Whitcher Wildlife Ltd.
Wildlife Consultants.

BANK HOUSE FARM, SILKSTONE.

BAT MITIGATION STRATEGY.

Ref No:- **090823/MS.**

Date: **17th May 2010.**

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1. INTRODUCTION.

1.1. Plans are being drawn up for the conversion of a number of barns at Bank House Farm in Silkstone.

1.2. An initial bat survey of the barns was carried out during August 2009. During the initial survey one bat was identified emerging from one of the barns on the site therefore a second survey of the site was recommended.

1.3. The second bat survey of the barns was carried out during May 2010.

1.4. This report outlines the findings of both surveys and includes a mitigation strategy outlining the mitigation to be carried out on the site during the development.

1.5. Appendix I of this report provides back ground information with respect to bats and the legal protection afforded to them.

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2. SURVEY METHODOLOGY.

2.1. The structure was checked for potential bat roosting sites by looking for the following signs:-

* Holes, cracks or crevices.
* Bat droppings.
* Prey remains.

2.2. This was followed during both surveys by a dusk emergence survey carried out by three surveyors using Batbox Duet detectors, Anabat bat detectors and video cameras with infared lights and night sight.

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3. SURVEY RESULTS.

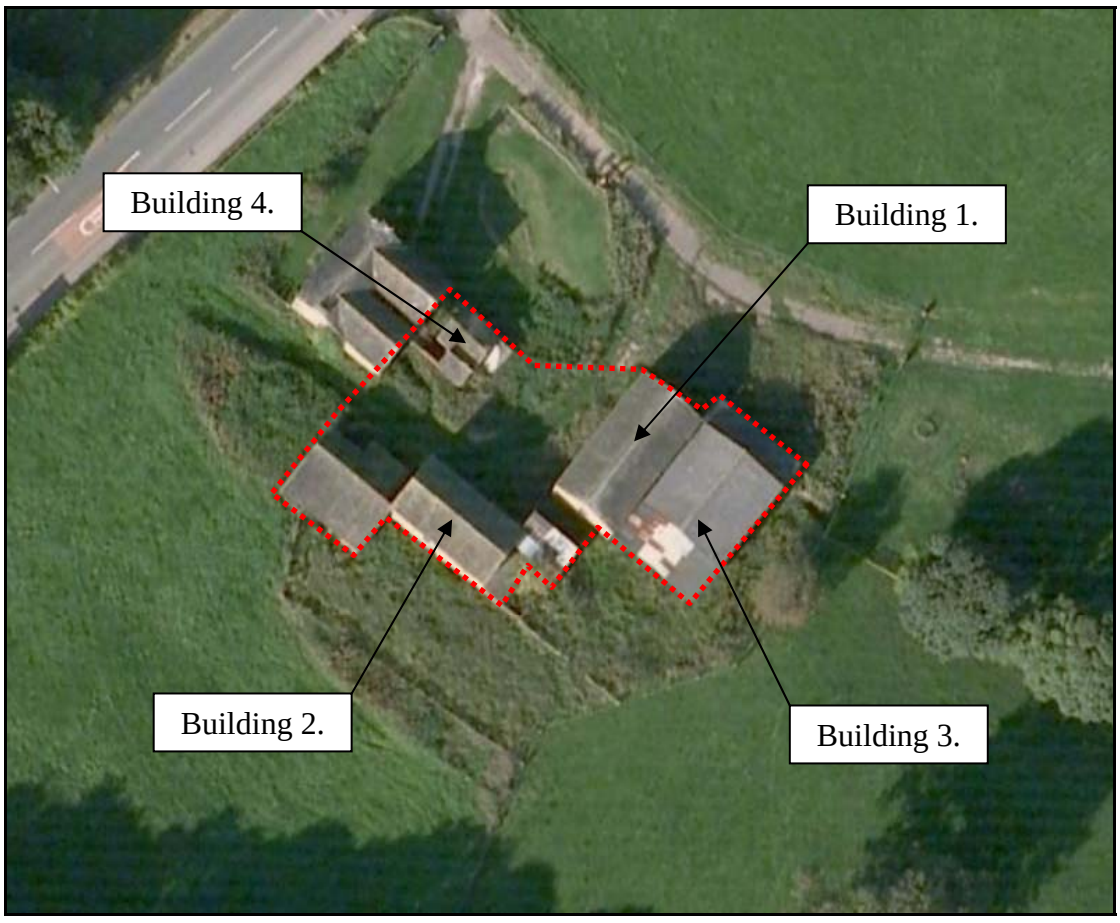
3.1. Desktop Data Search.

3.1.1. A desktop data search for existing records of bats within 1km of the site was submitted to the local records centre.

3.1.2. The desktop data search identified records of bats roosting within the village of Silkstone but no records specific to this site.

3.2. The Surveyed Area.

3.2.1. The surveyed area was a series of barns at Bank House Farm in Silkstone, as shown on the photograph below.



3.2.2. Bank House Farm lies to the south of Silkstone village adjacent to the busy A628 Manchester Road.

3.2.3. The land surrounding the site is the A628 and Silkstone village to the north and a mixture of mature woodland and grazing fields on all other sides.

3.3. Survey Results.

3.3.1. The site has been split into four buildings for the purpose of this report. Each building is covered separately below.

3.3.2. Building 1.

3.3.2.1. Brief Description.

3.3.2.1.1. Building 1 is a two storey stone built barn with a stone tiled, pitched roof. The building is currently disused and has been for some time.

3.3.2.1.2. The walls of the building are coursed limestone with a rubble fill. The majority of the doors and windows within the building are missing or badly fitting.

3.3.2.1.3. The interior of the building comprises two rooms on the ground floor and one large room throughout the 1st floor. There is no lining on the inside of the tiles and the old timber frame of the roof is open within the upper floor.

3.3.2.1.4. The floor within the 1st floor room of the building is beginning to deteriorate and is therefore unsafe, limiting access throughout the 1st floor of the building.

3.3.2.2. 2009 Daytime Survey Results.

3.3.2.2.1. The limestone walls of the building are much deteriorated and there are therefore occasional voids into the rubble fill of the walls although no bat field signs were identified around the exterior walls of the building.

3.3.2.2.2. The roof of the building is in a generally good state with no missing or slipped tiles and all the ridge tiles in place. There are abundant voids between the tiles and underneath the ridge due to the irregular shape of the tiles.

3.3.2.2.3. Approximately 25 bat droppings were identified within the 1st floor room of the building. The droppings were identified underneath the ridge of the building predominantly towards the southern end. A number of butterfly wings were also identified throughout the upper floor of the building.

3.3.2.2.4. Analysis of the droppings identified them as Natterers bat droppings.

3.3.2.2.5. Swallows nests were identified within a low garage area on the ground floor of the building. During this survey swallows were identified entering this area implying that the nests are currently in use. Occasional pigeons were also identified within the 1st floor room of the building.

3.3.2.3. 2010 Daytime Survey Results.

3.3.2.3.1. During this survey the building was found to remain in the same structural state as the previous year.

3.3.2.3.2. Occasional old bat droppings were identified within the 1st floor room of the building with no concentration of droppings in any one area and the droppings were too old to enable the species to be identified.

3.3.2.3.3. Butterfly wings were identified throughout the 1st floor room of the building.

3.3.2.3.4. A swallow nest was identified in a low garage area on the ground floor of the building. During this survey swallows were identified entering the garage and a swallow was seen sitting on the nest.

3.3.3. Building 2.

3.3.3.1. Brief Description.

3.3.3.1.1. Building 2 is a two storey, stone built barn with a stone tiled, pitched roof. There are single storey brick outbuildings with stone tiled, sloping roofs constructed onto both ends of the building. The building is currently used for general storage and as a coal shed.

3.3.3.1.2. The walls of the main barn are coursed limestone with a rubble fill. The outbuildings all comprise single skin brick walls.

3.3.3.1.3. The interior of the main building comprises two rooms, one on each floor. The 1st floor room is open to the inside of the roof with exposed timbers and no lining under the tiles.

3.3.3.2. 2009 Daytime Survey Results.

3.3.3.2.1. The limestone walls of the building are in a much deteriorated state with abundant gaps and voids through to the rubble fill although no bat field signs were identified around the exterior of the building during this survey.

3.3.3.2.2. The brick walls of the outbuildings are in a deteriorated state with abundant shallow pointing voids. No bat field signs were identified around the outbuildings during this survey.

3.3.3.2.3. The roof of the building is deteriorating with occasional missing and slipped tiles and a void along the ridge where the roof has rotted providing abundant voids in between the tiles.

3.3.3.2.4. The roofs of the outbuildings are in a much deteriorated state with abundant missing tiles and rotted timbers.

3.3.3.2.5. No bat field signs were identified around the interior of the building during this survey. The 1st floor room of the building displays abundant cobwebs and occasional butterflies.

3.3.3.2.6. No bat field signs were identified around the interior of the outbuildings during this survey.

3.3.3.2.7. A dead jackdaw was identified within the 1st floor room of the building although no used nests were identified at the time of this survey. A currently used swallow's nest was identified within the outbuildings on the northern end of the barn.

3.3.3.3. 2010 Daytime Survey Results.

3.3.3.3.1. During this survey the building was found to remain in the same structural state as during the previous survey.

3.3.3.3.2. No bat field signs were identified around the building during this survey of the site although occasional butterfly wings were identified within the 1st floor room of the building.

3.3.3.3.3. Swallows nests were identified in the outbuildings attached to the building although no swallows were identified around the buildings during this survey.

3.3.4. Building 3.

3.3.4.1. Brief Description.

3.3.4.1.1. Building 3 is a two storey high timber framed open barn to the rear of building 1. The roof of the building is single skin corrugated and the building currently stands empty.

3.3.4.1.2. The building comprises a wooden frame with no walls. The interior of the building is open to the underside of the roof sheets.

3.3.4.2. 2009 Daytime Survey Results.

No bat field signs were identified throughout the interior or exterior of the building during this survey.

3.3.4.3. 2010 Daytime Survey Results.

3.3.4.3.1. The building was found to remain in the same structural state during this survey of the site.

3.3.4.3.2. No bat field signs were identified around the interior or exterior of the building during this survey.

3.3.5. Building 4.

3.3.5.1. Brief Description.

3.3.5.1.1. Building 4 comprises two buildings stood adjacent to each other, a single storey stone constructed shed with a stone tiled pitched roof and a single storey brick shed with a tiled sloping roof. The stone building is currently disused with the brick building being used as a log shed.

3.3.5.1.2. The stone sections of the walls are in a much deteriorated state with abundant cracks and voids and the windows or doors missing or smashed. The brick walls are in a reasonable condition.

3.3.5.1.3. The roofs of the buildings are in a deteriorating state with abundant missing or slipped tiles and signs of distinct sagging in the pitched roof.

3.3.5.1.4. The interior of the stone building is inaccessible due to large amount of vegetation around the doors although it was possible to see through the window. The building is used for storage and has abundant holes in the roof. The brick building is partially filled with logs.

3.3.5.2. 2010 Daytime Survey Results.

3.3.5.2.1. Although access to the interior of the building was not possible it was possible to see through the window to inspect the interior of the building.

3.3.5.2.2. No bat field signs were identified throughout the interior of the building during this survey.

3.3.6. 2009 Dusk Emergence Survey Results.

3.3.6.1. A dusk emergence survey of the site was carried out by three surveyors using Batbox duet bat detectors. A further three Anabat bat detectors and two video cameras were also used on the site.

3.3.6.2. The weather at the time of the survey was fine and 14°C at 20:00.

3.3.6.3. The location of the surveyors, Anabats and video cameras is shown on the photograph below.

3.3.6.4. Below is a brief outline of the findings identified by the three surveyors during the survey.

3.3.6.4.1. Surveyor 1.

- 20:40 - A Pipistrelle 45 bat was identified between Buildings 1 and 2 heading south.
- 20:43 – An unidentified bat passed between Buildings 1 and 2 heading south.
- 20:50 – A Pipistrelle 45 bat was identified between Buildings 1 and 2 heading south.
- 20:55 – Three Pipistrelle 45 bats were identified passing the farmhouse and between Buildings 1 and 2 heading south.
- 21:02 – A Pipistrelle 45 bat briefly foraged in front of Building 1.
- 21:03 – A Pipistrelle 45 bat briefly foraged in front of Building 1 before flying round to Building 3.

3.3.6.4.2. Surveyor 2.

- 20:40 – A Pipistrelle 45 bat was identified passing between Buildings 1 and 2 and underneath Building 3.
- 20:43 - A Pipistrelle 45 bat was identified passing between Buildings 1 and 2 and underneath Building 3.
- 20:50 - A Pipistrelle 45 bat was identified passing between Buildings 1 and 2 and underneath Building 3.
- 20:55 – Three Pipistrelle 45 bats were identified passing between Buildings 1 and 2 then underneath Building 3.
- 21:00 – A Natterers bat flew from between Buildings 1 and 2 past Building 3. The bat emerged from southern end of Building 1.
- 21:01 – A Pipistrelle 45 bat was identified foraging underneath the shelter of Building 3.
- 21:03 – Further foraging activity was identified underneath Building 3 through to 21:05.
- 21:09 – From this time throughout the evening bats were identified foraging underneath Building 3.

3.3.6.4.3. Surveyor 3.

- 21:00 – A Pipistrelle 45 bat was very faintly heard but not seen.
- 21:03 – A Pipistrelle 45 bat was very faintly heard but not seen.
- 21:04 – A Pipistrelle 45 bat was very faintly heard but not seen.
- 21:10 – A Pipistrelle 45 bat was identified flying over Building 2 to the south.

- 21:23 – From this time throughout the evening occasional bats were identified around the southern corner of Building 2.

3.3.6.5. Below is an outline of the findings following analysis of the Anabat recordings made during the survey.

3.3.6.5.1. Anabat 1.

- 20:43 – A brief recording of an unidentified Myotis bat. Recording too short to fully analyse.
- 20:51 – A brief recording of an unidentified Myotis bat.
- 20:55 – A Pipistrelle 45 briefly foraging. Recording too short to fully analyse.
- 21:02 – Two minutes of Pipistrelle 45 foraging.
- 21:26 – A very brief recording of an unidentified Myotis bat. Recording too short to fully analyse

3.3.6.5.2. Anabat 2.

- 20:40 – A minute of constant Pipistrelle 45 foraging.
- 20:59 – 30 seconds of Natterers bat foraging.
- 21:03 – Brief Pipistrelle 45 bat foraging.
- 21:04 – Brief Pipistrelle 45 bat foraging.

3.3.6.5.3. Anabat 3.

- No recordings on this Anabat throughout the evening.

3.3.7. 2010 Dusk Emergence Survey Results.

3.3.7.1. A dusk emergence survey of the site was carried out by three surveyors using Batbox duet bat detectors. A further three Anabat bat detectors and two video cameras were also used on the site. The survey commenced at 20:05 and continued until 22:00.

3.3.7.2. The weather at the time of the survey was showery and 8.5°C at 20:05.

3.3.7.3. The location of the surveyors, Anabats and video cameras is shown on the photograph below.

3.3.7.4. Below is a brief outline of the findings identified by the three surveyors during the survey.

3.3.7.4.1. Surveyor 1.

- 21:06 – A Noctule was potentially identified passing high over the site.
- 21:09 – A Pipistrelle was identified coming from the northwest and passing between Buildings 1 & 2.
- 21:17 – A Pipistrelle was identified coming from the northwest and passing between Buildings 1 & 2.
- 21:43 – A Pipistrelle was briefly heard but not seen.
- 21:51 – A Pipistrelle was briefly heard but not seen.

3.3.7.4.2. Surveyor 2.

- Surveyor 2 briefly heard the bats passing between Buildings 1 & 2 but picked up no bat activity around the north end of the building.

3.3.7.4.3. Surveyor 3.

- 21:09 – A Pipistrelle was identified passing between Buildings 1 & 2.
- 21:17 – A Pipistrelle was identified passing between Buildings 1 & 2.

3.3.7.5. Below is an outline of the findings following analysis of the Anabat recordings made during the survey.

3.3.7.5.1. Anabat 1.

- 21:09 – A Pipistrelle 45 was recorded.
- 21:18 – A Pipistrelle 45 was recorded.
- 21:51 – A Pipistrelle 45 was recorded.

3.3.7.5.2. Anabat 2.

- 21:09 – A Pipistrelle 45 was recorded.
- 21:17 – A Pipistrelle 45 was briefly recorded.
- 21:51 – A Pipistrelle 45 was recorded.

3.3.7.5.3. Anabat 3.

- No recordings on this Anabat throughout the evening.

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4. EVALUATION OF FINDINGS.

4.1 Buildings 1 and 2 display a high potential for roosting bats due to the deteriorating state of the walls providing potential access to the rubble filled void and due to the open nature of the 1st floor of both buildings.

4.2. Building 3 provides no suitable bat roosting sites as it is only a timber frame with no walls. No bat activity was identified around the building during either survey of the site.

4.3. Building 4 displays a moderate potential for bats in the stone sections of the building due to abundant cracks and voids.

4.4. During the survey carried out in 2009 approximately 25 bat droppings were identified in the 1st floor room of Building 1 and one Natterers bat was identified emerging from the building during the dusk emergence survey.

4.5. During the 2010 survey no new bat activity was identified within the 1st floor room of Building 1 and no bats were identified emerging from the building and therefore the roost within the building appears to be a very small or transisional Natterers bat roost.

4.6. Butterfly wings were identified within the 1st floor room during both surveys implying that bats occasionally forage within the building.

4.7. No bat activity was identified around Buildings 2 and 3 during either survey of the site and no bats were seen to emerge from the buildings.

4.8. No bat activity was identified around Building 4 during the 2010 survey of the site.

4.9. Pipistrelle bats were identified passing the site from the northwest to the southeast during both dusk emergence surveys implying that the bats are roosting within the village of Silkstone and foraging within the woodlands to the southeast of the site. One of the existing records of bats is a Pipistrelle roost on the High Street in Silkstone, which is a short distance to the north of the site and may be where the Pipistrelles are coming from.

4.10. Swallow nests and swallows were identified on the site during both surveys with an active swallow nest identified in the ground floor garage of Building 1 during the 2010 survey of the site.

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5. MITIGATION STRATEGY.

Bats are a European Protected Species and a licence application must be accompanied by a method statement that follows a specific structure. The following mitigation strategy follows that structure in order that it can be cut and pasted directly into the licence application.

B. Works to be undertaken by the ecologist.

B1. Capture and exclusion.

B1.1. No specific exclusion works will be carried out on Building 1 but the work on the building will commence during September when the bat roost is unoccupied.

B1.2. Prior to the work commencing on Building 1 the ecologist will check that all mitigation within the double garage has been completed to an acceptable standard.

B1.3. When work commences on Building 1 the ecologist will supervise the removal of the ridge tiles to ensure that no bats are present.

B1.4. In the unlikely event that a bat is found underneath the tiles of the building the work in that area will cease to allow the bat to move away to another roost location.

B1.5. The ecologist will agree the exact location of the Schwegler bat and swallow boxes to be fitted to the buildings on the site.

C. Works to be undertaken by the Developer/Landowner.

C1. Bat roosts.

C1.1. In situ retention of roost(s).

It will not be possible to retain the existing roost within Building 1.

C1.2. Modification of existing roosts.

There will be no modification of the existing roost.

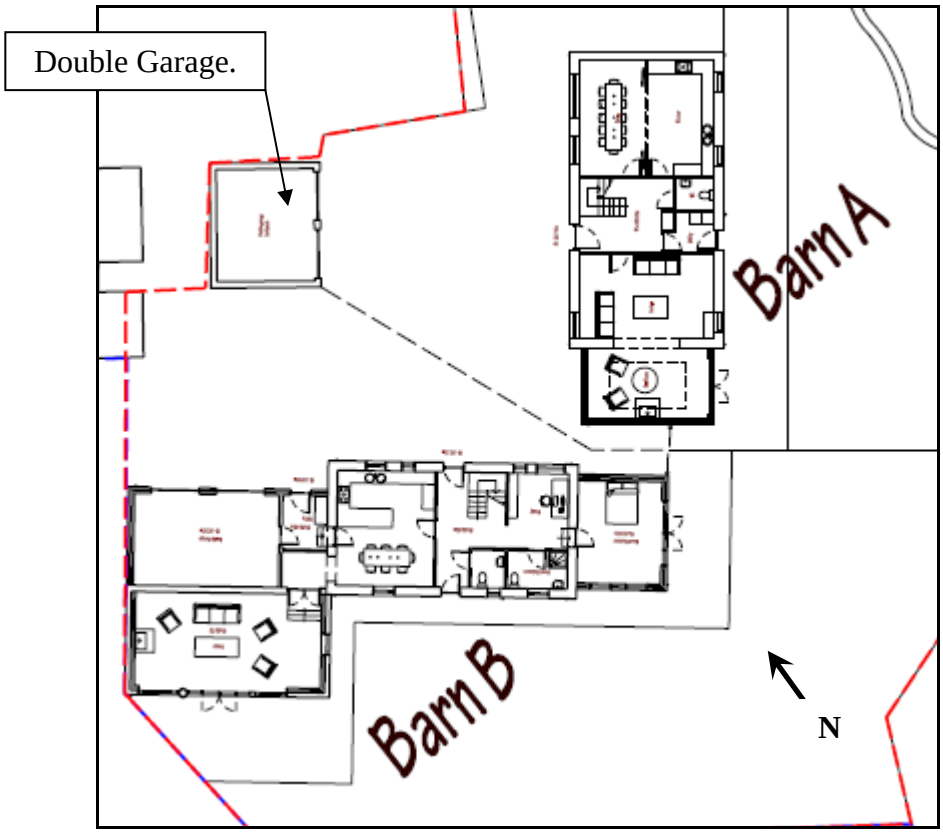
C1.3. New roost creation.

C1.3.1. Prior to any work on Building 1 being carried out a new detached double garage will be constructed on the site of the current Building 4 and all mitigation

work within the garage will be completed to mitigate for the presence of a small Natterer's bat roost within Building 1.

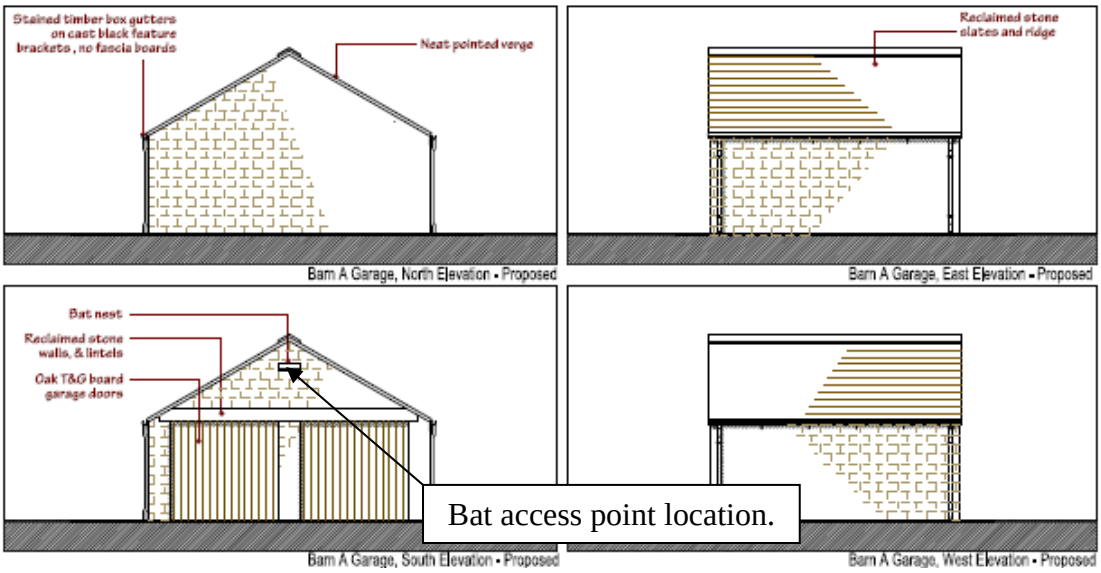
C1.3.2. No bat roosts or bat activity was identified around Building 4 therefore there are no restrictions in timing with regards to the demolition of this building.

C1.3.3. The plan below shows the location of the double garage in relation to the barns that currently stand on the site.



C1.3.4. The garage will be constructed from reclaimed stone with reclaimed stone tiles and ridge tiles. The garage will be approximately 5m x 5m in size with a loft space providing a height of 1.6m from floor to ridge.

C1.3.5. Access to the loft of the garage will be provided by the inclusion of a 75mm x 20mm gap in the stonework on southern gable end of the building. Further access will be provided by the un-uniform shapes of the stone roof slates providing access to the void between the slates and the felt lining.



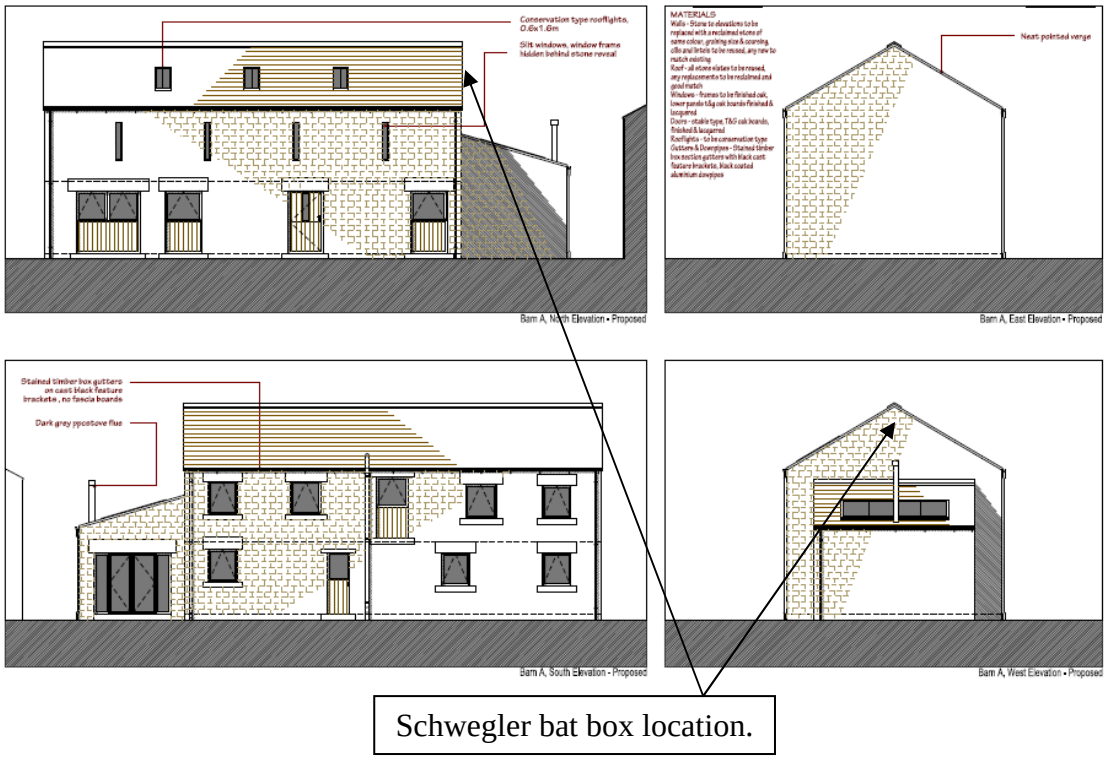
C1.3.6. The roof of the garage will be lined with a hessian type felt that will be allowed to sag slightly between the beams of the roof.

C1.3.7. Internally roosting potential will be provided by fitting 600mm long false rafters to the roof timbers, these will be spaced 15mm from the existing rafters creating a long thin void. The top half of the void will be covered with rough sawn timber to create a roosting site. A total of four such features will be provided within the loft.

C1.3.8. In addition two 500m x 500m sheets of rough sawn timber will be placed on the internal face of the north gable of the building. The timber will be spaced from the wall with slate lat along three sides leaving the lower edge of the timber open with a 15mm void behind the timber for roosting.

C1.3.9. A loft hatch will be placed within the floor of the loft providing access from the garage below for the purpose of monitoring the roost. The hatch will remain locked at all times and will be fitted with a signs stating “Bat roost, strictly no access”.

C1.3.10. Following the development works on Building 1 a Schwegler 1FQ bat box will be fitted to the eastern elevation of the building in the location shown below.



C1.3.11. Any lighting around Building 1 or the double garage will be angled down and no lighting will be shone directly towards the double garage or the eastern elevation of Building 1.

C1.3.12. During the development two Schwegler No10 Swallow nest boxes will also be fitted to the buildings on the site, the location of the nest boxes will be agreed by the ecologist.

D. Post-development site safeguard.

D1.1. Habitat/site management and maintenance.

D1.1.1. The new occupants of the converted property will maintain the building and will be responsible for maintaining the roost.

D1.1.2. Maintenance will be minimal and will primarily be to ensure that the roost is in no way interfered with or harmed.

D1.2. Population monitoring, roost usage etc.

The new roost sites will be monitored during summer 2011 to assess the success of the new roost site.

D1.3. Mechanism for ensuring delivery of post-development works.

The licence holder will be responsible for ensuring that all aspects of this licence are adhered to. The licence holder will be responsible for commissioning the ecologist to undertake the monitoring visit.

E. Timetable of works.

April to Sept 2010.	Construction of the double garage.
Sept 2010.	Commencement of the work on Building 1.
June to Aug 2011.	Dusk emergence bat roost monitoring survey.
Sept 2011.	Internal inspection of the bat roost.

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Steven Whitcher.

Natural England Bat Survey Licence Number: 20090967.

17.05.2010.

Appendix I. BAT INFORMATION.

It is necessary to understand a little about bats, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Over 15 species of bat have been recorded in Britain. These fall into two families, the horseshoe bats and the 'ordinary bats'. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to shortage of food, caused by pesticides, as insects are their sole diet, and habitat change.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man made structures and will readily use these to roost and to rear their young.

Bats are protected under the Wildlife and Countryside Act 1981, The Habitats Regulations 1994 and the Countryside & Rights of Way Act 2000.

It is an offence to intentionally or recklessly kill, injure or capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection.

A breeding or resting site of any bat is known as a bat roost. A bat roost is therefore any structure a bat uses for shelter or protection. Because bats tend to use the same roosts each year, legal opinion is that the roost site is protected whether or not the bats are present at that time.

Bat roosts can be identified by looking for:-

- Suitable holes, cracks and crevices.
- Bat droppings.
- Prey remains.
- By carrying out night observations using a bat detector.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

The person applying for that licence has to be suitably qualified and experienced in bat matters. That person is then responsible for ensuring that the measures contained in the licence are carried out.

Appendix II. NESTING BIRD INFORMATION.

It is necessary to understand a little about the legal protection offered to nesting birds in order to evaluate the findings of this report.

Part 1.-(1) Of the Wildlife and Countryside Act 1981states that:-

If any person intentionally:-

(a) kills, injures or takes any wild bird;
(b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
(c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.

Part 1.-(5) of the Act states that:-

If any person intentionally:-

(a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or
(b) disturbs young of such a bird,

he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

The nesting season will vary according to the weather each year but generally commences in early April, peaks during May and June and continues until mid August.

It is also worth remembering that some birds nest in trees and scrub but others are ground nesting.

The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.