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Bat Survey

Demesne Farm, Gunnerton

March 2022

Hedley Planning Services

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	Name	**Position**	**Date**
Report Originator	Becky White	Senior Ecologist	10th September 2021
Reviewed	Mark Osborne	Director	10th September 2021
V2 Amendment	Becky White	Senior Ecologist	4th March 2022
V2 Reviewed	Mark Osborne	Director	12th March 2022

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Summary

OS Ecology Ltd were commissioned by Hedley Planning Services in June 2021 to undertake a daytime bat risk assessment and subsequently bat activity survey of buildings at Demesne Farm, Gunnerton. The site is subject to two applications for the conversion of agricultural barns into dwellings. No works are proposed to the farmhouse.

Summary Table	
Impacts on Designated Sites	No impacts on sites designated for bats are predicted from the development. The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) in relation to SSSIs within the wider area. As development proposals are not currently known, it cannot be confirmed whether the potential impact risk criteria may be met.
Daytime Bat Risk Assessment Findings	The site supports a farmhouse with traditional stone barns attached to either end, a range of agricultural sheds and a traditional L-shaped stone and slate barn. The buildings range from negligible to high suitability for use by roosting bats with the farmhouse and traditional barns providing abundant potential roost sites within the stone walls and associated with the roof structure. A number of the agricultural barns also provide potential roost sites associated with timber cladding and the roof structures.
Activity Survey Findings	Activity survey has confirmed the presence of common and soprano pipistrelle day roosts[1] within three of the agricultural sheds with these structures also providing sheltered foraging areas. The traditional stone barns and farmhouse also support day roosts used by common and soprano pipistrelle bats with the L-shaped stone barn also being used as a day roost by a *Myotis* species considered from call attributes to most likely be whiskered/Brandt's bat. A Natterer's bat transitional roost[2] is also present on site, within an open-sided link structure between the farmhouse and adjacent barn found to support 56 bats during a survey on the 19th August 2021. This roost was not present during a survey on the 31st July and had dispersed by the 6th September and is therefore concluded to be a post maternity transitional roost site.

[1] A place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
[2] A place used by bats for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Nesting Birds	The site provides opportunities for nesting birds, with active swallow nests present in several of the buildings.
Impact Assessment	Development proposals for the site comprise renovation and some demolition. The farmhouse will be retained as is. The likely impacts, without appropriate avoidance measures, mitigation and/or compensation scheme, are: • Potential disturbance and harm to roosting bats, should they be present at the time of the works. • Potential destruction of bat roosts through demolition, conversion and renovation works. • Loss of internal areas used by foraging bats. • Potential harm and/or disturbance to nesting birds, should works be undertaken in the breeding bird season (March to August inclusive).
Recommendations	• External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting. • Alternatives to timber treatments that are injurious to mammals will be sought and used on site (see http://www.jncc.gov.uk/pdf/batwork_manualpt4.pdf). • Demolition and renovation works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and active nests are confirmed to be absent. • Works to Buildings 1-3 and Buildings 7 and 8 will not commence until a Natural England licence is in place and will adhere to the terms of the licence. These will include the following key elements: a) Induction of contractors by licence ecologist b) Exclusion of bats where appropriate c) Supervision of works where appropriate d) Sensitive timing of works e) Provision of compensation roost sites where roost sites are to be lost (see below) • Prior to the start of works on site, bat boxes will be installed in retained trees in order to provide short-term alternative roost sites for the duration of the re-development works. • Long-term compensation roost sites will be provided within the site in the form or a range of bat boxes positioned on the exterior of converted buildings and the enhancement of a retained barn to provide an internal roost site suitable for use by Natterer's bats as a transitional roost site.
Further Survey	Should re-development works not proceed within 12 months of the date of the most recent survey in this report, additional updating survey work for bats is likely to be required. A Natural England licence will be required to allow works that affect bat roosts to proceed and this is likely to require updating survey prior to an application being submitted to Natural England.

1. Introduction

Site Location

1.1 The site is located to the west of Gunnerton at approximate central grid reference of NY 90395 75069. The site location is illustrated within figure 1 in the appendices.

Site Description

1.2 The site comprises a range of farm buildings including modern agricultural sheds and stone and slate barns.

Objectives of the Study

1.3 The objectives of this report are:

- To identify and describe any potential ecological receptors that may be present on site or within an identified zone of influence.
- To identify and assess whether proposals may impact on the identified receptors.
- To identify potential mitigation, compensation or enhancement measures if required.
- To identify and detail further surveys if required.

Development Proposals

1.4 The site is subject to two applications:

- Prior approval (under Class Q) for the conversion of existing agricultural barns into 4no. dwellings
- Conversion of existing agricultural barn into 2no. dwellings

A figure illustrating the proposed site layout is provided within the appendices.

2. Methodology

Scope of Study

2.1 The site was surveyed to identify whether the following were present for legislative and planning purposes:

- Habitats of conservation value
- Priority Habitats
- Protected and Priority Species

2.2 The ecological characteristics of the site were reviewed to identify the scope of the assessment, with the zone of influence determined through professional judgement.

2.3 The survey area comprised the "site" defined within figure 2 (Appendix 4) and where access was available an approximate 50m buffer[3].

2.4 Access permitting, all potential bat roosting sites within the survey area were assessed.

Desk Study

2.5 Desk study was undertaken to assess the nature of the surrounding habitats and included:

- Assessment of aerial imagery and Ordnance Survey mapping.
- A search of the MAGIC website[4] for designated sites and European protected species within 2km of the survey area.
- Data search submitted to the Local Record Centre.

Field Survey

Habitats/Protected Species

2.6 During the preliminary survey the site was checked for evidence of protected species and habitats were assessed for their potential to support such species. For this site, the development site comprises a number of built structures and as such the assessment focussed on the risk of bats being present within these structures.

[3] The survey buffer may be increased depending on the species present and their identified core sustenance zones.
[4] Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)

Bats

Daytime Risk Assessment

2.7 Survey effort has been based on the that provided by the Bat Conservation Trust Good Practice Survey Guidelines[5].

2.8 Structures and trees within the site and adjacent to the site, were inspected[6], where access was available, for potential roosting features (PRFs) and to record any field signs, including bats, if present[7].

2.9 Assessment follows the Bat Conservation Trust Guidelines[8], which classifies the suitability (negligible, low, moderate or high) of the potential roosting, foraging and commuting habitats within the site. Full details of the classifications are provided within the table in Appendix 1.

2.10 Survey was undertaken by Mark Osborne MCIEEM, an experienced bat surveyor who holds both Class 3 and Class 4 Natural England survey licences (2015-14412-CLS-CLS & 2015-14496-CLS-CL).

2.11 The following equipment was utilised during survey:

- High power LED torch.
- Explorer Premium Digital Endoscope.
- Zeiss 8x30 binoculars.
- Digital camera.

2.12 The survey was undertaken on the 21st June 2021 in the following weather conditions:

Table 2.1: Daytime Survey Conditions

Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
21st June 2021	18°C	100%	Dry	SW1

Activity Surveys

2.13 The daytime risk assessment indicated that the buildings ranged from negligible to high suitability to roosting bats. Activity surveys were therefore completed in line with the

[5] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

[6] It should be noted that assessment relates entirely on the structure or tree's suitability to support bats and or other protected species. Assessment must in no way be taken as an assessment of the structure's integrity or safety.

[7] If bats are recorded during appropriate measures are undertaken to limit any potential disturbance

[8] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

current guidance provided by the Bat Conservation Trust[9] and initially comprised a single dusk emergence survey of all buildings of low, moderate or high suitability. The initial survey confirmed the presence of roosts in a number of locations and subsequent surveys were completed to chracterise the roost sites.

Table 2.2: Activity Survey Conditions

Date	Buildings Surveyed	Temperature (℃)		Cloud Cover (%)	Precipitation	Wind Conditions	Sunset/ Sunrise Time	Survey Period
		Start	End					
31st July 2021	Building 8	12	12	100	Intermittent light drizzle	Still	22:13	20:58 – 22:43
2nd August 2021	Building 7	15	13	5	Dry	Still	21:09	20:54 – 22:39
9th August 2021	Buildings 1-3 and western gable of Building 8	16	14	40	Dry	Still	20:55	20:40 – 22:25
17th August 2021	Building 7	18	14	80	Dry	F1-2	20:38	20:23 – 22:08
19th August 2021	Building 8	16	13	100	Dry	Still – F2	20:31	20:16 – 22:10
6th September 2021	Buildings 1 – 3 and Open Sided Link Section of Building 8	18	16	60	Dry	Still – F1	19:48	19:33 – 21:18

2.14 Activity surveys were undertaken in suitable weather conditions (no constant rain or high winds and sunset temperature of at least 10°C).

2.15 Surveyor locations are chosen to enclose the site to identify whether bats enter or leave the site.

[9] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

2.16 Surveyors are placed where practicable to cover all potential entry/exits sites.

2.17 All surveyors are equipped with full spectrum detectors to enable high quality recordings to be taken and analysed following the survey, to allow for any potential surveyor error and to enable the cross referencing of calls.

2.18 Detectors enable the surveyors to listen to all activity during the survey.

2.19 Infra-red cameras and lighting were used to aid observation.

2.20 The activity surveys were undertaken by Becky White ((2015-11462-CLS-CLS), Mandy Rackham (2020-44857-CLS-CLS), Jeanette Bryden, Emma Surtees, Lorna Graham, Jason Cone, Lorna Scott, Hannah Jones, James Atton, Amie Nevin, Amy McCallum, Mike Perkins, Zoe Allin, Joe Connor, Ally Vitali, Alex Douglas, Shona Valequez and Amy Douglas.

2.21 The following equipment was utilised during survey:

- Anabat Walkabout
- Anabat Scout.
- Panasonic HC-VX870 Infra-Red Video Camera
- Infra-Red Floodlights

Limitations to Survey

2.22 Due to Covid-19 related concerns, the farmhouse, which is occupied, was not entered.

2.23 Barns are very cluttered, hindering the search for field signs.

Analysis of Data

2.24 Following the survey, all bat calls are manually assessed and analysed using Analook Insight and or Bat Explorer software, enabling the full spectrum of the call to be assessed.

2.25 Where possible bat calls are identified to species, referencing call parameters as detailed within Russ (2012)[10], Middleton et al (2014)[11] and Barataud (2015)[12].

2.26 Bats are identified to species, where possible, though it is noted that there can be a significant overlap in call parameters in some species, particularly the *Myotis* genus.

[10] Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing
[11] Middleton, N., Froud, A. and French, K. (2014) Social Calls of the Bats of Britain and Ireland. Pelagic Publishing
[12] Barataud, M. (2015) Acoustic Ecology of European Bats – Species Identification, Study of their Habitats and Foraging Behaviour

2.27 *Myotis* bat calls are assessed using a range of indicators, though due their modulated calls a number of external factors can impact the reliability. As such *Myotis* bats will often be identified as *Myotis* sp. where identification to species cannot be confirmed.

2.28 Where possible further detail on the *Myotis* species will be gathered, such as DNA. The use of full spectrum detectors gives a greater success rate in identification. This can also be backed up by computer programmes such as Bat Classify.

2.29 Although a greater certainty can be provided in other species, there is still an overlap in calls between other genera of bats such as *Pipistrellus* and *Nyctalus,* which can be affected by a range of environmental factors. The following table details the parameters utilised by OS Ecology Ltd and are based on "typical" open flight calls.

Table 2.3: Bat Species Identification Parameters	
Species	**Peak Frequency Range (KHz)[10]**
Pipistrellus	
Common pipistrelle	>42 and <49
Soprano pipistrelle	≥51
Nathusius' pipistrelle	<39
Common or soprano pipistrelle ('50KHz pip')	≥49 and <51
Common or Nathusius' pipistrelle ('40KHz pip')	≥40 and ≤42
Nyctalus	
Noctule	≥17 and <23.5
Leisler's	≥23.5 and <29.9
Eptesicus	
Serotine	≥24.1 and <32.2
Plectocus	
Brown Long-eared Bat	≥25.5 and <42.1
Barbastellus	
Barbastelle	≥29.2 and <44.7
Rhinolophus	
Greater Horseshoe	77-84
Lesser Horseshoe	107-114

2.30 Where there is uncertainty in species identification species are identified to genus.

Assessment Methodology

2.31 Guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) is utilised to provide habitat valuations.

2.32 The level of value of specific ecological receptors is assigned using a geographic frame of reference. For, example international value being most important (SACs, SPAs and pSPAs), then national (SSSIs), regional, county (LWS), district (LNR), local and lastly, within the immediate zone of influence of the site only (low).

2.33 In terms of species, for example breeding birds, should the population within the site constitute greater than 1% of the geographic population, it would be considered

significant at that level. In addition, presence of designated sites, scarce species and or quality[13]/diversity of habitats are used to guide that valuation

2.34 Assessment methods for bats have been undertaken with reference to Wray et al. (2007)[14], which correlates with the geographic frame of reference. Within which they define the relative rarity of each species based on the known distribution[15] at the time and the value of the roost type, assuming that roosts such as feeding perches are of lower value that maternity roosts or sites that have a high level of fidelity.

[13] Quality can be subjective and vary in different geographic areas. Reasoned professional judgement is therefore used to inform the assessment.
[14] Wray et al (2007) Valuing Bats in Ecological Impact Assessment. In Practice. Based on a presentation at the Mammal Society – Specific Issues with Bats
[15] It should be noted that there are regular changes to our understanding of distribution as further studies are undertaken.

3. Results

Desk Study

Designated Sites

3.1 A search of the Multi Agency Geographic Information for the Countryside (MAGIC) Website[16] indicated that there are no sites designated due to the presence of bats within 2km of the site.

3.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) in relation to SSSIs within the wider area. As development proposals are not currently known, it cannot be confirmed whether the potential impact risk criteria may be met.

European Protected Species Licensing

3.3 A check of the MAGIC website found a single granted European Protected Species Application within 2km of the site:

- 2017-32086-EPS-MIT Soprano pipistrelle, damage of a breeding site and resting place 2017-2022

Local Bat Group

3.4 The Northumberland bat group no longer provide a data search service – records are obtained via the local records centre (see below).

General Land Use

3.5 A review of aerial imagery and Ordnance Survey mapping highlighted that the general land use in the surrounding area is dominated by arable land and permanent pasture. The village of Gunnerton lies 70m to the east with a tree lined watercourse approximately 50m to the east.

Data Search

Local Records Centre

3.6 The table below summarises the records of bat species provided by the local records centre (LRC). The full data search results can be provided on request.

[16] Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk (Accessed July 2021)

Table 3.1: Records from LRC Data Search			
Taxon	**Species**	**No. of Records within Search Area**	**Records of Particular Note**
Bats	Unidentified Bat	7	Roost in house in Gunnerton (1 bat) dated 2012, Maternity roost at Gunnerton Water Treatment Works, dated 2013, maternity roost in house in Gunnerton dated 1999
	Brown Long-eared Bat	6	Roost in farm at Gunnerton (1 bat) dated 2003
	Common Pipistrelle	40	Maternity roost, Gunnerton Water Treatment Works, dated 2013 (max. count 20)
	Natterer's Bat	2	-
	Noctule Bat	4	-
	Pipistrelle Bat species	4	-
	Soprano Pipistrelle	11	Maternity roost, Gunnerton Water Treatment Works, dated 2013 (max. count 23)
	Whiskered/Brandt's Bat	6	Roost within Lime Kiln at Gunnerton, 1 bat, dated 2011

Field Survey

Bats

Daytime Risk Assessment

3.7 The results of the bat risk assessment of the structures on site are provided below.

3.8 In summary, the site supports a farmhouse with traditional stone barns attached to either end, a range of agricultural sheds and a traditional L-shaped stone and slate barn.

3.9 The buildings range from negligible to high suitability for use by roosting bats with the farmhouse and traditional barns provide abundant potential roost sites within the stone walls and associated with the roof structure. A number of the agricultural barns also provide potential roost sites associated with timber cladding and the roof structures.

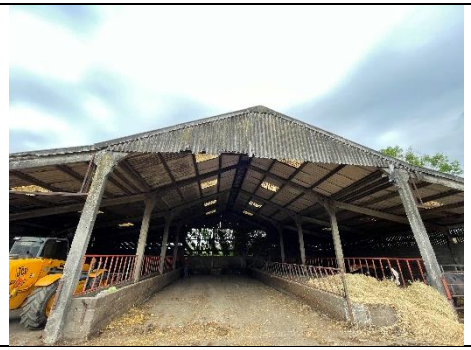
Table 3.2: Bat Risk Assessment			
Building Ref.	**1**	**2**	**3**
			
Building type	Two storey height agricultural barn	Agricultural Shed	Animal Store
Building height	~10m	4-5m	4m
Roof type	Pitched	Shallow mono-pitch	Part mono-pitch/part pitched
Roof material	Corrugated asbestos and plastic	Corrugated tin	Corrugated tin and asbestos
Ridge tiles	Capping present	N/A	N/A
Coping tiles	N/A	N/A	N/A
Gable ends	Open and timber slats	N/A	Wood panel
Chimney	N/A	N/A	N/A
Skylights/velux	Yes	N/A	N/A
Roof condition	Good	Moderate	Moderate
Other Roof Features	Wooden cladding	None	None
Soffits	N/A	N/A	N/A
Fascias	Fascia panels present	N/A	N/A

Table 3.2: Bat Risk Assessment			
Building Ref.	**1**	**2**	**3**
Bargeboards	None	N/A	N/A
Wall material and condition	Breeze block and wood panel	Breeze block and tin sheet	Cut stone, dry stone wall and wood panel
Lintels and sills – material and condition	N/A	N/A	N/A
Windows – material and condition	N/A	N/A	N/A
Doors – material and condition	N/A - Open	N/A - Open	N/A - Open
Other wall features	N/A	N/A	Overlapping wood
Loft Height	N/A	N/A	N/A
Internal lining	N/A	N/A	N/A
Support system	Concrete posts and joists	Wooden posts and joists	Wooden posts and joists
Internal gable wall material and condition	N/A	N/A	N/A
Ridge beams	Metal and concrete	Possible gaps	Wood joists
Loft survey conditions	N/A	N/A	N/A
Other features	Suitable for foraging in poor weather	N/A	N/A
Suitability	**Low**	**Low**	**Low**

Building Ref.	**4**	**5**	**6**
			
Building type	Large Tractor Shed	Dutch Barn and Shed	Metal and Concrete Shed
Building height	12	10	5
Roof type	Pitched	Curved and shallow pitch	Pitched
Roof material	Corrugated asbestos type	Corrugated tin	Corrugated material
Ridge tiles	N/A	N/A	N/A
Coping tiles	N/A	N/A	N/A
Gable ends	Partial wood panel	N/A	Tight
Chimney	N/A	N/A	N/A
Skylights/velux	Plastic	N/A	N/A
Roof condition	Good	Good	Good
Other Roof Features	N/A	N/A	N/A
Soffits	N/A	N/A	N/A
Fascias	Asbestos at wall tops	N/A	N/A

Building Ref.	**4**	**5**	**6**
Bargeboards	N/A	N/A	N/A
Wall material and condition	Concrete panel and wood panel	Open and corrugated metal	Good, concrete and metal
Lintels and sills – material and condition	N/A	N/A	N/A
Windows – material and condition	N/A	N/A	N/A
Doors – material and condition	Open	N/A	Open
Other wall features	N/A	N/A	N/A
Loft Height	N/A	N/A	N/A
Internal lining	N/A	N/A	N/A
Support system	Metal joists	Wooden and metal joists	N/A
Internal gable wall material and condition	N/A	N/A	N/A
Ridge beams	N/A	N/A	N/A
Loft survey conditions	N/A	N/A	N/A
Other features	Suitable for foraging in poor weather	N/A	N/A
Suitability	**Negligible**	**Negligible**	**Negligible**

Building Ref.	**7**	**8**
	   	   
Building type	L-Shaped traditional two storey barn	House and adjoining barns
Building height	6-8m	12-15m
Roof type	Pitched	Pitched with catslide to rear
Roof material	Traditional slate and corrugated metal	Traditional slate and corrugated metal
Ridge tiles	Concrete – numerous gaps	Concrete – occasional gaps
Coping tiles	Yes – gaps present	Yes – gaps present
Gable ends	Stone - numerous gaps	Stone – some gaps present
Chimney	N/A	Three present – cut stone and brick
Skylights/velux	Occasional small	N/A

Building Ref.	**7**	**8**
Roof condition	Ranges from poor in places to good	House roof in good condition, barns to either end in moderate condition
Other Roof Features	Abundant gaps	Few gaps
Soffits	N/A	N/A
Fascias	N/A	N/A
Bargeboards	N/A	Yes with gaps
Wall material and condition	Random stone, poor to moderate condition, numerous gaps present	Random stone, house well pointed, gaps present in stonework of barns
Lintels and sills – material and condition	Stone – gaps present	Stone – tight fitting
Windows – material and condition	Wooden – gaps present, poor condition	UPVC – tightly sealed
Doors – material and condition	As windows	Wooden
Other wall features	Thick – numerous gaps present	Gaps present at chimneys
Loft Height	N/A	Not accessed
Internal lining	Bitumen on re-roofed sections	Not accessed
Support system	Wooden joists	Not accessed
Internal gable wall material and condition	Stone – gaps present	Not accessed
Ridge beams	Cobwebbed – gaps associated with the ridge	Not accessed
Loft survey conditions	Poos – dirty and dusty	Not accessed
Other features	Abundant gaps throughout structure	-
Suitability	**Moderate**	**High**

3.10 The site is surrounded by a mixture of permanent pasture and arable land with a tree lined stream lying 20-50m to the south and east of the site with the village of Gunnerton beyond.

3.11 The tree lined stream provides both high quality foraging habitat and a commuting route into the wider landscape.

Activity Surveys

3.12 Full details of the bat activity survey results are provided in the appendices.

3.13 The following table provides a summary of the results of activity surveys in relation to each building.

Table 3.3: Summary of Activity Survey Results

Building No.	First Dusk Emergence Survey	Second Dusk Emergence Survey	Additional Information
1 Agricultural Barn	*9th August 2021* 1 soprano pipistrelle emerged from northern gable. 1 common pipistrelle recorded foraging within the barn then emerging – likely roost within interior 1 soprano pipistrelle emerged from the southern eaves Two silent bats recorded emerging, considered likely to be pipistrelles, one from the southern eaves, the other from the roof on the eastern elevation	*6th September 2021* 1 common pipistrelle identified as possibly emerging from the northern gable	*31st July 2021* Interior of building used for much of the survey period by foraging bats with common pipistrelle, soprano pipistrelle and *Myotis* bats recorded. 9th August 2021 Interior of building used by foraging bats for much of the survey period. 6th September 2021 Interior of building used by foraging bats for much of the survey period.
2 Agricultural Shed	*9th August 2021* 1 soprano pipistrelle emerged from roof at south west corner	*6th September 2021* No bats recorded emerging from the structure.	*6th September 2021* Bats recorded flying in and out of the barn foraging.
3 Animal Store	*9th August 2021* 2 common pipistrelle emerged from southern elevation, likely roosting within interior.	*6th September 2021* No bats recorded emerging from the structure.	*6th September 2021* Bats recorded flying in and out of the barn foraging.

Table 3.3: Summary of Activity Survey Results			
Building No.	**First Dusk Emergence Survey**	**Second Dusk Emergence Survey**	**Additional Information**
	1 *Myotis* bat flew from the barn, though the species was recorded foraging elsewhere within the site prior and may have flown through.		
4 Tractor Shed	Negligible suitability – no activity surveys undertaken		
5 Dutch Barn and Shed			
6 Metal and Concrete Shed			
7 L-Shaped Traditional 2-Storey Barn	2nd August 2021 1 common pipistrelle emerged from the ridge on the southern section of the barn. 1 soprano pipistrelle emerged from the northern section of the barn – the exact location could not be seen.	17th August 2021 1 common pipistrelle emerged from an open window on the southern elevation 1 common pipistrelle emerged from the wall top on the southern elevation 3 soprano pipistrelle emerged from the ridge on the southern section 3 soprano pipistrelle emerged from the open windows on the southern elevation	*6th September 2021* Scattered droppings recorded internally under the ridge beam within the two storey section. Droppings range in size and shape likely indicating multiple species. Sample has been retained for DNA analysis if required.

Table 3.3: Summary of Activity Survey Results			
Building No.	**First Dusk Emergence Survey**	**Second Dusk Emergence Survey**	**Additional Information**
		1 soprano pipistrelle identified as possibly having emerged from the western gable 1 *Myotis* bat emerged from an open window on the southern elevation	
8 House and Adjoining Barns	*31st July 2021* A soprano pipistrelle and a common pipistrelle emerged from the wall top on the southern elevation of the farmhouse with a further soprano pipistrelle identified as possibly having emerged from the eaves.	*19th August 2021* 56 Natterer's bats emerged from open sided link between farmhouse and barn to the north. 3 common pipistrelle emerged from the south western corner of the farmhouse roof. 1 common pipistrelle emerged from the wall top on the southern elevation of the farmhouse. 1 common pipistrelle emerged from an open doorway on the northern elevation of the eastern barn.	*2nd August 2021* 4 soprano pipistrelle observed emerging from a crack in the stonework on the western elevation whilst survey of the adjacent Building 7 was being carried out. *9th August 2021* Monitoring of the above roost site with an infra red camera did not record any bats emerging but did record a soprano pipistrelle flying up to the crack and away again. *19th August 2021* Droppings and feeding remains present within open sided link. Bats likely roosting between roof timbers and stone walls and on wall top. Seen flying internally prior to emergence. *6th September 2021* Single silent bat recorded flying internally within open sided link before emerging.

Table 3.3: Summary of Activity Survey Results			
Building No.	**First Dusk Emergence Survey**	**Second Dusk Emergence Survey**	**Additional Information**
			Soprano pipistrelle flew into open sided link briefly remaining inside before emerging.

Additional Species Groups

Birds

3.14 Active swallow and house sparrow nests are present within a number of the buildings on site.

Other Protected Species

3.15 It is considered that other protected species are likely absent, though hedgehog a priority species are likely present on occasion.

4. Site Assessment

Assessment of Survey Findings

Bats

4.1 The following table details the roosts identified within the site. Photographs illustrating roost locations are provided within the appendices.

Table 4.1: Assessment of Survey Findings

Building No.	Confirmed Roosts	Roost Value	Roost Location	Additional Information
1 Agricultural Barn	Soprano pipistrelle day roost (2-4 bats)	Local	Roosts associated with roof structure	Interior used by foraging bats. Building unsuitable for hibernation or maternity use.
	Common pipistrelle day roost (1-3 bats)	Local		
2 Agricultural Shed	Soprano pipistrelle day roost (1 bat)	Local	Roost associated with roof structure	Interior used by foraging bats. Building unsuitable for hibernation or maternity use.
3 Animal Store	Common pipistrelle day roost (2 bats)	Local	Roost within interior, likely associated with roof structure/wall tops	Interior used by foraging bats. Building unsuitable for hibernation or maternity use.
4 Tractor Shed	Negligible Suitability – No potential roost features			
5 Dutch Barn and Shed				
6 Metal and Concrete Shed				
7 L-Shaped Traditional 2-Storey Barn	Common pipistrelle day roost (2 bats)	Local	Roosts associated with roof structure with bats emerging from the eaves,	Structure has the potential to be used during the hibernation period. The nature of the building and low numbers of bats recorded during the first survey in early
	Soprano pipistrelle day roost (7 bats)	Local		

Table 4.1: Assessment of Survey Findings				
Building No.	**Confirmed Roosts**	**Roost Value**	**Roost Location**	**Additional Information**
	Myotis sp. day roost (1 bat) (call attributes indicate likely whiskered/Brandt's bat)	Local	through open windows and from the ridge.	August allows the potential presence of a maternity roost to be ruled out.
8 House and Adjoining Barns	Soprano pipistrelle day roost (4 bats)	Local	Pipistrelle roost sites at eaves of farmhouse, within interior of eastern barn and within crack in stonework on the western elevation of the structure.	Structure has the potential to be used during the hibernation period. The low numbers of bats recorded during the first survey in late July allows the potential presence of a maternity roost to be ruled out.
	Common pipistrelle day roost (5 bats)	Local		
	Natterer's bat transitional roost (56 bats)	District	Natterer's bat transitional roost within open sided link between house and eastern barn – bats likely roosting between roof timbers and stone walls.	This roost was not present during the dusk emergence survey completed on the 31st July, was recorded on the 19th August but had dispersed by the 6th September. The roost is therefore concluded to be a post maternity transitional roost site.

Nesting Birds

4.2 The site provides opportunities for nesting birds, with active swallow and house sparrow recorded present in several buildings.

4.3 A dead kestrel was recorded within the "L" shaped barn.

Other Protected Species

4.4 Other protected species are considered likely absent, though the priority species hedgehog may be present on occasion.

Designated Sites

4.5 There are no sites designated due to the presence of bats within 2km of the site.

4.6 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) in relation to SSSIs within the wider area. As development proposals are not currently known, it cannot be confirmed whether the potential impact risk criteria may be met.

5. Impact Assessment

5.1 The site is subject to two applications:

- Prior approval (under Class Q) for the conversion of existing agricultural barns into 4no. dwellings
- Conversion of existing agricultural barn into 2no. dwellings

5.2 The following table details the anticipated impact of proposals on the roosts within the site.

Table 5.1:: Impact Assessment - Roosts

Building No.	Confirmed Roosts	Roost Value	Roost Location	Impact Assessment
1 Agricultural Barn	Soprano pipistrelle day roost (2-4 bats)	Local	Roosts associated with roof structure	Loss of day roost sites and potential harm/disturbance to bats during conversion works. Loss of internal space used by foraging bats.
	Common pipistrelle day roost (1-3 bats)	Local		
2 Agricultural Shed	Soprano pipistrelle day roost (1 bat)	Local	Roost associated with roof structure	Loss of day roost sites and potential harm/disturbance to bats during demolition works. Loss of internal space used by foraging bats.
3 Animal Store	Common pipistrelle day roost (2 bats)	Local	Roost within interior, likely associated with roof structure/wall tops	No impact, building to be retained.
4 Tractor Shed	Negligible Suitability – No potential roost features	-	-	No impact, buildings to be retained.
5 Dutch Barn and Shed				
6 Metal and Concrete Shed				
7 L-Shaped Traditional 2-Storey Barn	Common pipistrelle day roost (2 bats)	Local	Roosts associated with roof structure with bats emerging from the eaves, through open windows and from the ridge.	Loss of day roost sites and potential harm/disturbance to bats during conversion works. Structure has the potential to be used during the hibernation period and as such works have the potential to harm/disturb hibernating bats.
	Soprano pipistrelle day roost (7 bats)	Local		
	Myotis sp. day roost (1 bat) (call attributes indicate likely whiskered/Brandt's bat)	Local		

Table 5.1:: Impact Assessment - Roosts				
Building No.	**Confirmed Roosts**	**Roost Value**	**Roost Location**	**Impact Assessment**
8 House and Adjoining Barns	Soprano pipistrelle day roost (4 bats)	Local	Pipistrelle roost sites at eaves of farmhouse, within interior of eastern barn and within crack in stonework on the western elevation of the structure.	Loss of day roost sites and potential harm/disturbance to bats during conversion works. Structure has the potential to be used during the hibernation period and as such works have the potential to harm/disturb hibernating bats. Roost sites associated with the farmhouse will be retained.
	Common pipistrelle day roost (5 bats)	Local		
	Natterer's bat transitional roost (56 bats)	District	Natterer's bat transitional roost within open sided link between house and eastern barn – bats likely roosting between roof timbers and stone walls.	Loss of a transitional roost site and potential harm/disturbance to bats during conversion works.

5.3 In addition, without appropriate mitigation/compensation, proposals have the potential to:

- Cause harm and/or disturbance to nesting birds, should works be undertaken in the breeding bird season (March to August inclusive).
- Reduce the value of the site to foraging/commuting bats through an increase in disturbance levels including both light and noise.

6. Mitigation and Compensation Scheme

Further Survey

6.1 Should re-development works not proceed within 12 months of the date of the most recent survey in this report, additional updating survey work for bats is likely to be required.

6.2 A Natural England licence will be required to allow works that affect bat roosts proceed and this is likely to require updating survey prior to an application being submitted to Natural England.

6.3 Based on the nature of the site and the proposed works, no further survey work for other protected species or habitats (other than pre-commencement checks detailed below) are considered necessary.

Avoidance Measures

6.4 The following measures have been incorporated into the design of the scheme to avoid impacts on wildlife:

- External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting.
- Alternatives to timber treatments that are injurious to mammals will be sought and used on site (see http://www.jncc.gov.uk/pdf/batwork_manualpt4.pdf).
- Demolition and renovation works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and active nests are confirmed to be absent.

Mitigation Strategy

6.5 The following mitigation strategy will be adhered to:

- Works to Buildings 1-3 and Buildings 7 and 8 will not commence until a Natural England licence is in place and will adhere to the terms of the licence. These will include the following key elements:

  a) Induction of contractors by licence ecologist
  b) Exclusion of bats where appropriate
  c) Supervision of works where appropriate
  d) Sensitive timing of works
  e) Provision of compensation roost sites where roost sites are to be lost (see below)

- Prior to the start of works on site, bat boxes will be installed in retained trees in order to provide short-term alternative roost sites for the duration of the re-development works.

Compensation Scheme

6.6 The following table details the roost sites to be lost to proposals and the proposed compensation roosts. These will be required as part of the terms of the Natural England licence required to allow works to proceed.

Table 6.1: Compensation Scheme

Building	Development Proposal	Roosts to be Lost	Compensation Roosts
Building 1	Conversion (Barn Five and Barn Six)	Common and soprano pipistrelle day roosts – five roost locations associated with roof structure	Provision of 6 Schwegler 2F General Purpose Bat Boxes (or equivalent) on exterior of converted Building 1
Building 2	Demolition	Soprano pipistrelle day roost – single roost site associated with roof structure	
Building 7	Conversion	Common and soprano and Myotis sp. day roost, call attributes indicating likely whiskered/Brandt's bat – roosts associated with roof structure	Provision of 4 Schwegler 2F General Purpose Bat Boxes (or equivalent) and 1 1FW Schwegler Hibernation Box (or equivalent) on exterior of converted Building 7
Building 8	Conversion of barns (farmhouse retained)	Common and soprano pipistrelle day roosts - within interior of eastern barn and within crack in stonework on the western elevation of the structure (2 roost locations.	Provision of 2 Schwegler 2F General Purpose Bat Boxes (or equivalent) on exterior of converted Building 8
		Natterer's bat transitional roost within open sided link between house and eastern barn – bats likely roosting between roof timbers and stone walls.	Enhancement of the interior of Building 3 (to be retained) to provide suitable crevice roosting opportunities between roof timbers for use as a transitional roost. The interior of this building provides suitable internal flight space and with enhancement, roosting conditions similar in nature to the roost to be lost can be provided. Full details will be agreed through the Natural England licence process.

Appendix 1 – Bat Suitability and Survey Effort

Classifications of suitability are based on those provided within the Bat Conservation Trust Good Practice Survey Guidelines[17], with the table below taken from page 35 of the guidelines (table 4.1).

Guidelines for assessing the potential suitability of proposed development sites for bats (based on the presence of habitat features within the landscape, to be applied using professional judgement)		
Suitability	**Description**	
	Roosting Habitats	**Commuting and foraging habitats**
Negligible	Negligible habitat features on site, likely to be used by roosting bats	Negligible habitat features on site, likely to be used by commuting and foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e unlikely to be suitable for maternity or hibernation[b]. A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential[c].	Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or unvegetated stream, but isolated, i.e not very well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourse and grazed parkland.

[17] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

		Site is close to and connected to known roosts.

a. For example in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
b. Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of potential for larger numbers of this species to be present during the autumn and winter in larger buildings in highly urbanised environments.
c. The system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015)

The classification of the suitability relates to the level of further survey recommended.

Survey effort and timing depending on suitability of the structure or tree (Tables 7.1-7.3 in the BCT Guidelines			
	Low roost suitability	**Moderate roost suitability**	**High roost suitability**
Survey Effort	One survey visit One dusk emergence or dawn re-entry survey	Two separate visits One dusk emergence and a separate dawn re-entry survey	Three separate visits At least one dusk emergence and a separate dawn re-entry survey. The third can be either dusk or dawn.
Timings	May-August (structures) No further survey (trees)	May to September. At least one must be in the optimum period (May to August)	May to September. two must be in the optimum period (May to August)
If bats are recorded	If bats emerge during surveys, the survey schedule will be adjusted to increase the survey effort so that enough information can be collected to characterise the roost and provide data should a Natural England Licence be required.		

Appendix 2 – Policy and Legislation

Planning Policy

National Planning Policy Framework (NPPF)[18]

The revised National Planning Policy Framework sets out the government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission be determined in accordance with the development plan. The key paragraphs from the relating to the natural environment are detailed below.

Ecologically Relevant Paragraphs of the NPPF	
Paragraph	**Statement**
8	Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives): a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure; b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy
174	Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate

[18] National Planning Policy Framework July 2021 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf)

Ecologically Relevant Paragraphs of the NPPF	
Paragraph	**Statement**
175	Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries
179	To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.
180	When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.
181	The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites64; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites
182	The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation[19] (England only)

This Circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England.

Part IV - Conservation of Species protected by Law details that the presence of a protected species is a material consideration when considering a development proposal that may result in harm to the species or its habitat and that planning authorities must have regard to species protected under the Habitat Regulations.

It goes on to say that: *it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted.*

Natural Environment and Rural Communities (NERC) Act 2006[20] [21]

Section 40 – To conserve biodiversity

Section 40 puts a duty on public authorities to conserve biodiversity when undertaking its duties and functions,

Section 41 – Biodiversity list and Action

Section 41 – Requires the Secretary of State *to publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity*. They must also *take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section or promote the taking by others of such steps*.

The 2007 lists were superseded by the UK Post-2010 Biodiversity Framework.

UK Priority Habitats (excl. marine habitats)[22]	
UK BAP broad habitat	**UK BAP priority habitat**
Rivers and Streams	Rivers

[19]ODPM Circular 06/2005 Office of the Deputy Prime Minister Eland House, Bressenden Place, London SWIE 5DU Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System
[20] https://www.legislation.gov.uk/ukpga/2006/16/section/40
[21] https://www.legislation.gov.uk/ukpga/2006/16/section/41
[22] http://jncc.defra.gov.uk/page-5706

Standing Open Waters and Canals	Oligotrophic and Dystrophic Lakes
	Ponds
	Mesotrophic Lakes
	Eutrophic Standing Waters
	Aquifer Fed Naturally Fluctuating Water Bodies
Arable and Horticultural	Arable Field Margins
Boundary and Linear Features	Hedgerows
Broadleaved, Mixed and Yew Woodland	Traditional Orchards
	Wood-Pasture and Parkland
	Upland Oakwood
	Lowland Beech and Yew Woodland
	Upland Mixed Ashwoods
	Wet Woodland
	Lowland Mixed Deciduous Woodland
	Upland Birchwoods
Coniferous Woodland	Native Pine Woodlands
Acid Grassland	Lowland Dry Acid Grassland
Calcareous Grassland	Lowland Calcareous Grassland
	Upland Calcareous Grassland
Neutral Grassland	Lowland Meadows
	Upland Hay Meadows
Improved Grassland	Coastal and Floodplain Grazing Marsh
Dwarf Shrub Heath	Lowland Heathland
	Upland Heathland
Fen, Marsh and Swamp	Upland Flushes, Fens and Swamps
	Purple Moor Grass and Rush Pastures
	Lowland Fens
	Reedbeds
Bogs	Lowland Raised Bog
	Blanket Bog
Montane Habitats	Mountain Heaths and Willow Scrub
Inland Rock	Inland Rock Outcrop and Scree Habitats
	Calaminarian Grasslands
	Open Mosaic Habitats on Previously Developed Land
	Limestone Pavements
Supralittoral Rock	Maritime Cliff and Slopes
Supralittoral Sediment	Coastal Vegetated Shingle
	Machair
	Coastal Sand Dunes

Protected Species Legislation

European Protected Species

European Protected Species (EPS) are species of plants and animals (other than birds) protected by law throughout the European Union. They are listed in Annexes II and IV of the European Habitats Directive and receive full protection under The Conservation of Species and Habitats Regulations 2017 (as amended). This make it an offence to:

- deliberately capture, injure or kill any European Protected Species (EPS)
- to deliberately disturb any European Protected Species (EPS);
- to damage or destroy a breeding site or place of rest or shelter used by any European Protected Species (EPS).

The Wildlife and Countryside Act 1981 (as amended) adds further protection by making it an offence to intentionally or recklessly[23] disturb an EPS while it is occupying a structure or place which it uses for shelter or protection, or to obstruct access to any structure or place the species uses for shelter or protection.

European Protected Species relevant to the UK			
Animals		**Plants**	
All bat species	Great Crested Newt	Shore dock	Creeping marshwort
Large blue butterfly	Otter	Killarney fern	Slender naiad
Wild cat	Smooth snake	Early gentian	Fen Orchid
Dolphins, porpoises and whales (all species)	Sturgeon fish	Lady's slipper	Floating-leaved water plantain
Dormouse	Natterjack toad	Yellow marsh saxifrage	
Sand lizard	Pool Frog		
Fisher's Estuarine Moth	Snail, Lesser Whirlpool Ram's-horn		
Marine turtles			

Other Protected Species

Other Protected Species		
Species	**Legislation**	**Level of Protection**
Birds	Wildlife and Countryside Act 1981 (as amended)	Under the Wildlife and Countryside Act (1981) it is an offence if any person: • intentionally kills, injures or takes any wild bird • intentionally takes, damages or destroys the nest of any wild bird whilst that nest is in use of being built; • intentionally takes, damages or destroys eggs of any wild bird;

[23] Under the Countryside and Rights of Way Act 2000 (CROW Act) extended the protection to cover reckless damage or disturbance

		Wild birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected from: • intentional or reckless disturbance whilst it is building a nest or is in, on or near a nest containing eggs or young; • disturbance of dependent young

Appendix 3 – Bat Activity Survey Data Tables

Building 8							
Date		31st July 2021		**Sunrise**		22:13	
Start Time		20:58		**End Time**		22:43	
Time	**Surveyor 1 Becky White**	**Surveyor 2 Zoe Allin**	**Surveyor 3 Joe Connor**	**Surveyor 4 Ally Vitali**	**Surveyor 5 Jason Cone**	**Surveyor 6 Alex Douglas**	**Surveyor 7 Amy Douglas**
20:55							
21:00							
21:05							
21:10							
21:15							
21:20	21:23:25 45 commuting	21:23:25 45 commuting 21:24:20 45 foraging in modern shed		21:23:22 45 commuted south over site			
21:25				21:27:05 55 HNS	21:27:03 55 HNS	21:27:06 55 foraging	
21:30	21:30:32 55 foraging in yard then in to modern barn	21:30:25 55 commuting	21:30:28 55 commuting 21:32:58 55 commuting	21:30:30 55 commuting 21:32:52 45 foraging	21:30:34 55 HNS 21:32:55 55 foraging 21:33:16 45 commuting	21:31:36 55 foraging 21:32:51 45 foraging 21:34:44 45 foraging	21:31:04 55 foraging 21:33:00 45 commuting 21:34:06 55 foraging
21:35	21:35:33 55 commuting 21:37:13 55 commuting 21:39:03 45 commuting	21:35:45 55 commuting	21:36:25 - 22:37:40 intermittent activity, primarily 55 with occasional 45 22:14:16 Myo HNS 22:15:21 Noc HNS 22:17:24 Noc HNS 22:19:59 Noc HNS	21:36:19 55 commuting	21:36:24 55 emergence from gap in stonework behind gutter	21:39:14 until end of survey intermittent 45 and 55 activity 22:03:21 Myo HNS 22:15:00 Noc HNS 22:17:26 Noc HNS 22:20:05 Noc HNS 22:28:39 Myo HNS 22:40:05 Noc HNS	21:37:15 until end of survey intermittent 45 and 55 activity 21:53:33 until end of survey intermittent Myo activity 22:14:50 Noc HNS 22:40:06 Noc HNS
21:40	21:41:00 45 foraging in yard	21:41:34 55 foraging		21:41:46 55 commuting	21:41:46 55 commuting		
21:45	21:48:06 55 HNS 21:48:16 Myo HNS			21:48:11 45 commuting 21:49:19 55 HNS	21:46:47 55 HNS 21:48:24 45 commuting		
21:50	21:50:14 until end of survey - intermittent Myo and 55 activity, foraging in modern shed and yard 22:02:36 Noc HNS 22:14:55 Noc HNS 22:16:05 Noc HNS 22:17:25 Noc HNS 22:18:13 45 HNS 22:19:57 Noc HNS 22:34:45 45 HNS 22:37:34 45 HNS 22:40:07 Noc HNS	21:50:23 to end of survey, intermittent 55 and Myo foraging within modern shed and yard 22:02:23 Noc HNS 22:15:34 Noc HNS 22:17:26 Noc HNS 22:21:24 45 HNS		21:54:31 45 foraging	21:53:41 45 HNS 21:54:11 45 HNS 21:54:32 45 foraging 21:54:52 45 emergence from gap in stonework as above		
21:55							
22:00				22:01:24 45 commuting 22:02:29 45 commuting 22:03:32 Myo HNS	22:01 - 22:02 55 and 45 intermittent foraging		
22:05				22:07:15 Noc HNS 22:07:48 45 foraging	22:06:27 55 HNS 22:07:47 55 possible emergence from eaves		
22:10				22:14:12 Myo foraging 22:14:22 45 foraging 22:14:46 Noc HNS	22:10:21 55 commuting		
22:15				22:19:59 Noc HNS			
22:20					22:15:47 45 and 55 Intermittent activity until end of survey 22:27:10 Myo HNS		
22:25				22:25:35 45 commuting			
22:30				22:31:22 45 commuting			
22:35							
22:40							

	Flight Activity	Species	
	Potential Emergence	39 = Nathusius' pipistrelle	*Myo* = Myotis sp.
	Confirmed Emergence	45 = Common pipistrelle	55 = Soprano pipistrelle
HNS	Heard Not Seen	Noc = Noctule	BLE = Brown long-eared bat
SNH	Seen Not Heard		

Building 7			
Date	2nd August 2021	**Sunset**	21:09
Start Time	20:54	**End Time**	22:39

Time	Surveyor 1 Becky White	Surveyor 2 Mike Perkins	Surveyor 3 Zoe Allin	Surveyor 4 Amie Nevin
20:50				
20:55				
21:00				
21:05				
21:10				
21:15				
21:20		21:20:58 45 emerged from ridge of barn		
21:25	21:28:01 45 HNS feint	21:25:38 55 commuting 21:28:08 45 commuting	21:28:59 55 emerged from barn - exact location not seen - then foraging until 21:40:33	21:29:04 55 commuting
21:30	21:34:23 55x2 foraging			21:34:54 - 21:38:09 55x4 emerged from crack in stonework on western elevation of Building 8
21:35	21:38:25 45 foraging	21:35:32 55 HNS 21:37:49 45 HNS		
21:40	21:40:03 55 commuting over roof 21:41:51 45 HNS 21:42:32 55 and 45 foraging in yard intermittently until 22:02	21:40:18 - 21:48:56 55 and 45 foraging in courtyard and in and out of building max. 2 bats 21:47:16 Myo HNS 21:49:30 Noc commuting	21:42:54 55 commuting 21:49:13 Myo commuting	21:39:31 - 21:45:47 55 intermittent foraging
21:45				Intermittent 45 foraging activity
21:50		Intermittent activity, mainly HNS until end of survey - 45, Myo, Noc and 55		
21:55			21:57:15 55 commuting 21:59:12 55 commuting	22:01:43 Myo HNS Intermittent activity, 45, 55 and Myo, until end of survey
22:00	Intermittent activity HNS - Myo, 45, 55 and Noc until end of survey		22:09:47 until end of survey Intermittent activity 45, 55, Noc and Myo	
22:05				
22:10				
22:15				
22:20				
22:25				
22:30				
22:35				

	Flight Activity	Species	
	Potential Emergence	39 = Nathusius' pipistrelle	
	Confirmed Emergence	45 = Common pipistrelle	
HNS	Heard Not Seen	Noc = Noctule	
SNH	Seen Not Heard	*Myo* = Myotis sp.	
		55 = Soprano pipistrelle	
		BLE = Brown long-eared bat	

Buildings 1-3						
Date		9th August 2021		**Sunset**		20:55
Start Time		20:40		**End Time**		22:25

Time	Surveyor 1 Becky White	Surveyor 2 Amie Nevin	Surveyor 3 Lorna Scott	Surveyor 4 Amy McCallum	Surveyor 5 Emma Surtees	Surveyor 6 Jeanette Bryden
20:40						
20:45						
20:50						
20:55						
21:00						
21:05	21:07:37 55 HNS		21:07:37 55 commuting	21:07:34 55 emerged from northern gable of building 1		21:06:32 45 foraging within building 1 then emerging
21:10						21:11:47 Silent bat emerged from eaves 21:14:00 55 emerged from eaves
21:15	21:15:29 55 HNS - V. feint	21:15:27 55 commuting 21:17:38 45 HNS 21:18:26 45x2 emerged from building 3	21:17:51 45 commuting north east	21:16:16 55 foraging in open shed to north 21:17:54 45 commuting	21:14:07 55 HNS 21:15:27 55 commuting 21:17:39 45 commuting	21:17:49 Silent bat emerged from roof on eastern elevation
21:20	21:24:29 55 HNS 21:24:50 45 foraging between house and barn, joined by 55	21:24:33 45 commuting		Intermittent 45 and 55 activity, foraging and commuting 21:43:57 Myo HNS 21:45:08 Myo foraging until 21:48 then intermittent Myo activity until end of survey	21:24:24 55 emerged from building two - south west corner 21:24:47 45 foraging	Foraging activity, in and out of barn, 45 and 55
21:25	21:28:18 55 commuting 21:29:42 55 commuting	21:25:50 45 commuting 21:28:41 55 commuting	21:25:43 55 HNS		Intermittent 45 and 55 activity	
21:30	Intermittent 45 and 55 activity, foraging in yard and between house and barn	Intermittent 55 foraging activity 21:34:28 Myo commuting	Intermittent 45 and 55 activity, mainly HNS 22:12:14 Myo HNS 22:21:05 Myo HNS		21:34:30 Myo flew into barn and foraged 21:34:38 Myo as above	
21:35		Intermittent 45 and 55 activity			21:36:29 55 HNS 21:36:48 45 entered barn to forage 21:37:55 45 as above	
21:40	21:40:20 Myo HNS 21:41:03 Noc HNS 21:41:49 Myo flew from building one - possible roost or foraging	21:40:25 Myo HNS 21:41:06 Noc HNS 21:41:36 Myo HNS			21:40:26 - 21:42:58 Myo foraging in barn	Intermittent activity, 45 and 55 21:44:33 Myo HNS 21:46:12 Myo HNS 21:51:18 Myo HNS then intermittent until end of survey 22:26:31 Noc HNS 22:28:06 Noc HNS
21:45	Intermittent activity, 45, 55 and Myo foraging and commuting through yard 22:16:55 Noc HNS	Intermittent activity, 45, 55 and Myo foraging and commuting through yard			Intermittent activity, 45, 55 and Myo until end of survey	
21:50						
21:55						
22:00						
22:05						
22:10						
22:15						
22:20						
22:25						

	Flight Activity	Species			
	Potential Emergence	39 = Nathusius' pipistrelle		*Myo* = Myotis sp.	
	Confirmed Emergence	45 = Common pipistrelle		55 = Soprano pipistrelle	
HNS	Heard Not Seen	Noc = Noctule		BLE = Brown long-eared bat	
SNH	Seen Not Heard				

Building 7						
Date		17th August 2021		**Sunset**		20:38
Start Time		20:23		**End Time**		22:08
Time	**Surveyor 1 Mandy Rackham**	**Surveyor 2 Becky White**	**Surveyor 3 Lorna Scott**	**Surveyor 4 Hannah Jones**	**Surveyor 5 James Atton**	**Surveyor 6 Lorna Graham**
20:20						
20:25						
20:30						
20:35						
20:40						
20:45						
20:50	20:52:16 45 emerged from 2nd open window					
20:55	20:56:06 55 emerged from ridge	20:57:10 45 commuting	20:57:11 45 HNS 20:59:00 55 commuting			
21:00	21:03:11 55x2 as above 22:03:47 55 foraging in and out of open window	21:04:20 55 foraging	21:00:00 55 HNS 21:04:34 55 foraging	21:00:09 45 commuting 21:00:15 55 commuting 21:01:05 55 commuting	21:00:13 45 HNS 21:03:08 55 HNS	21:00:27 55 commuting 21:01:14 55 HNS 21:03:24 55 possible emergence from gable
21:05	21:05:13 55 commuting 21:05:48 45 emerged from wall top between 2nd and 3rd windows 21:07:55 55x2 emerged from 1st open window	21:08:36 45 HNS 21:09:22 45 HNS		21:08:41 - 21:23:27 intermittent 45 and 55 activity 21:24:42 Myo HNS	21:09:12 55 HNS	21:05:41 55 HNS 21:07:18 55 foraging 21:09:15 55 foraging
21:10	21:10:40 55 emerged from 2nd open window 21:12:55 Myo emerged from 2nd open window 21:14:45 Myo commuting	21:10:19 45 and 55 foraging - intermittent ativity until ~21:40 21:28:32 Myo HNS - intermittent activity until 22:00	21:09:25 45 foraging 21:12 45 and 55 foraging for ~ 5 mins		21:10:00 45 HNS 21:10:25 55 commuting 21:10:35 55 HNS 21:32:51 Myo HNS Intermittent 45 and 55 activity until 21:39	21:10:03 55 foraging 21:12:14 Myo HNS
21:15			21:16:18 55 Commuting			21:16:05 Myo commuting 21:19:37 55 foraging
21:20	21:20:13 Pips foraging in front of building		21:21 - 21:31 Intermittent 55 activity 21:32:44 55 commuting			21:20:20 Myo HNS 21:21:42 55 foraging 21:23:42 55 foraging
21:25	Untermittent 45, 55 and Myo foraging activity			21:25:55 Myo HNS 21:29:02 55 commuting		21:25:08 55 commuting 21:26:18 55 commuting 21:29:10 55 foraging
21:30				21:31:20 55 HNS 21:32:47 Myo HNS 21:34:24 55 HNS		Intermittent activity 45 and 55 and Myo
21:35			21:35 45 foraging for ~ 5 mins	21:37:35 45 foraging 21:39:55 55 HNS		
21:40				Intermittent 45, 55 and Myo activity	21:44:10 45 HNS	
21:45			Intermittent 45 and 55 activity with ocasional Myo		21:45:34 Myo HNS	
21:50						
21:55					21:58:07 55 HNS	
22:00					22:03:35 55 HNS 22:04:42 45 commuting	
22:05		22:07:40 45 HNS			22:05:27 55 HNS 22:07:27 45 HNS	

	Flight Activity	Species		
	Potential Emergence	39 = Nathusius' pipistrelle	*Myo* = Myotis sp.	
	Confirmed Emergence	45 = Common pipistrelle	55 = Soprano pipistrelle	
HNS	Heard Not Seen	Noc = Noctule	BLE = Brown long-eared bat	
SNH	Seen Not Heard			

Building 8							
Date		19th August 2021		**Sunset**		20:31	
Start Time		20:16		**End Time**		22:10	

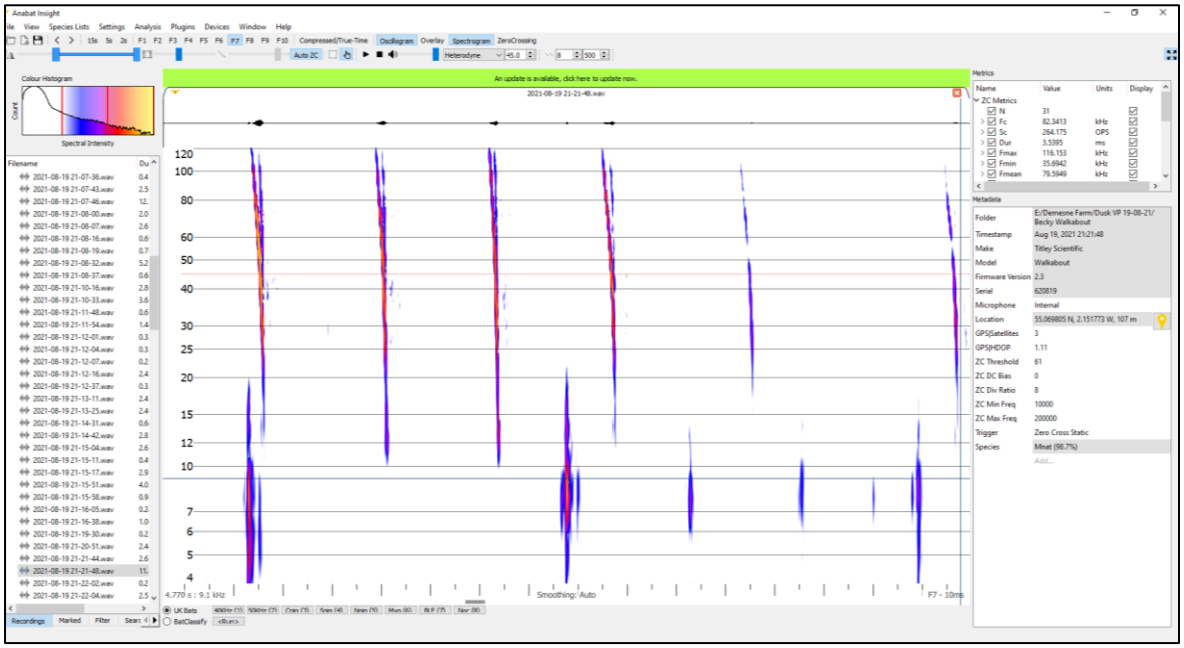
Time	**Surveyor 1 Becky White**	**Surveyor 2 Mandy Rackham**	**Surveyor 3 Jeanette Bryden**	**Surveyor 4 Emma Surtees**	**Surveyor 5 Lorna Graham**	**Surveyor 6 Jason Cone**	**Surveyor 7 Lorna Scott**
20:15							
20:20							
20:25							
20:30							
20:35							
20:40							
20:45	20:49:09 45 HNS	20:49:09 45 emerged from walltop of house above third window from left 20:49:57 45 emerged from corner of roof	20:49:09 45 emerged from walltop of house above third window from left 20:49:57 45 emerged from corner of roof				
20:50	20:50:00 45 HNS 20:53:45 45 HNS	20:50:20 45x2 emerged from corner of roof 20:53:33 45 foraging	20:50:20 45x2 emerged from corner of roof 20:54:10 45 foraging	20:50:32 55 commuting 21:53:52 45 commuting 20:54:41 45 foraging			
20:55			20:56:14 55 foraging 20:59:16 45 foraging for ~ 6 mins	20:56:18 55 commuting 20:59:11 45 commuting 20:59:29 45 commuting	20:59:52 45 foraging		
21:00	21:00:09 55 HNS 21:01:48 55 commuted north 21:04:56 55 commuted south	21:00:39 45 foraging		21:00:03 45 within barn behind surveyor 21:00:33 - 21:10:15 Intermittent 45 and 55 activity	21:01:28 45 commuting 21:03:45 45 commuting 21:04:54 45 commuting	21:00:24 45 emerged from doorway on northern elevation of barn 21:01:41 55 HNS 21:04:15 45 HNS	21:00:25 45 commuting 21:01:44 55 commuting
21:05	21:05:19 55 commuted south 21:05:36 55 HNS foraging 21:08:37 55 HNS	21:05:27 55x2 foraging				21:06:50 - 21:15:45 Intermittent 55 activity	21:05:04 - 21:16:16 Intermittent 55 activity
21:10			21:10:24 45 commuting 21:13:35 45 commuting 21:14:41 55 commuting		21:10:21 45 commuting		
21:15		21:15:33 Myo HNS	21:15:27 Myo HNS 21:15:36 45 commuting	21:15:27 - 21:50:13 Intermittent 45 and 55 activity 21:32:28 Noc HNS 21:37:55 Myo HNS	21:15:08 55 foraging		
21:20	21:10:16 55 HNS 21:11 - 22:56 Myo x 56 emerged from open sided link building 21:32:31 Noc HNS 21:49:40 Noc HNS 21:55:11 Noc HNS	21:21:37 Myo HNS 21:22:17 Myo foraging	21:22:45 45 HNS		21:21:53 - 21:47:42 Intermittent 45, 55 and Myo activity 21:32:32 Noc HNS	21:22:43 55 commuting	21:22:23 55 foraging 21:22:48 Myo HNS
21:25			21:28:46 45 foraging				21:25:37 - 21:56:32 - Intermittent 45, 55 and Myo activity 21:32:33 Noc HNS
21:30		21:32:37 Noc HNS	21:30:27 45 commuting 21:32:37 Noc HNS 21:33:01 45 commuting			21:32:32 Noc commuting 21:33:03 Myo HNS	
21:35						21:37:15 Myo HNS 21:38:17 55 HNS	
21:40			21:41:03 45 foraging			21:42:09 45 HNS	
21:45							
21:50						21:54:25 45 HNS	
21:55			21:55:18 Noc HNS 21:57:24 Noc HNS	21:55:14 Noc HNS 21:56:42 45 HNS 21:57:06 45 HNS 21:57:54 55 HNS 21:58:08 Myo HNS	21:55:17 Noc HNS		
22:00	22:03:09 Noc HNS				22:03:23 Noc HNS	22:01:36 Myo HNS	
22:05							
22:10	22:13:40 Noc HNS						

	Flight Activity	Species			
	Potential Emergence	39 = Nathusius' pipistrelle		*Myo* = Myotis sp.	
	Confirmed Emergence	45 = Common pipistrelle		55 = Soprano pipistrelle	
HNS	Heard Not Seen	Noc = Noctule		BLE = Brown long-eared bat	
SNH	Seen Not Heard				

Buildings 1-3 and Open Sided Link of Building 8			
Date	6th September 2021	**Sunset**	19:48
Start Time	19:33	**End Time**	21:18

Time	Surveyor 1 Amy McCallum	Surveyor 2 Shona Velazquez	Surveyor 3 Mandy Rackham	Surveyor 4 Lorna Scott	Surveyor 5 Alex Douglas	Surveyor 6 Ally Vitali	Surveyor 7 Becky White
19:30							
19:35							
19:40							
19:45							
19:50							
19:55							
20:00					20:04:04 45 commuting into site and foraging	20:04:10 45 HNS	
20:05			20:05:19 55 commuting 20:08:15 Silent bat commuting	20:05:19 55 HNS 20:08:09 55 commuting	20:06:31 45 foraging 20:07:58 45 commuting	20:05:16 45 commuting 20:08:11 55 commuting 20:09:10 45 foraging for ~ 25 mins	
20:10	20:11:06 45 commuting then feeding in large barn to rear 20:14:38 Myo commuting	20:11:10 45 HNS 20:12:50 45 commuting	20:10:11 45 foraging 20:13:06 45 foraging 20:14:53 55 commuting	20:10:23 45 foraging 20:11:45 45 HNS 20:12:47 45 foraging	20:10:27 45 foraging 20:14:58 45x3 foraging	20:11:26 45x2 foraging	20:14 Bat seen flying internally within open sided link - no echolocation
20:15	20:18:22 55 commuting	20:16:00 45 HNS 20:18:26 55 commuting	20:16:19 55 commuting	20:15:42 55 foraging 20:18:30 45 HNS		20:15:33 45 commuting 20:16:30 45 commuting 20:17:24 45 commuting 20:18:22 45 commuting	20:18 Silent bat emerges
20:20	20:23:07 45 HNS		20:24:20 Myo foraging 20:24:54 55 commuting	20:21:25 45 HNS 20:24:24 Myo HNS		20:24:20 55 commuting	20:24 55 flys into shed then emerges
20:25	20:28:00 45 possible emergence from gable	20:25:56 55 commuting		20:25:58 55 HNS	20:27:37 45 commuting	20:25:57 - 21:09:05 Intermittent activity, 45 and 55	
20:30	20:30:34 45 foraging 20:31:55 45 commuting 20:32:39 45 foraging 20:33:29 45 foraging	20:31:30 45 foraging 20:33:30 45 foraging 20:34:39 Myo HNS	20:34:44 Myo commuting	20:31:17 45 commuting 20:33:03 45 foraging 20:34:41 Myo HNS	20:31:15 45 HNS		
20:35	20:39:32 45 foraging	20:35:48 -= 21:16:50 Intermittent activity HNS, 45, Myo and 55	20:35:46 Myo commuting	20:35:08 - 21:09:58 Intermittent activity, 45, 55 and Myo	20:35:57 55 foraging		
20:40	20:44:29 Myo foraging						
20:45	20:45:22 - 21:05:13 Intermittent activity, Myo, 45, 55						
20:50					20:52:40 55 HNS 20:54:40 45 HNS		
20:55							
21:00					21:01:01 Myo HNS		
21:05			21:07:10 BLE HNS				
21:10							
21:15							

	Flight Activity	Species	
	Potential Emergence	39 = Nathusius' pipistrelle	*Myo* = Myotis sp.
	Confirmed Emergence	45 = Common pipistrelle	55 = Soprano pipistrelle
HNS	Heard Not Seen	Noc = Noctule	BLE = Brown long-eared bat
SNH	Seen Not Heard		

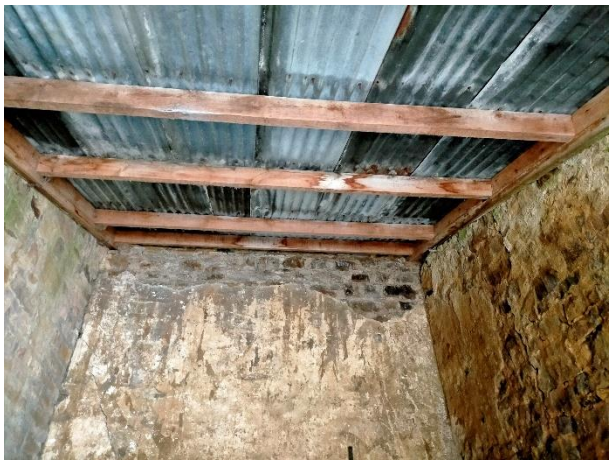


Echolocation call from Natterer's bat emerging from open sided link section of Building 8 (19th August 2021)

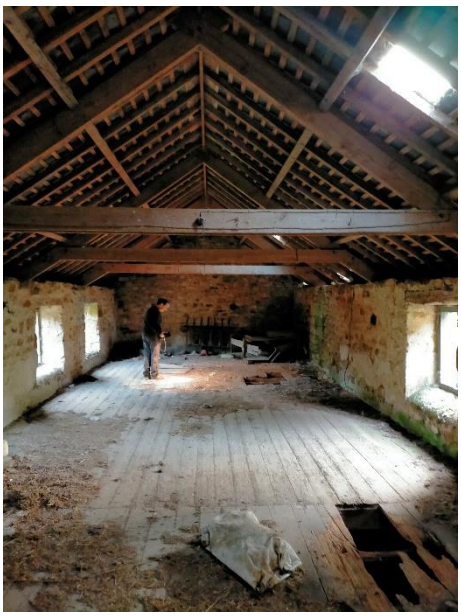
Two Natterer's bats emerging from open sided link section of Building 8 (19th August 2021)

Soprano pipistrelle 'false returning' to roost site on western elevation of Building 8 (9th August 2021)

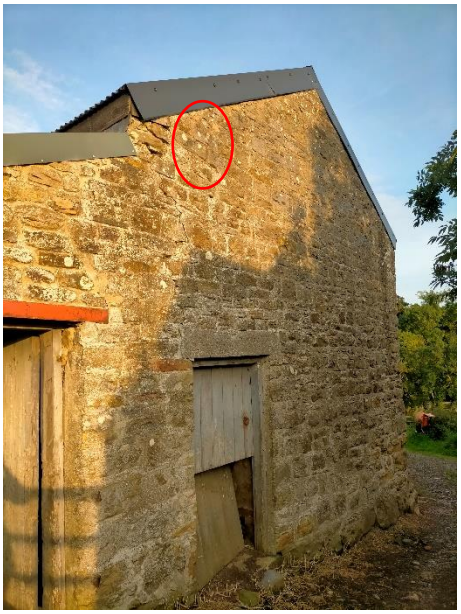
Appendix 4 – Roost Locations



Natterer's bat transitional roost location - Open Sided Link – Building 8

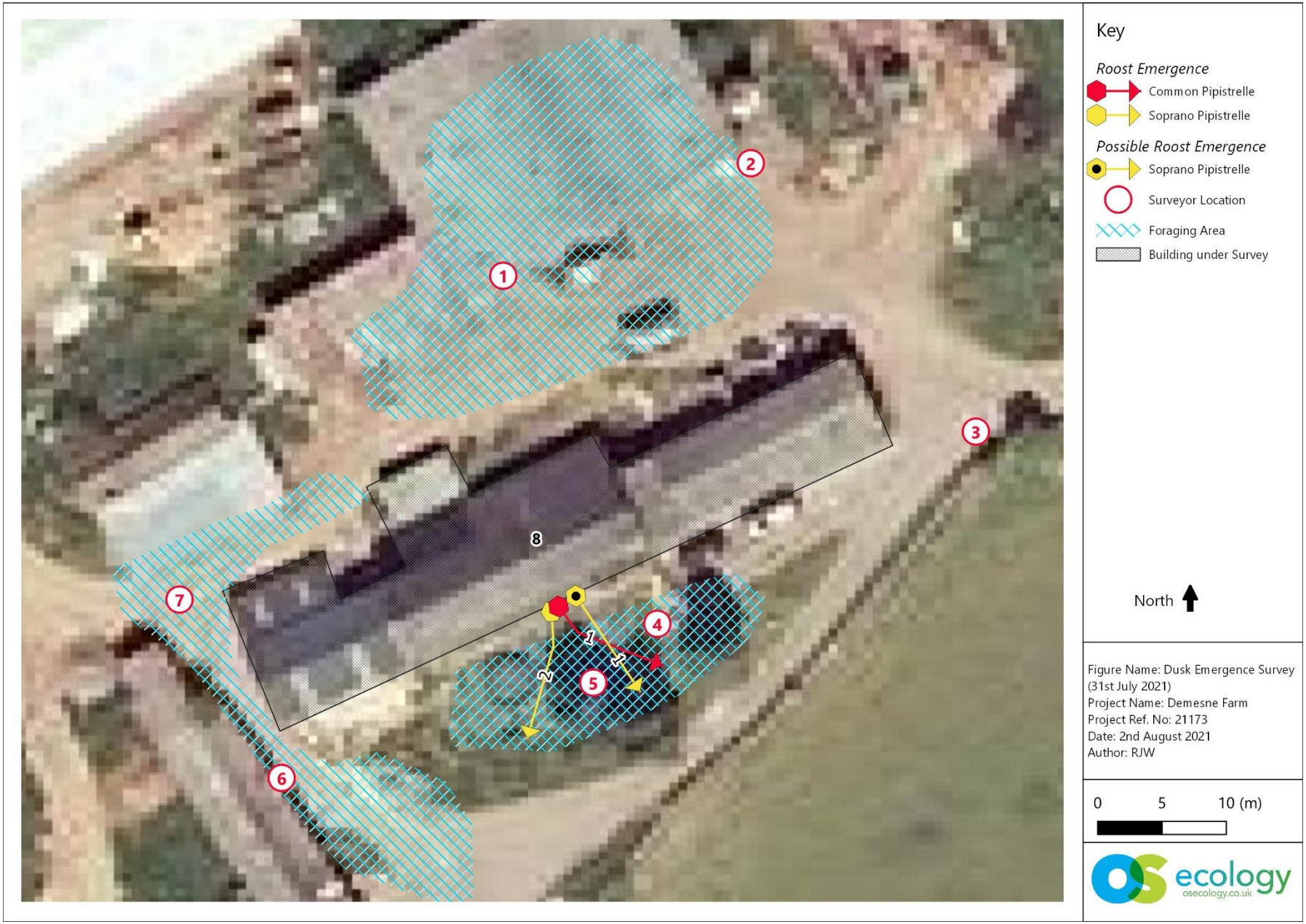


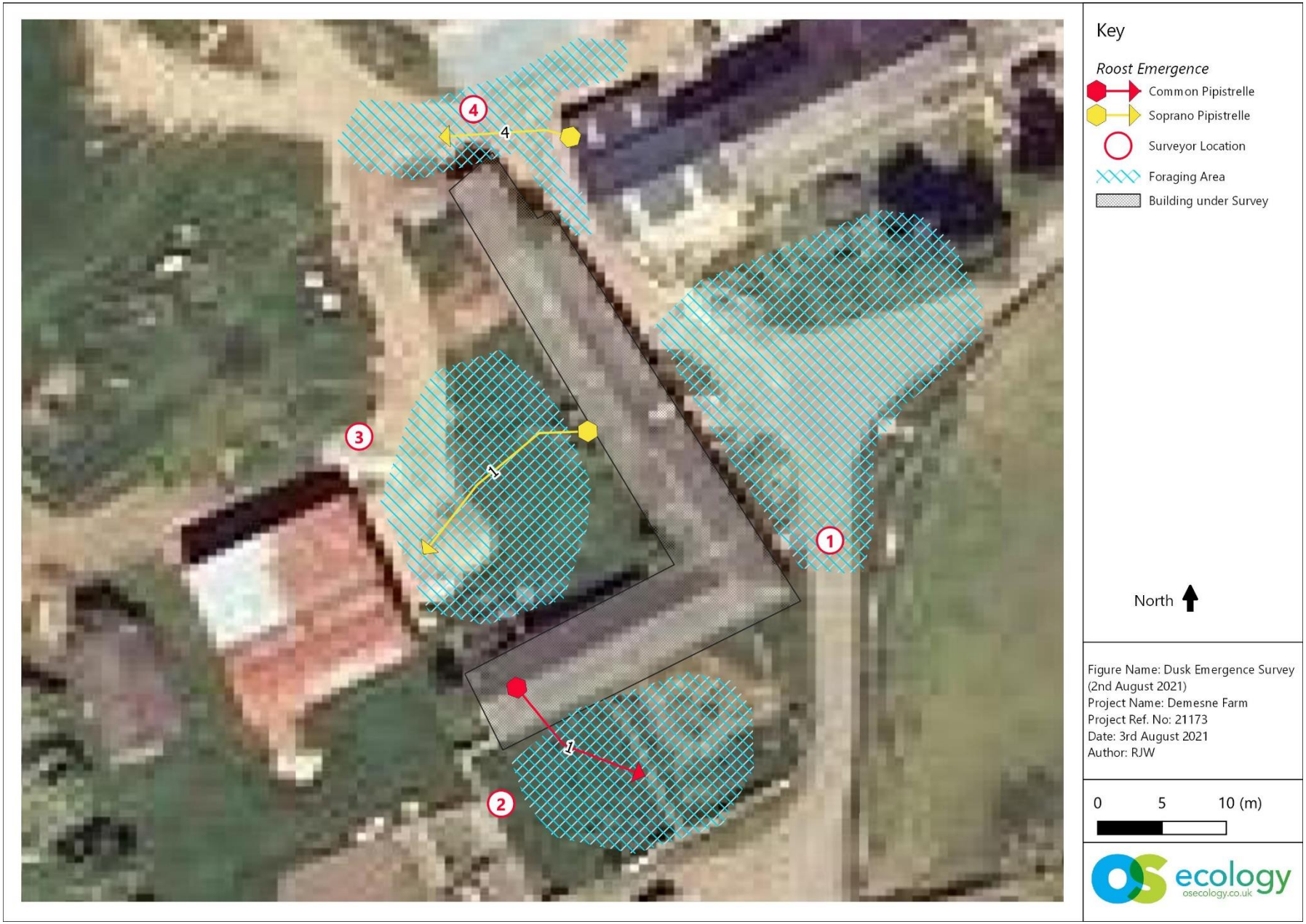
Day roost used by common pipistrelle, soprano pipistrelle and a Myotis sp. considered likely from call attributes to be whiskered/Brandt's bat. Roost site associated with ridge. Bats emerging from ridge both internally, emerging from open windows, and from external ridge.



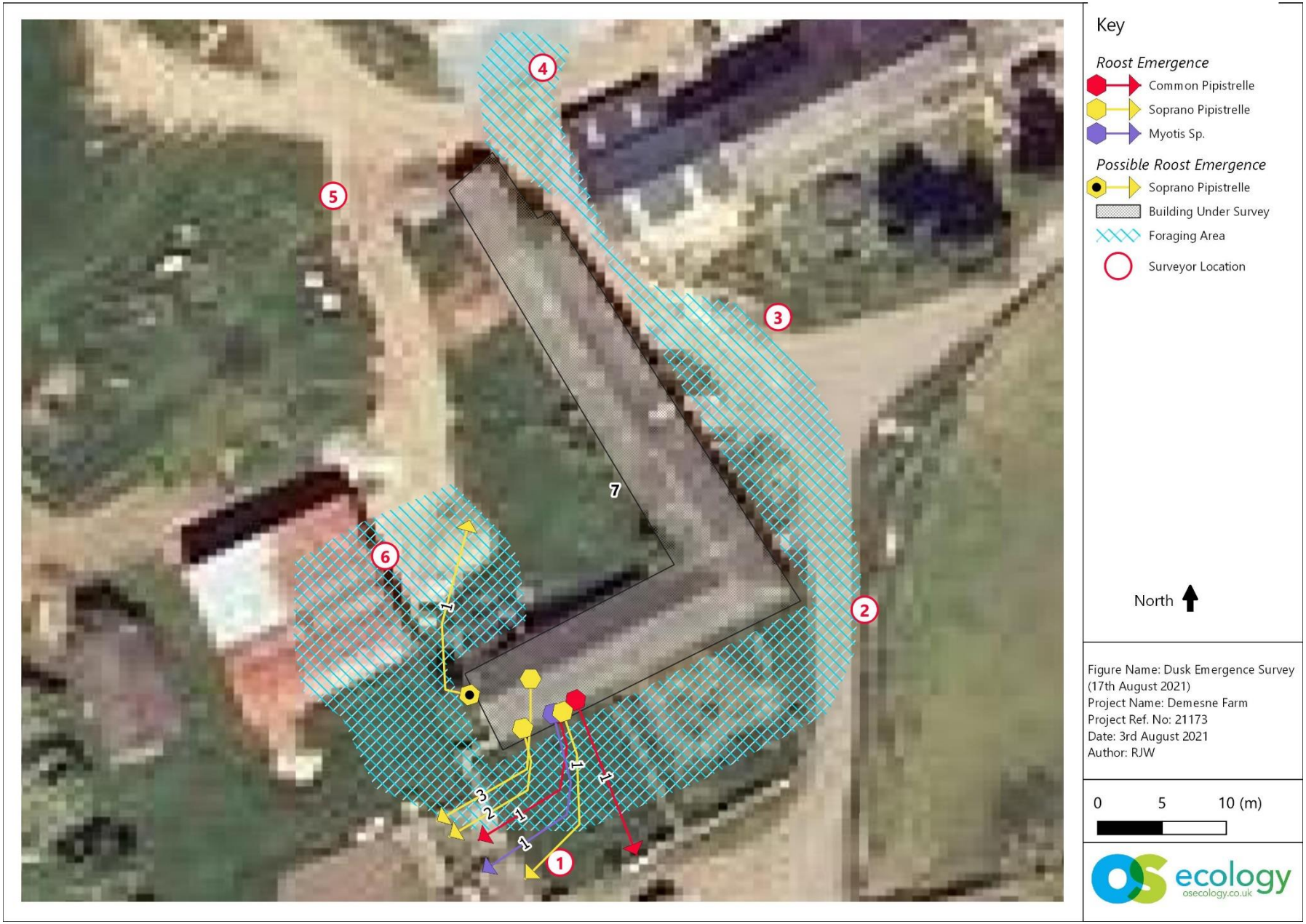
Soprano pipistrelle day roost – Western gable – Building 8

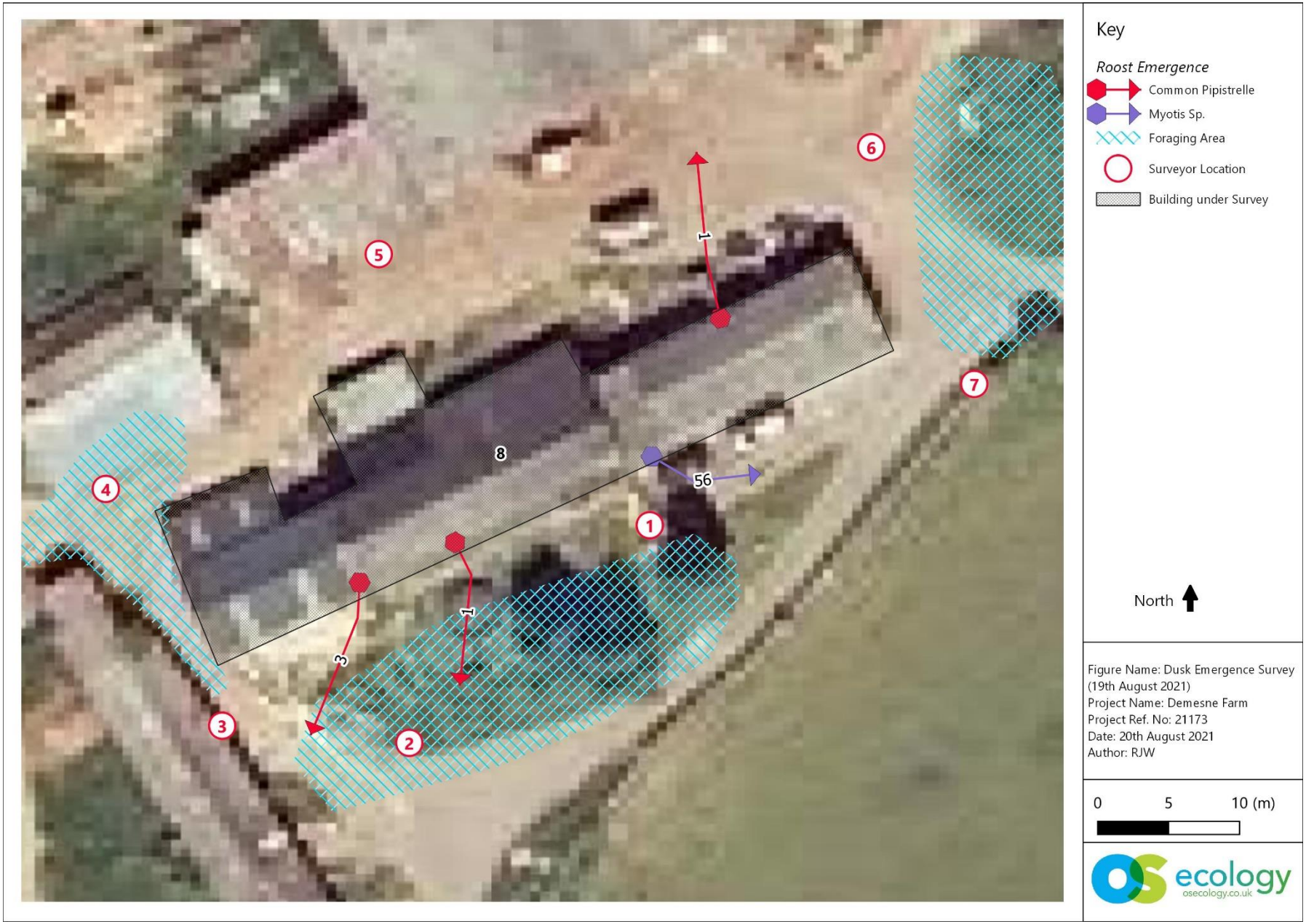
Appendix 5 – Figures


Key
Roost Emergence
Common Pipistrelle
Soprano Pipistrelle
Possible Roost Emergence
Soprano Pipistrelle
Surveyor Location
Foraging Area
Building under Survey
North
1
2
3
4
5
6
7
8
1
2
Figure Name: Dusk Emergence Survey (31st July 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 2nd August 2021
Author: RJW
0
5
10 (m)


Key
Roost Emergence
Common Pipistrelle
Soprano Pipistrelle
Surveyor Location
Foraging Area
Building under Survey
North
Figure Name: Dusk Emergence Survey (2nd August 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 3rd August 2021
Author: RJW
0
5
10 (m)
4
4
3
1
1
2


Key
Roost Emergence
Common Pipistrelle
Soprano Pipistrelle
Unknown
Possible Roost Emergence
Myotis Sp.
Surveyor Location
Foraging Area
Building under Survey
North
Figure Name: Dusk Emergence Survey (9th August 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 22nd August 2021
Author: RJW
0
5
10 (m)


Key
Roost Emergence
Common Pipistrelle
Soprano Pipistrelle
Myotis Sp.
Possible Roost Emergence
Soprano Pipistrelle
Building Under Survey
Foraging Area
Surveyor Location
North
Figure Name: Dusk Emergence Survey (17th August 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 3rd August 2021
Author: RJW
0 5 10 (m)
1
2
3
4
5
6
7
7
3
2
1
1
1
1


Key
Roost Emergence
Common Pipistrelle
Myotis Sp.
Foraging Area
Surveyor Location
Building under Survey
North
Figure Name: Dusk Emergence Survey (19th August 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 20th August 2021
Author: RJW
0
5
10 (m)
1
2
3
4
5
6
7
8
56


Key
Roost Emergence
Unknown
Possible Roost Emergence
Common Pipistrelle
Surveyor Location
Foraging Area
Building under Survey
North
Figure Name: Dusk Emergence Survey (6th September 2021)
Project Name: Demesne Farm
Project Ref. No: 21173
Date: 7th September 2021
Author: RJW
0
5
10 (m)
1
2
3
4
5
6
7


BARN FOUR
BARN THREE
BARN TWO
FARM HOUSE
BARN ONE
BARN FIVE
BARN SIX
NORR
NORR Consultants Limited.
JONATHAN ELKINGTON
GUNNERTON
SITE - PROPOSED PLAN
S4 - FOR APPROVAL