If works to either the door and surrounding wall are to be considered in the future then further survey work should be undertaken in the active season for surveying bats from May to end of August.

The extent of the works does cover potential roost features and therefore it is recommended that the niches provided in the stonework are inspected by a licensed bat worker with an endoscope prior to the repairs. If a bat or evidence of a roost site is found during this precautionary check works will have to cease to this area whilst further advice is sought. The resulting actions may be as simple as retaining the roosting feature, and leaving the immediate area undisturbed. In the event of a bat being found when an ecologist is not present a procedure has been supplied in Appendix 3.

5.2 Breeding birds

The niches in the stonework have potential to provide habitat for small species of breeding birds. If repairs are due to commence during the bird breeding season from mid-March to September in any given year there is the potential for legislation relevant to protecting breeding birds to constrain the commencement of works. Recommendations have been provided below for if works are undertaken during the bird breeding season. It is important that nest sites are not obstructed by scaffolding or screens.

5.2.1 Best practice recommendations for breeding birds

Prior to the commencement of works, the area including any affected vegetation, should be thoroughly searched for nesting birds. If a bird's nest is found then it should remain undisturbed and a 5m buffer zone should be created around the nest including above and below it. The zone around the nest site is to remain free of construction activities and disturbance until the young have fledged and left.

Note that a bird's nest is protected by law from the commencement of the building of the nest until the young have fledged and left the nest.

6 REFERENCES

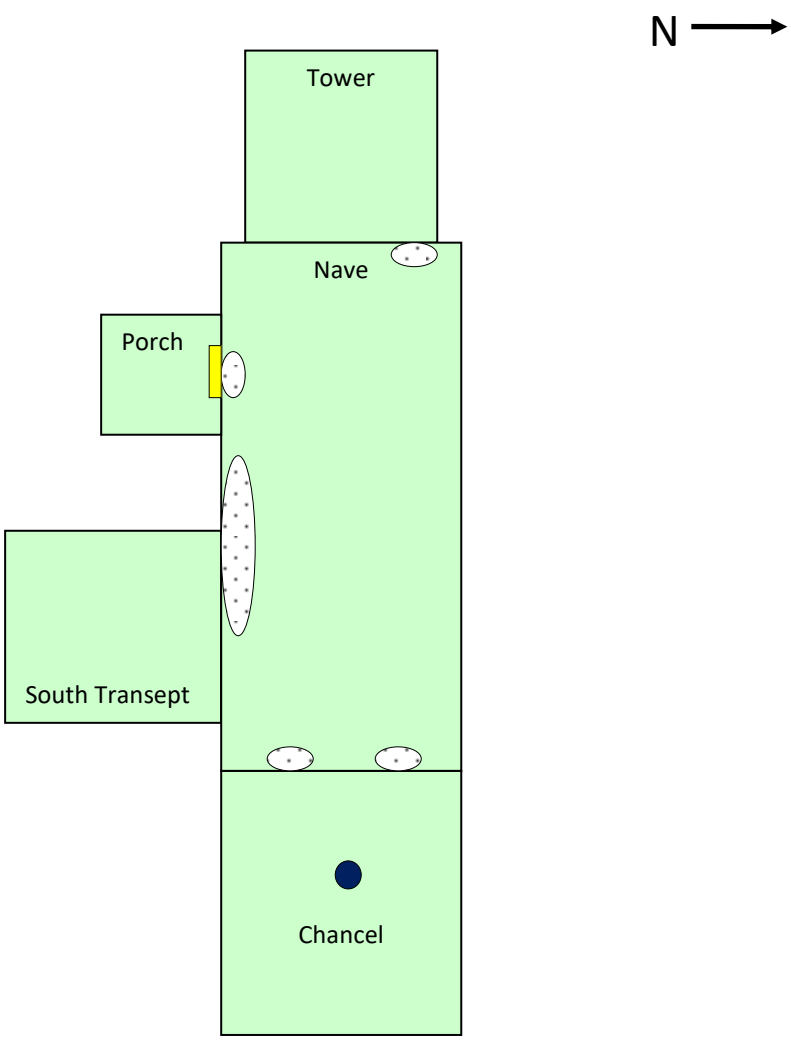
1. Collins, J. (ed) (2016) **Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition**, Bat Conservation Trust, London.

2. Collins B.J. (2008) **Protected species report of the Church of St John, Grimston**. BJ Collins PSS Ltd, Nottinghamshire.

7 APPENDIX

7.1 Appendix 1: Annotated plan of church with summary of 2017 survey findings

Not to scale



Legend

Access feature and Common Pipistrelle roost

Regular feeding perch (summer) used by Brown Long-eared

Bat droppings

7.2 Appendix 2: Observations from bat emergence and activity survey

Table 1: Observations from bat emergence and activity survey Church of St John the Baptist, Grimston 29th August 2017

No.	Time	Surveyor	Species	Observation
1	20:08	MM	Common Pipistrelle	Flew over south transept roof and headed north.
2	20:08	MM	Common Pipistrelle	Came from the north and flew west past east aspect of chancel.
3	20:12 to 20:15	MM	Common Pipistrelle	2 bats foraging. Feeding buzzes detected. Not seen.
4	20:17 to 20:36	MM	Common Pipistrelle	Foraging. Multiple passes at regular intervals. Feeding buzzes detected. Not seen. Possibly along Church lane to the south.
5	20:26	MM	Common Pipistrelle	3 circuits of song flight at east aspect of chancel. Headed east.
6	20:30	MM	Common Pipistrelle	1 pass, not seen.
7	20:31	MM	Common Pipistrelle	Foraged at east aspect of chancel. Headed west along south elevation.
8	20:34	MM	Common Pipistrelle	Came from the east, flew up to apex of east gable of chancel and over roof heading west.
9	20:34	MM	Common Pipistrelle	Circled beneath boundary tree.
10	20:35	MM	Brown Long-eared	1 pass, not seen.
11	20:35	MM	Common Pipistrelle	1 pass, not seen.
12	20:38	MM	Common Pipistrelle	2 passes, not seen.
13	20:54	MM	Common Pipistrelle	9 passes, not seen. Feeding buzzes detected.
14	20:58	MM	Common Pipistrelle	1 pass with social calls. Not seen.
15	21:01	MM	Common Pipistrelle	1 pass, not seen.
16	21:03	MM	Common Pipistrelle	5 passes, not seen. Feeding buzz and social calls detected.
17	21:05	MM	Common Pipistrelle	1 brief pass, not seen.
18	21:09	MM	Common Pipistrelle	4 passes, not seen.
19	21:11	MM	Common Pipistrelle	8 passes, not seen. Foraging.
20	21:15	MM	Common Pipistrelle	6 passes, not seen. Feeding buzzes and social calls detected.
21	21:17	MM	Common Pipistrelle	2 passes, not seen.
22	21:22	MM	Common Pipistrelle	Multiple passes, not seen. Foraging, feeding buzzes detected. Activity ongoing at end of survey.
No.	**Time**	**Surveyor**	**Species**	**Observation**
1	20:08	AR	Common Pipistrelle	2 brief passes, not seen.
2	20:09	AR	Common Pipistrelle	1 bat heard foraging, not seen. Flew from trees next to tower and headed NE over church yard.
3	20:11	AR	Common Pipistrelle	Flew from north back into trees, after 30 sec flew NE over church yard.
4	20:15	AR	Pipistrelle sp	Flew from behind tower heading west. Social calls detected.
5	20:16	AR	Common Pipistrelle	Flew from trees heading north and back again.
6	20:20	AR	Common Pipistrelle	Flew from north back into trees. Foraging.
7	20:21	AR	Common Pipistrelle	Several passes, not seen. Social calls detected.
8	20:24	AR	Myotis	2 passes, not seen.
9	20:27	AR	Noctule	1 pass, not seen.
10	20:30	AR	Pipistrelle sp	2 passes, not seen.
11	20:37	AR	Common Pipistrelle	1 pass, not seen.
12	20:39	AR	Brown Long-eared	Flew between trees and tower heading NE.
13	20:40	AR	Brown Long-eared	Flew between trees and tower heading NE.
14	20:42	AR	Brown Long-eared	Flew from the north between tower and trees heading south.
15	20:48	AR	Brown Long-eared	Flew from NE into trees alongside tower.
16	20:50	AR	Brown Long-eared	1 pass, not seen.
17	20:55	AR	Common Pipistrelle	1 pass, not seen.
18	21:13 to 21:17	AR	Pipistrelle sp	Social calls, no echolocation. Not seen.
19	21:22	AR	Pipistrelle sp	Social calls, no echolocation. Not seen.

7.3 Appendix 3: Procedure for if a bat is discovered during works when an ecologist is not present

- If at any point in the building works bats are discovered then contractors must stop work immediately and telephone BJ Collins Protected Species Surveyors on 01636 830058 or 07957 122217.

- B J Collins PSS will either provide an appropriately licensed bat worker to the site or 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 worker 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 a tile 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.