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STRUCTURAL INSPECTION	:	Proposed Change of Use of Farm Buildings to Residential Building; Bird Lane House Farm, Bird Lane, Barnsley S36 8YD
CLIENTS	:	Mr. M & Mrs. A. Wartig
ADDRESS	:	c/oBird Lane House Farm, Bird Lane, Barnsley S36 8YD
TELEPHONE NUMBER	:	07805207247
DATES OF INSPECTION	:	20th August, 2010
WEATHER	:	Fine

Note: The enclosed report relates to the findings of a general structural appraisal of the condition of the unit intended for conversion to form residential accommodation. It is understood that, due to the existing nature and condition of the building, comments are restricted to the main structural components, accepting that refurbishment works and a degree of reconstruction may be required.

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Other matters which are visibly obvious, without specific investigations being required, may be mentioned. Otherwise no in-depth investigations on matters structural or otherwise have been undertaken.

No destructive testing was undertaken and the foundations were not exposed. Except where the contrary is stated, parts of the structure and fabric which were covered, unexposed or inaccessible will not have been inspected.

No inspection of the units other than visual inspection immediately local to the features was undertaken, and the clients should be aware that other faults may exist within the units for which the Engineer has not been commissioned to comment upon. *As such, this report does not constitute a full structural survey nor a building survey.*

Save as hereinafter provided, the Engineer will carry out such work as is reasonable in his professional judgement, bearing in mind the limitations of the inspection. The Engineer will not accept any responsibility or liability for the fitness for purpose or suitability of materials provided unless specifically stated by him.

The report is for the sole use of the named clients. The Engineer accepts responsibility to the clients alone for the stated purposes of the report, subject to receipt from the clients of the agreed remuneration

The report will be prepared with the skill, care and diligence reasonably to be expected of a competent Engineer, but the Engineer accepts no responsibility whatsoever to any person other than the client. Third parties acting upon the contents of this report do so at their own risk and liability.

..... M. W. Sagar

Proposed Change of Use of Farm Building to Residential Building, Bird Lane House Farm, Bird Lane. S36 8YD.

GENERALLY

The proposed unit comprises an agricultural steel framed two storey blockwork walled structure with a first intermediate timber floor provision. It is understood from others that the original structure is thought to have been constructed circa 1970 and post-dates the main farm dwelling.

The existing unit is of standard orientation and construction and is considered to be typical of the construction type which is historically suitable for consideration to conversion to double storey domestic structures.

The walls of the structures are single skin blockwork in-fill panels tied to the existing steel frame. It is anticipated that the various elevations of the walls of the building sections may be founded directly to the internal base slab or to intermediate strip footings at isolated locations at varying depths below the existing ground level. This is particularly relevant to the rear retaining section.

The original steel frame and roof girder trusses appear to be in a good state of and as such their re-use incorporation into the proposed conversion should be easily facilitated. It will be necessary to treat all steelwork and timbers seatings for structural reasons and if any timbers are to be retained for aesthetic reasons.

Additional cross ties will be required between flank elevations of the structures to prevent lateral movement at both mid-height and eaves wall plate levels. The provision of an appropriate intermediate floor or upgrading of the existing as part of the proposed conversion works should adequately provide tie at the intermediate level. Tie at wall plate level can be achieved via specifically positioned restraint straps and the keying in bracing of cross and buttressing walls where they meet other structural elements.

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Various building sections are subject to some distortion, which is believed possibly to be as a result of the effect of thrust from the retained section, a lack of tie, and wind loading, amongst other effects. The apexes of the gables may require some reconstruction and the opportunity should to do so can be undertaken during window provision works etc. as is found to be necessary.

It is obviously the intention of the clients to provide new roof covering. The existing sheeting is to be replaced with a provision similar in nature to that of the existing original farm dwelling. All necessary upgrading of other aspects of the general structure can be specified on architectural submissions for Building Regulations considerations.

The external ground levels to rear ends of both side elevations and across the rear elevation itself are elevated. As such, the wall to the these areas is retaining in part. It may be the case that localised supplementing/underpinning and tanking of sections of various elevations could be required as part of any proposed conversion works.

Arbitrary panels of blockwork appear to be in need of minor reconstruction. These section may require to be keyed correctly. It is anticipated that the existing blockwork will form only one skin of a two skinned cavity wall construction which will facilitate the opportunity to stabilise the existing provisions. It may be the case that some minor sections will require re-building and or the incorporation of bearing pads to accommodate the new roof/floor constructions could be required. The extent of these works, if required, may only become fully apparent as the works themselves progress but at this stage they are anticipated to be minor in nature.

Although the proposed residential accommodation is on the first floor level a full damp course installation will be required at ground floor level and timber treatments will be required to all retained elrements to avoid any possible infestation of new provisions.

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CONCLUSION

It is generally thought that the main structure of the building, subject to the upgrading of individual elements as part of any remedial scheme, is suitable for restoration and conversion purposes.

Some minor structural issues have been outlined for consideration and the extent of these and their required works may only become fully apparent as the works themselves progress. It is advised that the structural repairs be undertaken under the guidance of, and certified by, an appropriately qualified structural consultant.

I trust the above is suitable for your purposes. Should you require any further assistance, please do not hesitate to contact me.

Yours sincerely,

M. W. SAGAR.
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Eric Bennett Consultancy Ltd

Protected species survey and advice

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Bird Lane House Farm
Thurgoland

Bat Survey

January 2011

Details of Surveyor

Surveyor	Experience
Mr Eric Bennett	Licensed bat worker since 1988. Licensed by Natural England for all bat species in all counties. NE Licence No: 20110098

Record of revisions

Date	Details
31 January 2011	Original Report

Report of Bat Survey
Bird Lane House Farm, Thurgoland

1 Introduction

1.1 The survey was required in connection with proposals for the conversion of a barn to residential use. The site was located on Bird Lane, Thurgoland at O.S. Grid Reference SE 282023.

2 Details of work proposed

2.1 Full details are not known but it is understood that the roof will be replaced by a traditional roof structure and the existing blockwork walls treated with a mix of render and timber weatherboard cladding.

3 Background to the special protection afforded to bats under UK and EC legislation.

3.1 Bats are highly specialised creatures and require a relatively narrow range of suitable conditions in order to sustain a viable population. Bats require an abundant supply of flying insect food in places where they can easily be caught and they need safe and reliable roosting sites; particularly during breeding and hibernation.

3.2 Bats are heavily dependent on buildings and trees for their roost sites and, therefore, extremely susceptible to disturbance from human activities ranging from simple maintenance work through major conversion and renovation schemes to building demolition. Development schemes can also isolate bat populations and sever roost sites from favoured feeding areas, by removing hedgerows and trees that bats use as commuting routes.

3.3 Bats are susceptible to disturbance and have been known to abandon roosts sites after instances of disturbance. The effects of disturbance are more pronounced at different times of year. Serious disturbance during breeding can result in the breeding females being killed or the abandonment and subsequent starvation of dependent young. Repeated disturbance during winter hibernation can result in the death of adult animals from starvation.

3.4 The level of protection afforded to bats in UK and European legislation reflects the fact that it is now generally accepted that bats have declined substantially, maybe by as much as 60% over recent years. Most species are declining and vulnerable and all are protected.

4 Details of Survey

4.1 Daytime survey by a single surveyor.

5 Methodology for the survey

5.1 A detailed internal and external inspection of the building was carried out to identify potential roost sites and access points and any signs of actual occupation such as droppings, discarded moth wings, staining etc.

5.2 A dusk emergence and activity survey was not carried out because of the season.

5.3 Assessment of site and surrounding habitats.

5.4 Search of existing bat roost records.

6 Description of habitats

6.1 The site was located in a landscape of arable and pasture farmland with hedgerows and hedgerow trees. Small woodlands were in evidence in the near surroundings with larger woodland blocks to the east.

7 Results of daytime survey

7.1 The survey was carried out on 30 January and the results are set out below.

7.2 The building concerned was a large two-storey concrete block barn with a steel frame structure supporting the corrugated sheet clad roof. The rear of the building was cut into the slope of the land with the rear eaves line approximately 1.5 metres above ground level.

7.3 The front gable was corrugated sheet cladding on timber studding above the eaves level. The lower edge of the sheets were fastened to a timber batten with only small separate openings in each corrugation. This is shown in Fig 2. The rear gable was all blockwork up to the apex with no cladding. Some openings in the pointing were noted at the apex and lower in the verge but these were probably too large for bats and more likely to be used by birds. The rear gable was anyway obstructed by the hawthorn hedge growing close to the wall and unlikely to be attractive to bats.

7.4 The eaves on both sides was finished with an aluminium sheet material leaving no suitable openings at all for bats.

7.5 A single-storey addition on the east wall was constructed in the same materials with a mono-pitch roof. No suitable opportunities were found.

7.6 Internally the first floor level was approximately 1.7 metres below the eaves level. The front gable wall was timber studding with a flat sheet material on the outside below the corrugated cladding. There was no enclosed wall cavity at all that might be suitable for bats. The rear gable was fully blockwork to the apex and the joint to the roof sheets appeared well sealed. Overall the whole roof was lined with plastic sheeting below the roof covering.

7.7 No signs of droppings, discarded insect remains were found either externally or internally to suggest the possible presence of a bat roost.

7.8 As a matter of course the barn was checked for signs of other protected species such as Barn Owl, Swallow etc but none was found.

8 Results of dusk survey

8.1 A dusk survey was not carried out because of the season.

9 *Existing local records*

9.1 Barnsley Bat Group has no records for the site or the immediate vicinity. The following records are known for the wider area.

Site Name	District	Roost Type	NGR	Species	Count	Date
Old Mill Tree	Thurgoland	Tree Crack Willow	SE278006	Noctule	+Dr	
Old Mill	Thurgoland	Mill	SE278006	Whiskered	+Dr	17/09/87
Thurgoland Tunnel	Thurgoland	Tunnel	SE281008	Brown Long-eared	2	/96
Silkstone Tunnel	Silkstone Common	Railway Tunnel	SE286037			
Hall Royd Walk	Silkstone Common	House	SE 294043	Pipistrelle	+ (51-100)	01/07/99
Moorend Lane	Silkstone Common	Tree Ash	SE 293042	Noctule	8	12/01/93
Moorend Lane 2	Silkstone Common	House	SE294041	Indet Pip	30+	21/08/09
Lower Toad Hole Wood Tree	Thurgoland	Tree Cherry	SE302015	Noctule	+Dr	02/10/87

10 Protected species legislation

10.1 Bats and their roosts are fully protected at all times (whether the bats are currently present or not). This protection comes from the Wildlife & Countryside Act 1981 (updated by the Countryside & Rights of Way Act 2000) and the Habitats Regulations 1994 (updated by the Conservation (Natural Habitats) (Amendment) Regulations 2007. Under this legislation it is an offence to deliberately kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats as a breeding site or resting place.

10.2 Under the habitats regulations, where bats may be affected by development proposals, a licence is required from Natural England. Published guidelines on the licence procedure indicate that if, on the basis of survey information and specialist knowledge of the species concerned, the proposed activity is reasonably likely to result in an offence then, a licence is required. If, on the other hand the proposed activity is reasonably unlikely to result in an offence, then a licence is not required.

11 Evaluation of survey results

11.1 The survey produced no information to suggest the possible presence of a bat roost in the building and overall, given the type of building with limited potential for roosting crevices, it is considered that a summer breeding roost is quite unlikely. Single Pipistrelle bats, usually males, can be found in just about any situation but these roosts are used only intermittently and with simple precautions the potential for damage appears remote.

11.2 In this case the cladding planned for the outside walls would provide useful roosting crevices and improve the potential of the building as it stands.

12 Site & species status assessment

12.1 No evidence to suggest the presence of a bat roost.

13 Assessment of Impacts

13.1 No negative impacts are predicted.

Development effect	Scale of Impact without mitigation			
	Negligible	Low	Medium	High
Destruction of roost site	+			
Temporary loss of roost site during building works.	+			
Modification of roost site	+			
Risk of entombing bats during building work		+		
Risk of killing/injuring bats during roof stripping	+			
Temporary disturbance from building works during breeding season	+			
Temporary disturbance from building works outside the breeding season	+			
Post development interference	+			

14 Mitigation guidelines

14.1 Mitigation is required to avoid or reduce the impact of development proposals on the population of bats present, either roosting or feeding. Licences are normally required where a roost site is threatened in some way by a scheme, but might also be necessary where the viability of a roost is threatened by the removal of the availability of crucial feeding habitat.

14.2 Natural England in their published guidelines (Bat Mitigation Guidelines Jan 2004) defines the key principles involved. i.e. Mitigation involving changes to the scheme or altering the timing of work to reduce or remove impacts and Compensation, the creation of new replacement roosts or habitats.

14.3 Natural England also requires mitigation/compensation to be proportionate to the size of the impact and the importance of the population affected and as a principle:

- There should be no net loss of roost sites and that compensation should provide an enhanced resource since the adoption of new roost sites bay bats is not guaranteed.

- The scheme should aim to replace like with like in terms of the status of the site. i.e. male roost, maternity roost, hibernation roost etc.

- Compensation should ensure that the affected bat population could continue to function as before so attention may need to be given to surrounding habitats.

15 Mitigation proposals

15.1 In this case since there are no indications to suggest the presence of a bat roost, no formal mitigation measures are required although some simple precautionary measures are recommended in all cases because single male Pipistrelle bats can be found just about anywhere.

15.2 Purely as a precaution care should also be taken during roof stripping lifting rather than sliding the corrugated sheets and checking beneath for signs of bats, particularly over wall tops. If bats or droppings are found further advice should be sought immediately and work halted in that area.

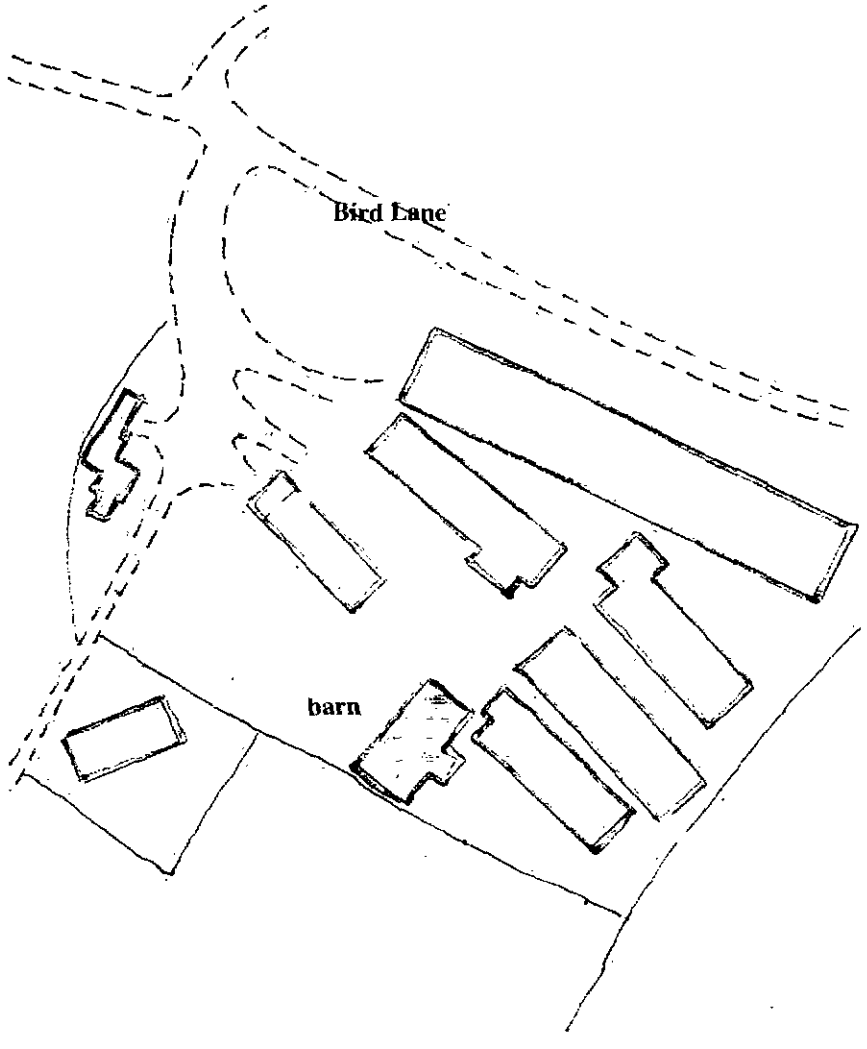
15.3 Any timber treatment should be carried out using only safe Permethryn type chemicals on the Natural England list of approved safe chemicals. The work area should be checked for the presence of bats prior to application (including mortise joints) to ensure that bats are not directly sprayed with the chemical. Use of new pre-treated timber such as tanalised, is safe provided the treated timber has been allowed to dry before use.

15.4 It is not known to what extent the external cladding will be used but if an area similar to the existing sheet cladding on the front of the building were covered with timber cladding, numerous small crevices between the battens would be created that are extremely attractive to bats. Timber weatherboarding tends to warp slightly with time creating potential openings for bats but this could be achieved pro-actively by wedging the boards in several locations to create openings from the outset.

16 Conclusions & Recommendations

16.1 As things stand there is no evidence to suggest the presence of a bat roost and accordingly no further action is necessary. The mitigation measures are, however, recommended.

EM Bennett
31 January 2011.



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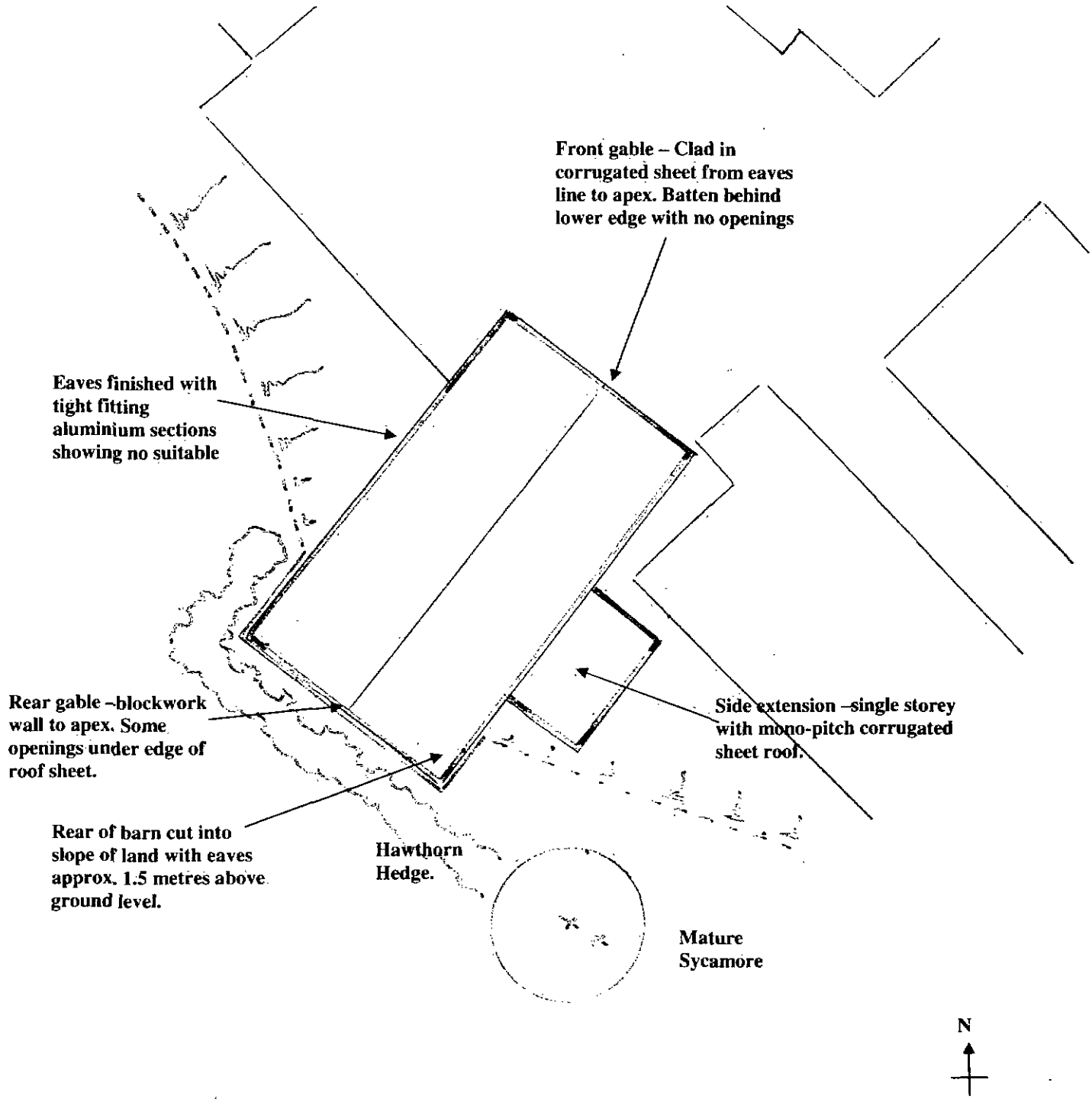
Bird Lane House Farm, Thurgoland
Bat Survey – January 2011
Not to Scale



Bird Lane House Farm, Thurgoland
Bat Survey – January 2011
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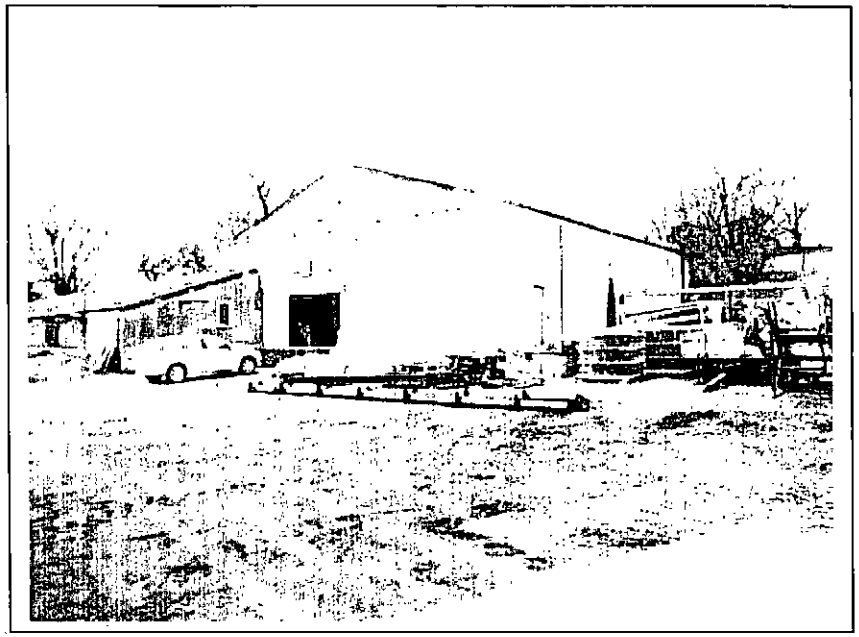

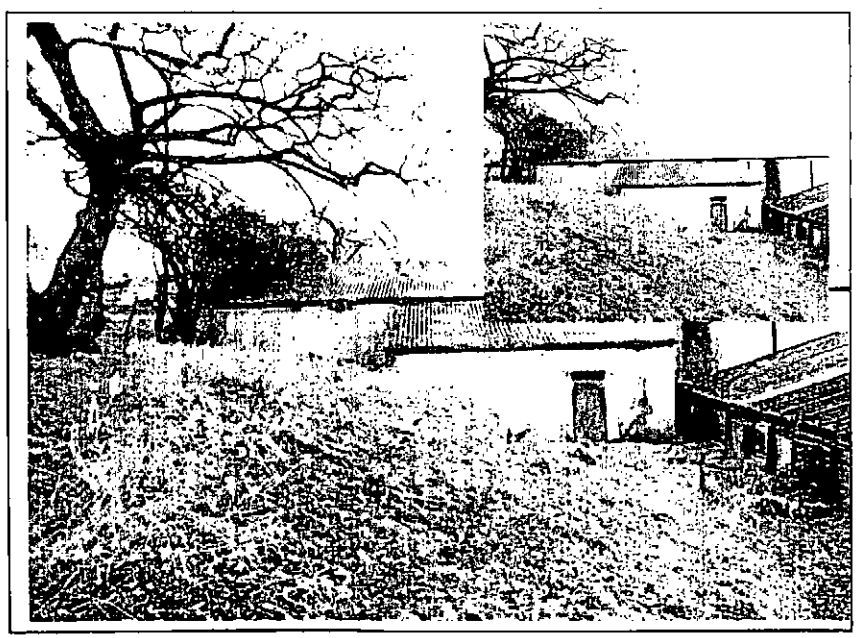

Bird Lane House Farm, Thurgoland
Bat Survey – January 2011.

FIG 1

Bird Lane House Farm, Thurgoland
Bat Survey – January 2011.

FIG 2