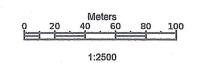


## DUNTISBOURNE ABBOTS VILLAGE PLAN

Produced 15 Mar 2019 from the Ordnance Survey MasterMap (Topography) Database and incorporating surveyed revision available at this date.

The representation of a road, track or path is no evidence of a right of way. The representation of features as lines is no evidence of a property boundary.



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Location Plan **Duntisbourne Abbotts** 

GL77JN

Well Hill Site Boundary (4.85ha/12acres)

## **BAT SURVEY 2016**

# WELL HILL STABLES DUNTISBOURNE ABBOTS, GLOUCESTERSHIRE

## CTM WILDLIFE

CTM Wildlife Ltd., The Malthouse, Standish, Stonehouse Gloucestershire GL10 3DL. Tel. 01453 827272

## CTM WILDLIFE

#### **BAT SURVEY 2016**

## WELL HILL STABLES DUNTISBOURNE ABBOTS, GLOUCESTERSHIRE

## Executive summary

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- 3 Methodology
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- 5.4 Impact & recommendations

## Appendix 1: Bat legislation

<u>Version</u>	<u>Purpose</u>	<u>Date</u>
V1.0		5 <sup>th</sup> January 2016

#### C T Menendez BSc (Hons) MCIEEM CEnv

This report assesses the ecological impact of the proposal based on wildlife legislation and planning policy. It is an independent assessment and not a statement of support or otherwise to the proposal for the site.

Disclaimer: While all reasonable effort has been made to ensure that the following information is correct and up to date it should not be relied upon as a definitive guide to wildlife and wildlife law. The exact requirements and habits of wildlife can vary and not be fully understood. Surveys and assessments can be restricted snap shots in time and space. Any conclusions and recommendations are made here in good faith. Also, the implementation of law can vary. Those needing to limit impacts and their risk should consult the original legislation and/or a lawyer conversant with wildlife law.

## CTM WILDLIFE

#### **BAT SURVEY 2016**

## WELL HILL STABLES DUNTISBOURNE ABBOTS, GLOUCESTERSHIRE

## **EXECUTIVE SUMMARY**

The site is a stone building in the stables yard.

Day and night bat surveys were undertaken over the summer of 2016.

This was for a proposal to convert the building to domestic units.

The building supports the following roosts:

Natterer's bat maternity roost (8+ bats) Common pipistrelle day roost (1 bat) Brown long-eared bat night roost.

The implications and bat mitigation are given in Section 5.4.

A licence from Natural England will be required for the proposal.

## 1. INTRODUCTION

The surveyed site is a stone stable building in the yard at Well Hill Stables in the Cotswolds village of Duntibourne Abbots.

It is understood that there is a proposal to convert the building to domestic dwellings. This bat survey was undertaken at the request of the architect.

## 2. OBJECTIVES/SCOPE

- To determine the status of bats at the building
- To determine any implications to the proposal.

This document provides an assessment and recommendations with regard to bats. It does not make commitments on behalf of the client and is not a tree or a landscape assessment.

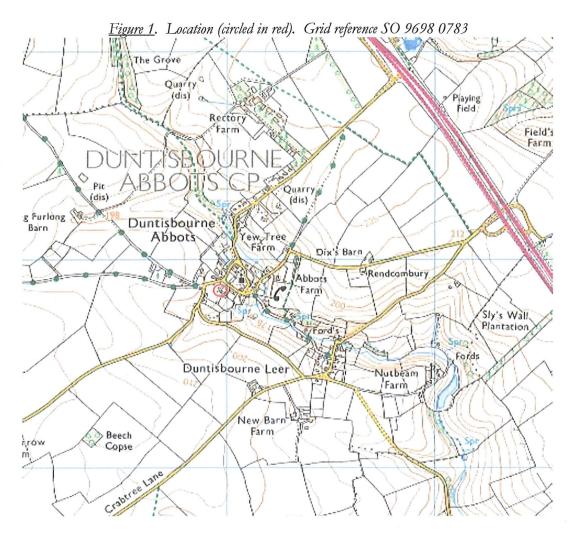
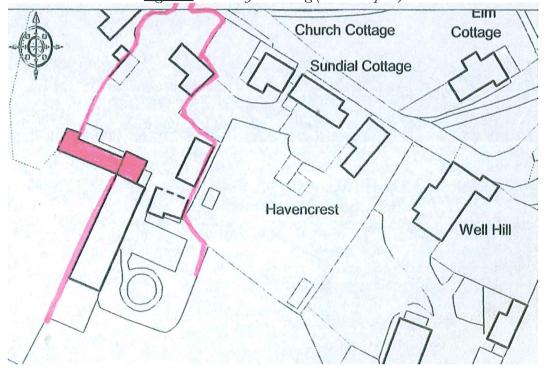


Figure 2: The surveyed building (architect's plan)



#### 3. METHODOLOGY

#### 3.1 Personnel

The survey was carried out by 'CM' BSc (Hons) MCIEEM CEnv who has 25+ years' experience as a professional ecologist and 15+ years' experience carrying out development-related surveys. His Natural England survey licences include a Class 2 licence for bats and he is a Registered Consultant with a Bat low Impact Class Licence. He was assisted by 'JD' BSc (Hons) MCIEEM CEnv who is a similarly experienced ecologist.

#### 3.2 Historical information

A check was undertaken on the Government's 'Magic' website for important sites designated for bats within 4 km and bat mitigation licences within 2 km. The Gloucestershire Local Nature Partnership website was checked if the site is within a Strategic Nature Area. The Internet was searched for information on bats in Duntisbourne Abbots including public access information on the NBN Gateway. The cost of a data search for historic records of bats was not warranted at this time.

## 3.3 Day survey

The preliminary day-time survey was undertaken on 8<sup>th</sup> April 2016. This was a standard systematic search of the building, interior and exterior, metre-by-metre, for bats, potential roosts for bats and for any sign that bats had used it. Such as the presence of bat droppings, urine drops and feeding remains on surfaces, and staining and droppings at any crevices. The adjacent stable to the south-east was checked too. Any bat droppings were collected for DNA analysis. Equipment: torch & binoculars. The conditions were dry (rain earlier), full cloud, calm and cool 9°C.

## 3.4 Night survey

A programme of night-time bat surveys across the summer survey season was undertaken due to the finding of roosting bats, in order to be able to characterise the roost and have sufficient information for the planning application and a mitigation licence.

Night survey 1: A standard dusk emergence bat survey was undertaken on 14<sup>th</sup> July 2016. The two surveyors were positioned with one inside the hay loft and the other overlooking the building from the yard. A rapid search was undertaken beforehand for bats and fresh signs of bats.

Night survey 2: An automated bat call recorder was set all night in the hay loft on 14th July 2016.

Night survey 3: A standard dawn re-entry bat survey was undertaken on 8th September 2016. This was one surveyor was positioned inside the hay loft next to the open window and western wall.

Night survey 4: This was a repeat dusk emergence survey by two surveyors on 22<sup>nd</sup> September 2016. A rapid search was undertaken beforehand for bats and fresh signs of bats.

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#### 3.5 Constraints

The assessment of structures as bat roosts can be problematic. A lack of signs of bats does not necessarily show that bats do not use a structure. Roosting places can be unseen and bats can roost in crevices etc. with no or few outward signs of their presence.

There are inherent constraints in night-time surveys due to the varied behaviour of bats between roosts and nights and the difficulties in locating the source of bats in flight in the dark.

The experienced judgment of the licensed surveyor and the undertaking of a suite of surveys across the summer helps reduce these constraints.

#### 4. RESULTS

## 4.1 Day surveys

The surveyed building is a Victorian/early 1900s? stone stables with horse stalls, a hay loft along two thirds of the building above the stalls, and rooms on the ground and first floor at the eastern end. It is in a tarmac yard on its southern side. There is an open-sided, iron-frame & breeze block stables building abutting its southeastern end. Paddocks to the south and village housing with gardens etc. in the other directions. The stalls were occasionally in use during the surveys and the hay loft disused. The rooms were locked (and light due to glazed windows).

The landscape surrounding the village is predominately arable fields of the gently sloping high wolds plateau of the Cotswolds. It is in a shallow valley with a tributary of the River Churn. There are tree-lines, wooded cover/wind breaks and small plantations in the local landscape - significant continuous woodland is approximately 1 & 2 km from the village.

<u>Table 1.</u> Description of the building with regard to bats and signs of bats.

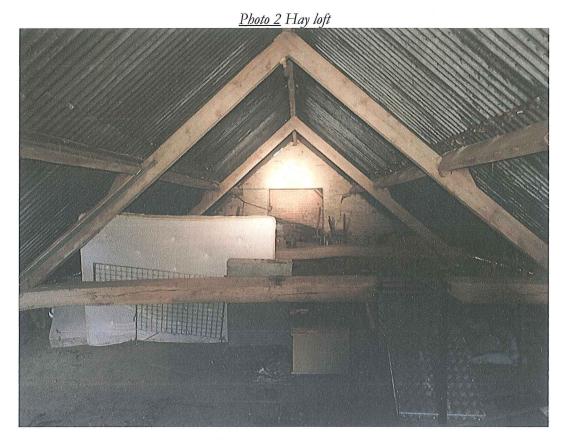
	Tree 1. Description of the outlaing with regard to outs and signs of outs.
Exterior	Walls – mortared Cotswold stone & in good condition. Partly a single skin
	of timber panels at the front.
	Doors & windows – windows glazed & doors/windows in good condition. Except an open window with a wooden lintel in the hay loft at the western end.
	Roof – twin pitched with a skin of corrugated tin sheets & a tin ridge. Weather boards at the eastern gable end verge – with gaps between the boards & wall. A stone chimney in the eastern wall.
Interior	Stalls & locked room on the ground floor. 1st floor room locked.
	Hay loft accessed via a wall ladder & open hatch at the front exterior porch. Tin roof underside exposed in the loft with an irregular hollow along underside of the tin ridge above a ridge board. Tin sheets fitted to a timber close-coupled frame – frame joints tight. Mix of wide & tight gaps between roof sheets & the verge wall tops. Gaps into end walls where the ridge board enters it. Large open window in the western wall. Mortar partly missing in the western wall. Moderately dark & airy in the loft.

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Signs of bats:	Ground floor: Nil.
	Hay loft: A few individual small-medium bat droppings randomly scattered on the floor & a small concentration under the ridge towards the western (darker) end. DNA analysis identified the latter concentration to be <b>brown</b> long-eared bat droppings.
	Two long-dead desiccated Natterer's bats on the loft floor more-or-less below the ridge. Age difficult to discern, but certainly not pups. Identification based on a characteristic fringe of stiff bristles along the trailing edge of the tail membrane.
	A few additional fresh individual bat droppings were found in the loft through the summer survey period and moth wings below the ridge (potential bat feeding remains).
Potential for	1. Use of the building by bats is conclusive.
roosting bats	2. Potential roost(s) in the hay loft.

<u>Photo 1</u> The surveyed building





## 4.2 Night surveys

Table 2. Night survey 1 (evening)

Date & timings	Weather conditions & equipment	Bats
Evening 14/07/2016 Start 2105 Dusk 2123 End 2255	Dry, calm (Beaufort strength 0), full cloud and warm (16 – 15°C outside & 18 - 17°C in loft)  BatBox Duet, BatBox IIID, Anabat SD1 & Anabat Express	Common pipistrelle: 1 bat flying in the yard 36 minutes after dusk & active in the vicinity for approx. 10 minutes. A couple of individual passes through the yard later on.  Natterer's bat: Myotis bats (calls most characteristic of Natterer's bat) flying inside the hay loft from 18 minutes after dusk. Approx. 8  Natterer's bats exited the hay loft via the western window 32 – 61 minutes after dusk. The bats dispersed southwards and with just a couple of passes through the yard.

<u>Table 3</u>. Night survey 2 (all-night automated recording in the hay loft)

Summary	to 02:	Myotis (almost certainly Natterer's bats based on the recorded call characteristics) were active in the loft from 20 minutes after dusk to 02:18 in the night and thereafter two short periods of activity approx. 1 hour before dawn.	
	1	A common pipistrelle briefly visited the loft in the middle of the night (or was flying close-by outside).	
Timing	Recore	Recorder started at 2105 & set to run to 1 hour after dawn.	
Equipment	Anaba	it Express.	
14 <sup>th</sup> July 2016 Night 18 – 12 °C in shed	<u>Time</u> 0905 <sup>1</sup>	<u>Species</u>	No. times calls recorded every 30 minutes
Dry	09:21 09:30		Dusk
	10:00	Myotis	26 (1st 09:41)
	10:30	Myotis	11
	11:00	Myotis	2
	11:30	Myotis	11
	12:00	Myotis	11
	12:30	Myotis	7
	13:00	Myotis	7
		Common pipistrelle	2
	13:30	Myotis	6
	14:00	Myotis	5
		Common pipistrelle	2
	14:30	Myotis	3
	15:00	Common pipistrelle	1
	15:30		
	16:00	Myotis	4
	16:30	Myotis	3
	17:00		
	17:07		Dawn

Table 4. Night survey 3 (dawn)

Date & timings	Weather conditions & equipment	Bats
8/09/2016 Start 0505 Dawn 0635 End 0650	Dry, calm (Beaufort strength 0 - 1), clear sky & warm 16 - 15°C in loft  BatBox Duet & Anabat Express	Myotis: Natterer's bat 1 <sup>st</sup> heard flying inside the loft 75 minutes before dawn. 3 – 4 Natterer's bats entered the hay loft via the open window in the western wall 59 minutes before dawn.  Common pipistrelle: 1 bat circling in the garden to the western side of the stables 69 minutes before dusk. 1 common pipistrelle entered a crevice in the external western wall (three stone courses down from the top of the southern side of the window) 27 minutes before dawn.

<sup>&</sup>lt;sup>1</sup> The style of the stated timings given here is that produced by the Analook programme used to analyse the calls *i.e.* 09:00 = 9 PM or 2100 in the evening and 14:30 = 2.30 AM in the night.

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<u>Table 5</u>. Night survey 4 (evening survey)

Date & timings	Weather conditions & equipment	Bats
22/09/2016 Start 1850 Dusk 1909 End 2040	Dry, calm (Beaufort strength 1), patchy cloud & mild 15°C in loft & 14 – 12°C outside	<u>Common pipistrelle:</u> 1 <sup>st</sup> bat flew through the yard east – west, fed in the garden west of the building & away 37 minutes after dusk. Thereafter occasionally seen in the garden & heard in the background. <u>Myotis:</u> 2 – 4 Natterer's bats exited the loft via the western window 62 – 72 minutes after dusk.
q	BatBox Duet, BatBox IIID, Anabat SD1 & Anabat Express	

## 4.3 Historical information

The site is not in a Gloucestershire Strategic Nature Area. There are no sites designated for bats within 4 km and the nearest wildlife designated sites are Juniper Hill Edgeworth SSSI (at 4.4 km and important for its juniper scrub) and Daneway Banks SSSI (at 4.6 km and important for its unimproved species-rich grassland [& butterflies]). Duntisbourne Abbots is in the SSSI Risk Impact Zone for any residential developments with a total net gain in residential units (i.e. it is applicable to the proposal).

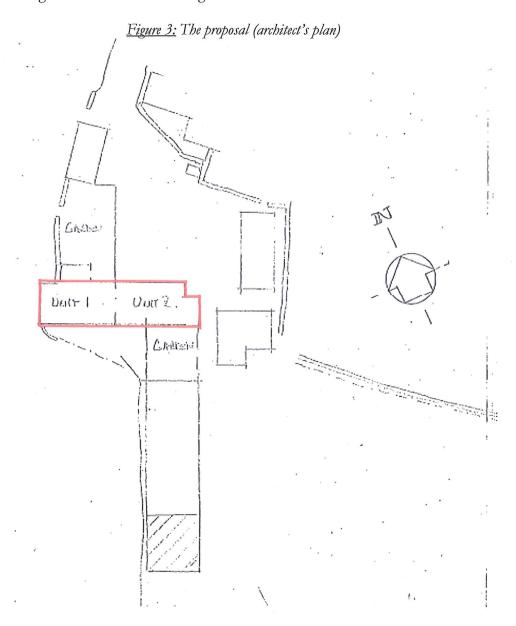
The client/owner was not aware of bats using the surveyed building. No EPS bat mitigation licences were shown on the Government's Magic website in Duntisbourne Abbots and the nearest were (1) a non-breeding roost for lesser horseshoe, common pipistrelle & brown long-eared bats at 1.6 km & (2) a breeding roost of common pipistrelle at 2.2 km. There are records on the NBN Gateway of bats (species not given) in two adjacent 1 km grid squares – none in the 1 km grid of the surveyed site.

## 5. CONCLUSIONS

## 5.1 Outline development proposal

It is understood that the proposal is to:

Convert the building as two domestic dwellings.

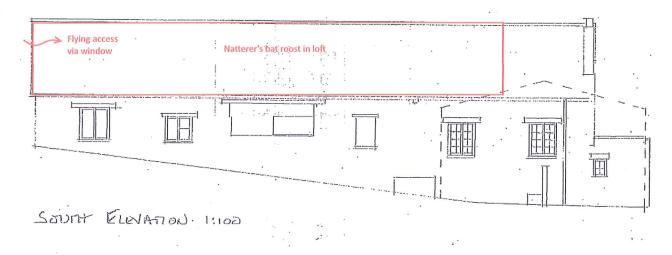


## 5.2 Use of site by bats

#### Roosts

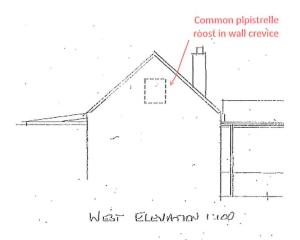
• Natterer's bat – 'maternity roost' in the hay loft of the surveyed building (8+ bats). The bats access the loft via the open 1<sup>st</sup> floor window in the western end wall. They are considered to be roosting in the hollow along the underside of the roof ridge and/or in the wall plate of the verges particularly where timbers enter the wall.

Maternity roosts are where bats give birth and raise their young to independence in the summer.



• Common pipistrelle – 'day roost' in the western wall of the building (1 bat). The bat uses a crevice in the external side of the wall at 1<sup>st</sup> floor level. The timing and direction of flight of common pipistrelle indicates that this or another bat also roosts in the local vicinity.

Day roosts are where individual bats, or small groups, rest or shelter in the day.



• Brown long-eared bat – 'feeding roost' in the hay loft. They will be entering via the open window and perching on the underside of the roof principally at the ridge board.

Feeding roosts are where individual bats or a few bats rest or feed during the night but are rarely present during the day.

#### Foraging bats & flight lines

- The yard is used, but little-used, by foraging bats early in the evening (common pipistrelle).
- Bats forage over the garden on the western side of the building and the roosting Natterer's bats disperse southwards to/from the paddocks on the southern side of the building.

## 5.3 Legal considerations

All species of British bat and their roosts are protected by law (Appendix 1).

Natural England's guidance is that although foraging areas and commuting routes are not legally protected, the effects of development proposals on these may be taken into consideration.

## 5.4 Impact & recommendations

#### 5.4.1 Impact

The proposal (without mitigation) will:

- Destroy a maternity roost used by 8+ Natterer's bats
- Destroy a day roost used by 1 common pipistrelle
- Destroy a feeding roost use by brown long-eared bat(s).

The setting is likely to remain relatively unchanged including no change to the adjacent paddocks except for the creation of gardens partly on both sides of the building (which is currently tarmac & part of an open-sided framed building). The level of disturbance and illumination is likely to moderately increase (it is currently a working stables/yard).

#### 5.4.2 Conservation significant

<u>Natterer's bats</u> are relatively common throughout Britain more-so in the south. Though a comparatively low number of summer maternity roosts are known in the county compared to the commoner species of bat. Nursery roosts usually contain 30 - 200 bats and this roost with 8+ bats at Well Hill Stables is a small maternity roost. Maternity roosts are important to local populations. Based on Natural England's guidelines, the status and conservation significance of a Natterer's bat maternity roost is 'moderate'.

<u>Common pipistrelle</u> are a widespread commoner species of bat in Britain. They are legally protected (like all bat species in Britain) due to their rate of decline. A common pipistrelle day roost used by 1 bat is of 'low' conservation significance.

Brown long-eared bats are widespread commoner species of bat and feeding roosts are of 'low' conservation significance.

#### 5.4.3 Proportional mitigation

Based on Natural England's guidelines, the level of proportionate mitigation for the identified impact on the Natterer's maternity bat roost is:

- Timing constraints
- More-or-less like-for-like replacement of the roost
- Bats not to be left without a roost and must be given time to find the replacement.
- Monitoring 2 years preferred.

Proportionate mitigation for the common pipistrelle and brown long-eared bat roosts is:

- Flexibility over provision with new roosting provision where possible
- The provision need not be exactly like-for-like, but it should be suitable for the species concerned
- Minimal timing constraints or monitoring for the work.

Mitigation to re-create roosting places will be required as well as measures to avoid harm to bats during the conversion work. The aim will be to maintain the favourable conservation of the local population of the bats.

#### Timing of works

- The optimum period to undertake the work will be 1<sup>st</sup> October 1<sup>st</sup> May outside the maternity season when the bats are least likely to be present or vulnerable. In this instance, undertaking the proposed work affecting the loft roost in the summer is unlikely to be permitted by Natural England (when licencing of the work see below).
- Based on Natural England's guidelines, the work will need to be phased in order to create the replacement roost (see below) and to then allow time for bats to find and use it before the destruction of the existing roost. If the most suitable mitigation is a replacement roost that includes, modifies or is similar to the existing roost this may be permissible in one phase.

#### Avoidance of harm to bats

• An ecologist will need to check for and if necessary rescue or exclude any bats present at the start of work that affects the roosts.

## Roost provision

Natterer's bats at buildings typically roost in crevices/holes within the building where there is enough space for internal flight and the access point is suitable for light-sampling by the bats.

A recent study on the success of maternity roost compensation measures identified that success is more likely where roosts and access to them is retained compared to creating new roosts.

The following is recommended as suitable, proportionate mitigation for the Natterer's bat roost:

- Retain/Recreate a roosting space on the first floor of Unit 1 for use by the Natterer's bats. The key features will be:
  - (1) Flying access at the top of the western wall (e.g. 100 mm high & 300 mm wide, fitted with a cowl to deter rain & birds).
  - (2) Unrestricted flying space as part of the roost along the underside of the roof ridge.

Published information on roost selection by Natterer's bat does not give preferred heights and volumes of roosts in buildings for this species – a 1.8 m height and a volume of 53 m³ is cited for brown long-eared bats that is the most similar roosting species in buildings. If the height is limited along the ridge this could be augmented with a larger space from roof to floor. A mix of a large space next to the access and a lower height along the remaining ridge may achieve a suitable space that gives a varied roost with a range of thermal regimes.

- (3) Roosting crevices retained/recreated along the roof ridge underside & at the wall top along the verges.
- (4) Any insulation to be on the floor (i.e. not on the roof slope in order to increase the roost temperature in the summer).
- (5) Roof felt Type 1F (i.e. safe for bats) &/or capped with timber sarking.
- (6) Access for maintenance.

The existing loft roost extends across both the proposed Unit 1 and half of Unit 2. Fire regulations usually do no permit retaining flying access by bats between different housing units, therefore the mitigation will probably need to be restricted to Unit 1.

- Retain/Recreate the roosting crevice in the external western wall for the common pipistrelle.
- Retain/Replace the ridge board for brown long-eared bats in the roof roost. Combined with the recommended access this will make it suitable as a night roost for this species.
- It is recommended that (1) the design of the mitigation solution is discussed with the bat ecologist & (2) the mitigation is included in the plans of the proposal due to the exacting requirements of bats and need to find a favourable solution for the bats, local planning authority and licensing of the work.

## **Lights**

- Only install outside lights on the western and southern aspects that are essential for people's safety. Design and position outside lights to not illuminate above eaves height, the bat mitigation, flight lines to it and adjacent habitat.
- 5.4.4 Licensing by Natural England
- A licence will be required for the proposal where it affects the bat roost.

There are two types of licence: (1) low impact and (2) a standard licence. Based on the survey a standard licence will be applicable at this site.

Licences are issued by Natural England and a standard licence includes a Method Statement detailing measures to be taken to avoid, mitigate or compensate for any potential impacts upon bats, which must be approved by Natural England before a licence is granted.

The licence holder is generally the site owner or developer with a named ecologist who usually prepares the licence and oversees it on behalf of the licensee due to the exacting requirements of the bats and licence.

Natural England requires at least 30 working days to process each licence application and amendments to it. Licenses are usually applied for after planning permission and other necessary consents have been granted and relevant conditions discharged. The application process can take at least two months. Survey information generally needs to be from the current or most recent survey season ( $1^{st}$  May  $-30^{th}$  September).

## Appendix 1.

## - Brief summary of relevant legislation in the UK -

#### Bats

There is considerable evidence that all species of bat in Britain have declined significantly this century, particularly since the 1960s. The reasons for the decline include: loss of suitable roost sites, loss of feeding habitat, reduced availability of insect prey through pesticide use and mortality resulting from the use of highly toxic timber treatment chemicals in house roosts.

All species of British bat are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (which consolidates the European Conservation (Natural Habitats etc.) Regulations 1994). As well as giving full protection from intentional and deliberate killing, injuring, disturbing and taking of bats, the cited legislation protects bat breeding and resting places (roosts) from damage, destruction and preventing access to such places. The legislation regarding roosts applies irrespective of whether the bats are present or not. The Countryside and Rights of Way Act 2000 added the word "reckless" to existing protection against "intentional and deliberate" actions.

The law requires that reasonable effort be made to ensure that any actions, plans or projects do not detrimentally affect bats or their roosts. Proposed developments that affect bats or bat roosts may require a licence from Natural England. Allow at least 30 days for a licence application to be determined.