



Bat & Barn Owl Mitigation Proposals

Plas Power Barns, Coedpoeth

Ref: JWE/1130

**J W Ecological Ltd.
Unit 3 St Ives Way
Sandycroft
Flintshire
CH5 2QS**

**Tel: 0845 838 2646
Fax: 0871 661 9701
E-mail: enquiries@jwecology.co.uk
Web: www.jwecology.co.uk**

Author:	Reviewed by:
Name: Joe Whittick BSc(Hons) MIEEM Date: 14/03/13	Name: Jamie Moore BA(Hons) MSc Date: 14/03/13

CONTENTS	PAGE
1.0 INTRODUCTION & BACKGROUND	3
2.0 LEGISLATIVE CONTEXT	3
3.0 LICENSING (BATS)	4
4.0 IMPACT ASSESSMENT	5
5.0 BAT MITIGATION/COMPENSATION	6
6.0 BARN OWL MITIGATION/COMPENSATION	9
7.0 REFERENCES	10

APPENDICES

APPENDIX 1: Drawings



1.0 INTRODUCTION & BACKGROUND

- 1.1 J W Ecological Limited were commissioned in May 2012 to undertake a bat and bird survey of barns at Plas Power Farm, Ruthin Road, Coedpoeth, Wrexham (SJ 30393 50631). See site location plan D/JWE/1130/001 (Appendix 1). The site layout is shown on drawing D/JWE/1130/002.
- 1.2 The 2012 assessment included a daytime bat and nesting bird survey of the barn buildings, two dusk bat emergence surveys and a dawn bat re-entry survey.
- 1.3 Evidence of roosting Common Pipistrelle, Soprano Pipistrelle and Brown long-eared bats was identified in barns 1, 2, 3 and 4 on site during the surveys. The results of the daytime survey combined with the numbers of bats recorded at dusk and dawn indicate that the roosts on site are summer roosts rather than maternity sites. A summary of the roosts identified on site is provided below:
- Barn 1 – A small summer roost of up to five common pipistrelle bats and a small summer roost of up to five brown long-eared bats. The roosting was primarily associated with the ridge of the northern part of the barn.
 - Barn 2 – A small summer roost of up to five common pipistrelle bats and a small summer roost of up to five soprano pipistrelles.
 - Barn 3 – A summer roost of up to ten common pipistrelle bats and a summer roost of up to five soprano pipistrelles. The bats were all roosting on the first floor of the barn.
 - Barn 4 – A small summer roost of up to five common pipistrelle bats.
- 1.4 Evidence of Barn Owl activity was identified in barns 3 and 4. The number of pellets found and the quantity of droppings indicated occasional perching/roosting by this species rather than nesting.

2.0 LEGISLATIVE CONTEXT

Bats

- 2.1 All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981 (as amended). Under the legislation it is an offence to:
- intentionally kill, injure or handle a bat;
 - to possess a bat (whether live or dead);
 - disturb a roosting bat;
 - sell or offer a bat for sale without a licence;
 - damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.
- 2.2 The potential fine for each offence is £5,000. If more than one bat is involved, the fine is £5,000 per bat. An offender can also be imprisoned for up to six months.
- 2.3 Where bats are found to occur on a development site, and there is considered to be a reasonable possibility that a roost may be damaged or destroyed or that bats using a roost will be disturbed, a European Protected Species licence must be obtained from the Welsh Assembly Government (WAG).



Barn Owls

- 2.4 All birds, their nests and eggs are protected by law under Part 1 of the Wildlife and Countryside Act 1981 (as amended). Barns Owls are afforded special protection through inclusion in Schedule 1 of the Act. Under the legislation it is an offence to:
- Intentionally kill, injure, or take (handle) any wild barn owl.
 - Intentionally take, damage or destroy any wild barn owl nest whilst it is in use or being 'built' (barn owls do not 'build' a nest but may make a nest scrape).
 - Intentionally take or destroy any wild barn owl egg.
 - Possess or control a wild barn owl (dead or alive), or egg, (unless it can be shown that it was obtained legally).
 - Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on or near a nest containing eggs or young.
 - Intentionally or recklessly disturb any dependent young of wild barn owls.
- 2.5 The potential fine for each offence is £5,000. If more than one bat is involved, the fine is £5,000 per bat. An offender can also be imprisoned for six months. Disturbance may be deemed reckless if it is committed by someone who could be expected to know that the bird(s) might be present but failed to check.

3.0 LICENSING (BATS)

- 3.1 The proposals for the site involve the conversion of all of the barn buildings. In the absence of appropriate mitigation this would result in the loss of the identified roosting sites on site.
- 3.2 All species of bat and their roosts are protected under the Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981 (as amended). Under the legislation a license must be obtained from the Welsh Assembly Government (WAG) for any works that would result in the loss or damage of roosting sites or for any works likely to result in disturbance or harm to roosting bats. As the proposed works will lead to the loss of the existing roosting areas in barns 1, 2, 3 and 4 a WAG license is thought to be required for the conversion of these buildings.
- 3.3 EPS license applications take approximately 8 weeks to be produced and then processed by WAG so should be applied for well in advance of any works which are likely to result in an offence under the legislation eg. roof works.
- 3.4 The license application for the building will need to include mitigation/compensation measures for bats. Mitigation proposals are outlined below, these will be subject to agreement by the Countryside Council for Wales (CCW) and WAG.



4.0 IMPACT ASSESSMENT

Bats

- 4.1 Given the number and species of bat recorded on site the roosts have been assessed individually as having low importance locally, regionally and nationally. As a group however the roosts are thought to have moderate importance locally.
- 4.2 The potential impacts of the proposals are thought to be as follows:
- Short-term impacts – Disturbance
Short term impacts as a result of the proposals are thought to include noise and vibration during the construction works and temporary partial obstruction of the barns as a result of scaffolding. If these works were undertaken at a vulnerable time of year without the implementation of mitigation measures there is a risk of disturbance and potentially direct harm to bats. This is thought to have a moderate negative impact on bats locally and low impact on a regional and national scale.
 - Long-term impacts – Roost Modification
No roost modification will occur.
 - Long-term impacts – Roost Loss
The existing roosting areas in the barns will be lost. This is thought to have a moderate negative impact on bats locally and low impact on a regional and national scale.
 - Long-term impacts – Fragmentation and Isolation
No significant loss of trees or hedgerows will take place as a result of the proposals. Fragmentation impacts are thought to be low.
 - Post-development interference impacts
There will be a general increase in human activity on site long term. There is also likely to be an increase in external lighting.

The scale of impact of the proposals is thought to be as follows:

<u>IMPACT</u>	<u>SCALE</u>								
	<u>Local</u>			<u>Regional</u>			<u>National</u>		
	<u>Low</u>	<u>Med</u>	<u>High</u>	<u>Low</u>	<u>Med</u>	<u>High</u>	<u>Low</u>	<u>Med</u>	<u>High</u>
Disturbance		✓		✓			✓		
Roost modification	✓			✓			✓		
Roost loss		✓		✓			✓		
Fragmentation and isolation	✓			✓			✓		
Post-development interference		✓		✓			✓		



Barn Owls

- 4.3 The existing barn owl perching/roosting sites on site will be lost as a result of the proposals. This is thought to have a moderate negative impact on this species locally.

5.0 BAT MITIGATION/COMPENSATION

5.1 Timing

It is proposed to start conversion works in September in order to avoid the summer months when the largest numbers of bats are likely to be present on site and the winter months when bats are in hibernation and therefore more susceptible to disturbance.

5.2 Capture and Exclusion

Before commencing work on the barns the contractors will be inducted by the licensed bat ecologist to make them aware of the possible presence of bats, their legal protection and the contents of the method statement. The Method Statement and license documents will be kept on site at all times. The identified roosting areas in the barns will be inspected by the licensed bat worker immediately prior to the start on site. Removal of the roofs of barns 1, 2, 3 and 4 will be undertaken by hand under the supervision of a licensed bat ecologist. Roofing sheets and tiles will be lifted vertically to avoid crushing any bats that may be underneath. The sheets and tiles will then be checked on the underside before stacking.

Where cavities in the brick and stone walls of the building are to be filled these will be checked by the licensed bat worker using a flexible endoscope immediately prior to being filled. Where the presence of bats cannot be ruled out one-way excluders will be fitted to the cavities with rockwool fitted around them in order to only allow bats to exit the pipe and not re-enter the cavity. The excluder comprises a plastic pipe with a 26mm bore, facing slightly downwards (to avoid water ingress) and projecting a minimum of 100mm from the cavity. The excluders will remain in place over four consecutive days and nights where night-time temperatures have not dropped below 8°C (exclusion is guided by the Bat Workers Manual, Section 9.1.2, pages 88-90, 3rd edition 2004). The cavity will then be checked again immediately prior to the start of works.

If any bats are found during the removal of the roofs these will be taken by gloved hand by the licensed bat worker, placed in a drawstring bag and immediately transferred to one of the newly erected bat boxes located on the trees adjacent to the site (see 5.3).

If during inspections or supervision any injured bats are found these will be immediately taken into care (as directed by Bat Workers Manual, Section 7.3, Pages 64-66; 3rd edition 2004). Details of a local licensed bat carer are known.

If a bat is found at any other time during the works all works will cease immediately and the licensed bat worker will be contacted for advice. Builders and contractors are prohibited from handling bats.



5.3 **New Roosting Provision**

Bat Boxes

Prior to the start of works on site two Schwegler 1FD bat boxes and four Schwegler 1FF bat boxes will be installed in mature trees on site. The boxes will be installed a minimum of 4 metres off the ground under the guidance of a licensed bat ecologist. The boxes will act as a receptor site for any bats found during the works on site and also as an undisturbed alternative roosting site for bats whilst the works are ongoing. The boxes will be permanent.

Bat Loft

Part of the roof space of Barn 1 will be partitioned off in order to create a new bat roost loft. The loft will be located at the eastern end of the barn and will have dimensions of 5 metres in length by 2.5 metres in height. The new bat loft will be relatively free from roof timbers giving space for bats to fly within the roosts. The roost will offer suitable roosting opportunities for brown long-eared and pipistrelle bats and will be available to bats by the 1st May in the spring following the start of conversion works

Only timber treatment chemicals and roofing felt known to be safe for use with bats will be utilised within the roosting area (including bitumen/hessian felt). The roost loft will only be accessible through a small loft hatch (450mm by 450mm) to allow periodic monitoring whilst discouraging the use of this area for storage. A sign will be placed on the hatch indicating the presence of bats, that only licensed bat workers should access and the local bat helpline number. The following bat access points will be installed into the new loft:

- Two bat access 'slates' (see Figure 1) will be provided on the roof above the roosting area, one on each pitch, with slits made in the roofing felt directly below in order to allow bats access into the roost.
- Small gaps beneath the ridge tiles (see Option A, Figure 2), two on each aspect (minimum of 20mm).

No new external lighting will be placed in close proximity to new roost entrances. Additional roosting opportunities for bats will be provided in the roost by incorporating crevices in the form of battens fixed approximately 20 – 25 mm from the loft partition. Battens will also be fixed to the rafters to provide a variety of roosting spaces. Any insulation that is required in order to satisfy the building regulations will be installed outside of the bat loft area, either within the existing floor void or on the external faces of the internal walls to the loft spaces.

Ridge Roosting Area

A ridge roosting area for use by Pipistrelle bats will be installed along the full length of the roof of barn 2. The ridge roosting area will be created by installing a partition 30 centimetres beneath the ridge beam in order to form a small sealed loft along the full length of the building (see Figure 3). The roosting area will be lined with rough timber boards and bitumen/hessian felt will be used at the ridge. Access for bats will be created by installing three raised ridge tiles along the roof with a minimum entrance gap of 20mm (see Option A, Figure 2). No new external lighting will be placed in close proximity to new roost entrances.



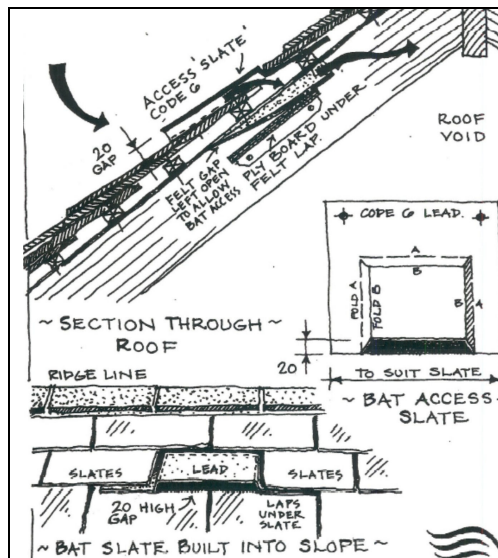


FIGURE 1 – Access slates

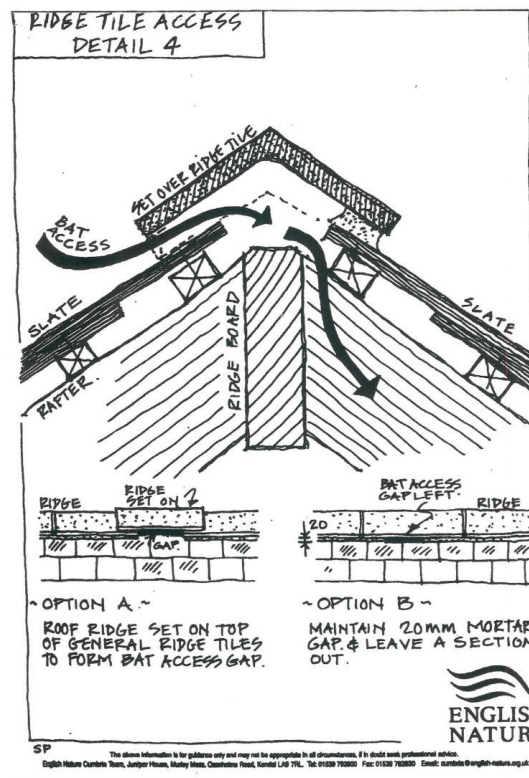


FIGURE 2 - Bat Ridge Access

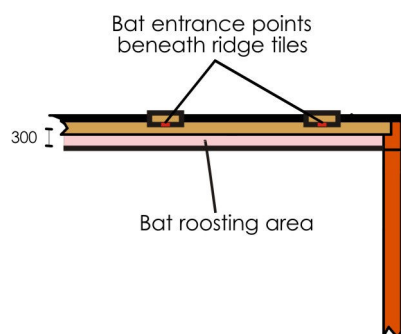


FIGURE 3 – Ridge roosting area

The locations of the proposed new bat boxes, bat loft and bat ridge roosting area are shown on drawings D/JWE/1130/003-005 (Appendix 1).

5.4 Post-Development Site Safeguard

Any future works required in or around the new roosting provision or bat boxes may require a licence and should be supervised by a licensed bat ecologist. Maintenance of the new roosting provision should be minimal and will form part of the general upkeep of the converted barn buildings.

5.5 Post-Construction Monitoring

The site will be inspected by the licensed bat ecologist before, during and immediately after development work is completed.

Monitoring surveys will take place in the summer following the completion of works. These monitoring surveys will include a daytime inspection of all new roosting provision, a dusk bat emergence survey and a dawn re-entry survey.

6.0 BARN OWL MITIGATION/COMPENSATION

- 6.1 A detailed inspection of the barns will be undertaken by an appropriately experienced person immediately prior to the start of any works on site to ensure that no barn owls are nesting. If barn owls are found to be nesting then appropriate additional mitigation measures should be put in place under the guidance of the barn owl specialist.
- 6.2 In order to ensure that barn owls can continue to use the site three barn owl boxes will be incorporated into the proposals:
 - A minimum of 30 days prior to any works commencing on site two barn owl nesting boxes will be provided within 200 metres of the development. The boxes will be installed in a mature tree to the south-west of the site and a mature tree to the east. These boxes will act as new roosting sites for barn owls and as an alternative undisturbed roosting sites during development works. The boxes will be permanent.
 - A permanent barn owl roosting/nesting area will be incorporated into the eastern end of barn 1 during conversion works. The nesting area will have an entrance point with dimensions of 15cm by 15cm which will be created in the eastern gable of the barn. The eastern end of barn 1 has been chosen as the location of the new barn owl provision as the eastern end of this barn faces towards open countryside. The barn owl nesting area will be completed by the 1st May in the year following the start of conversion works.
- 6.3 The locations of the new barn owl provision are shown on drawings D/JWE/1130/004 and D/JWE/1130/006 (Appendix 1).



7.0 REFERENCES

Bat Conservation Trust. 2012. *Bat Surveys – Good Practice Guidelines. Version 2*

Mitchell-Jones, A.J, & McLeish, A.P. Ed. 2004. *Bat Workers Manual*

ENGLISH NATURE 2004. *Bat Mitigation Guidelines.*



APPENDIX 1

D/JWE/1130/001 – Site Location Plan

D/JWE/1130/002 – Site Layout Plan

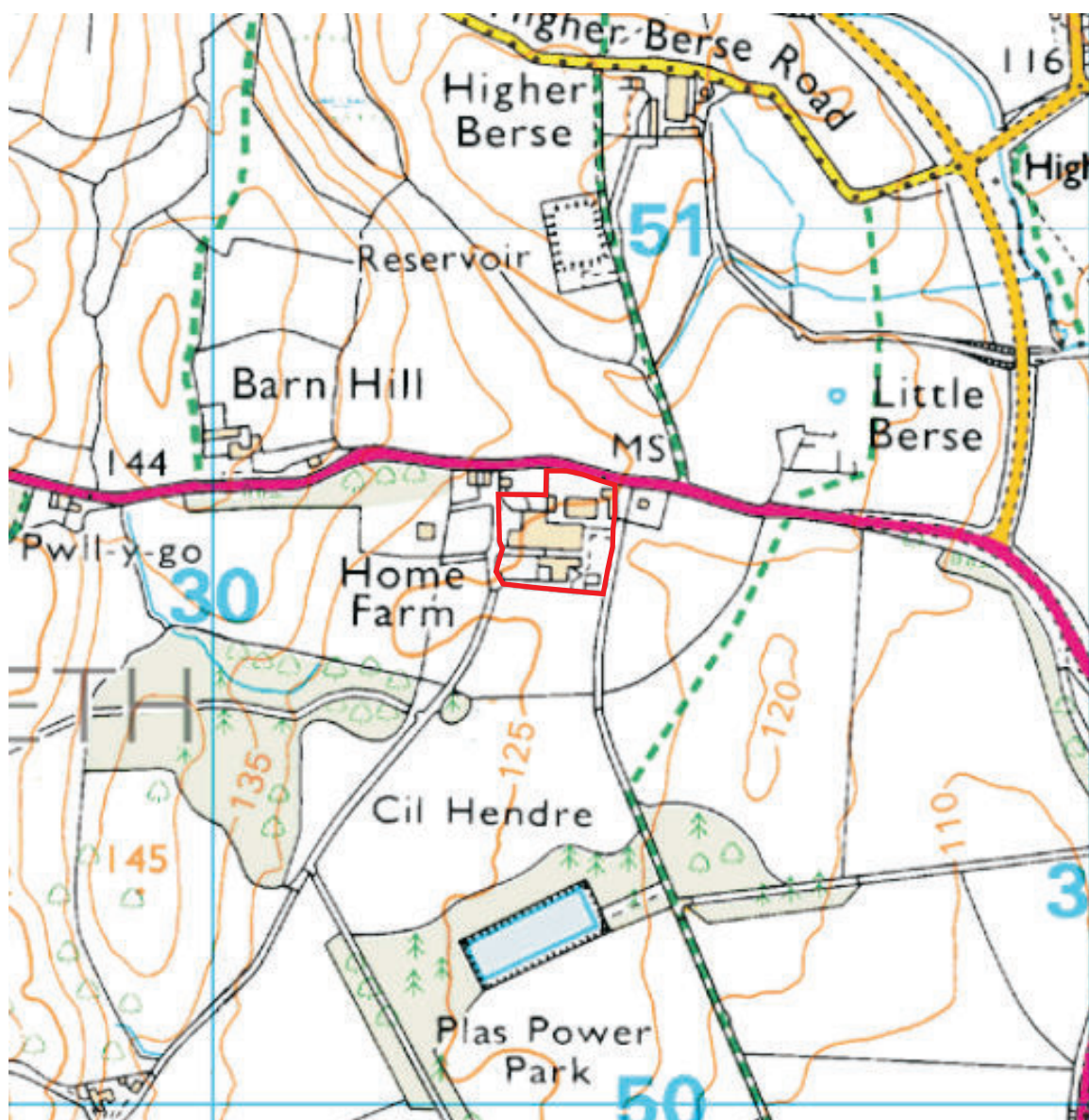
D/JWE/1130/003 – Bat mitigation/Compensation Proposals (overview)

D/JWE/1130/004 – Bat Loft in Barn 1

D/JWE/1130/005 – Ridge roosting area in Barn 2

D/JWE/1130/006 – Barn Owl mitigation/Compensation Proposals





= Site Location



J W ECOLOGICAL LTD

TITLE: Site Location Plan

SITE: Plas Power Barns

NGR: SJ 30393 50631

DRAWING NUMBER: D/JWE/1130/001



J W ECOLOGICAL LTD

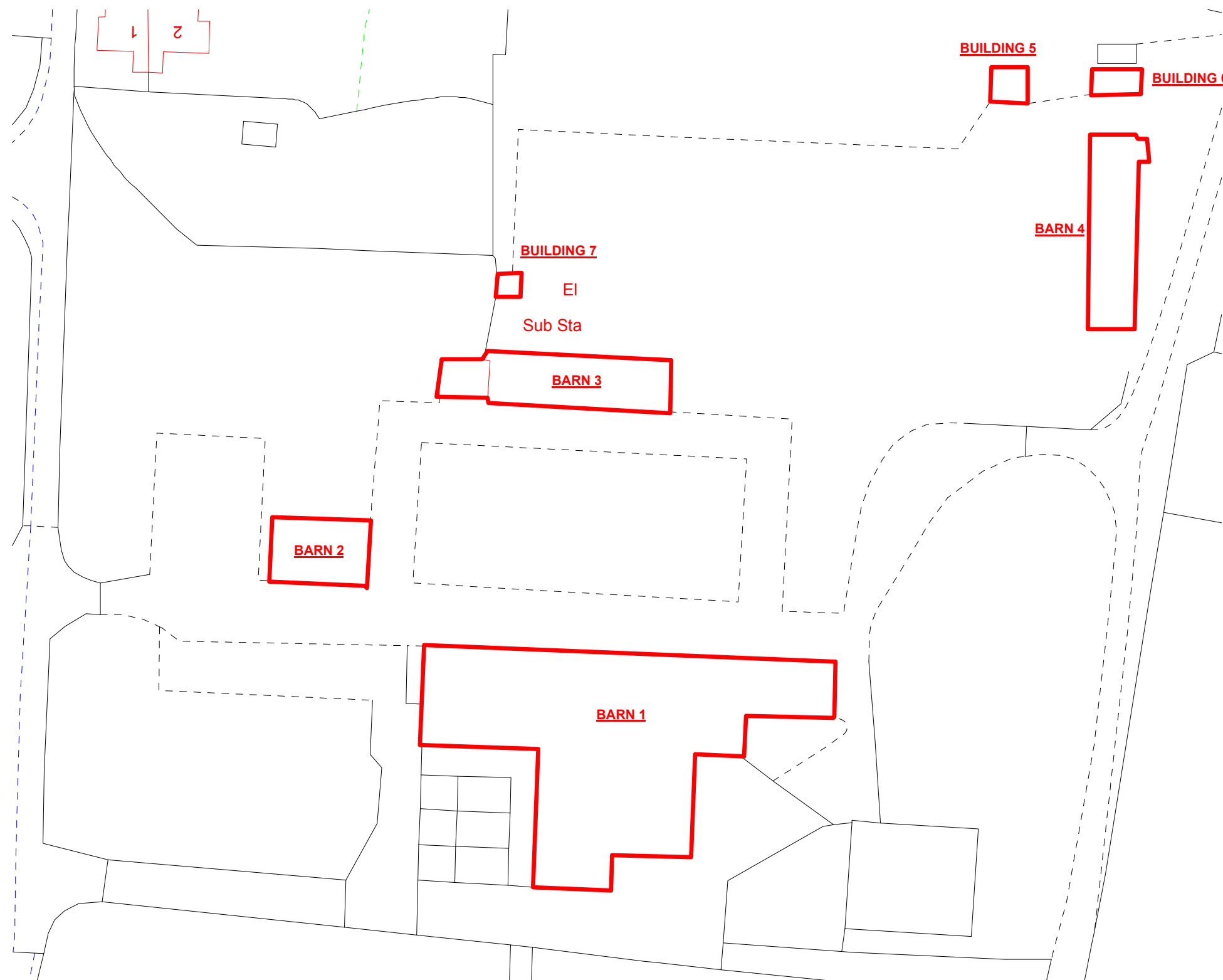
Site: Plas Power Barns, Coedpoeth

Title: Site Layout

KEY:



Buildings to be converted



Ordnance Survey (c) Crown Copyright 2012. All rights reserved. Licence number 100020449

GRID REFERENCE:

SJ 30393 50631

SCALE:

1:500

DRAWN BY:

JW

CHECKED BY:

JM

DATE:

14/03/13

DRAWING NUMBER:

D/JWE/1130/002

ISSUE:

A

Site:

Plas Power Barns, Coedpoeth

Title:

Bat Mitigation Proposals (overview)

KEY:



Converted barn buildings



Proposed bat loft in barn 1



Proposed ridge roosting area in barn 2



Proposed bat ridge access



Proposed bat access slate

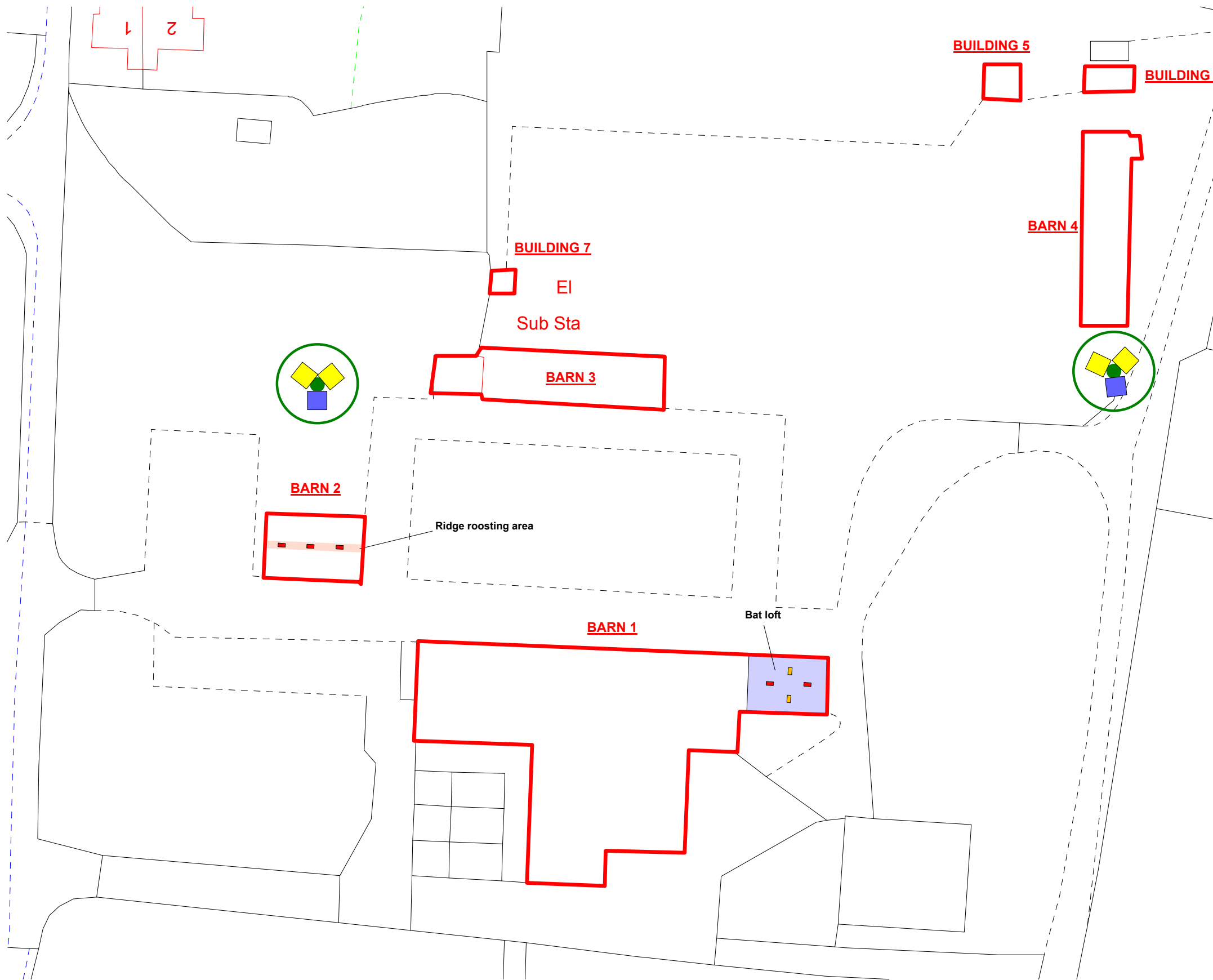


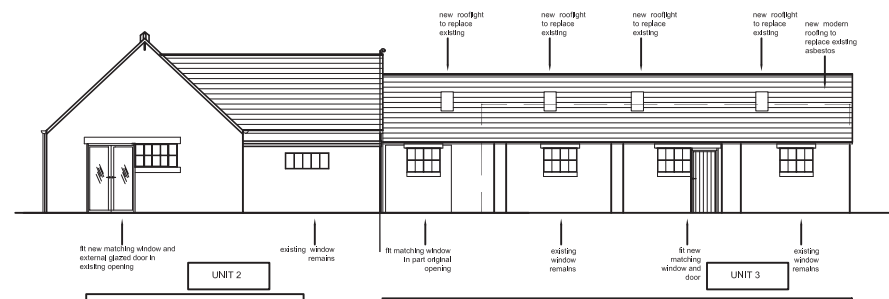
Proposed Schwegler 1FD bat box



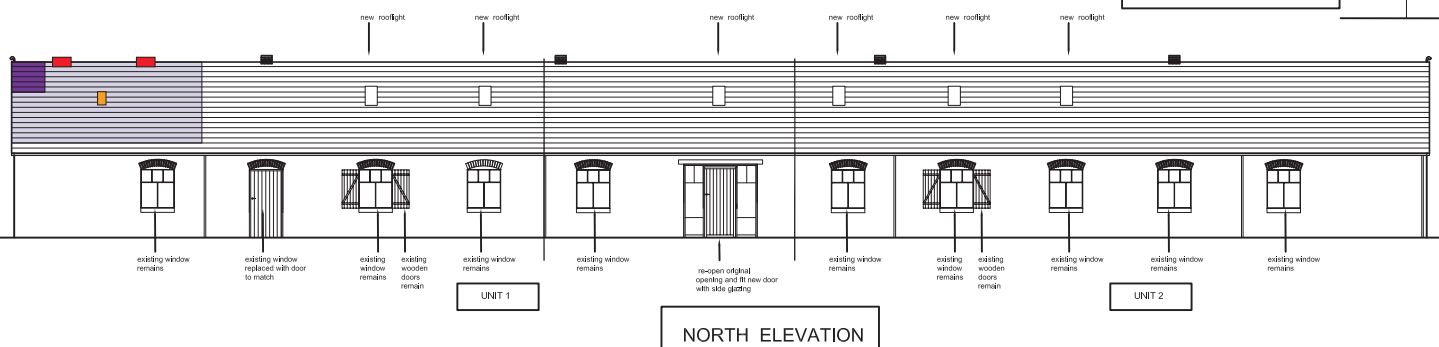
Proposed Schwegler 1FF bat box

GRID REFERENCE:		SCALE:
SJ 30393 50631		1:500
DRAWN BY:	CHECKED BY:	DATE:
JW	JM	14/03/13
DRAWING NUMBER:		ISSUE:
D/JWE/1130/003		A

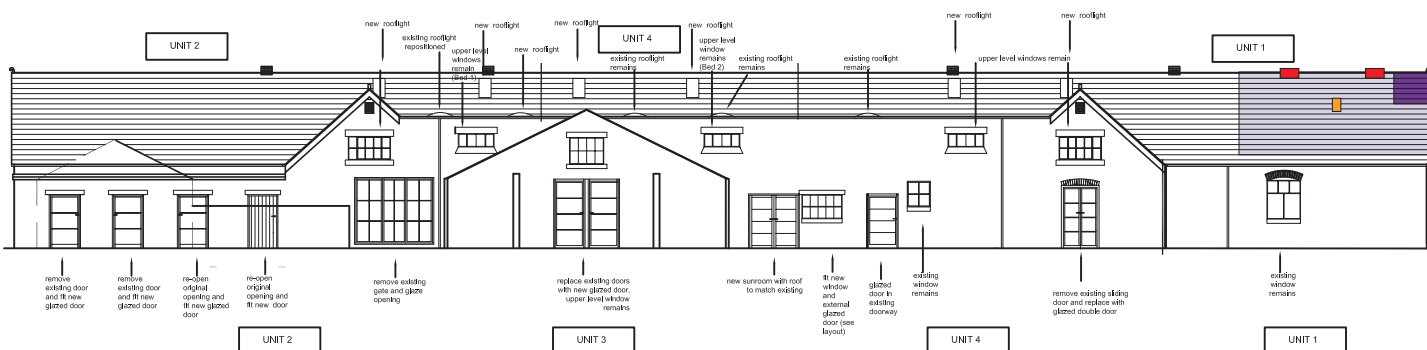




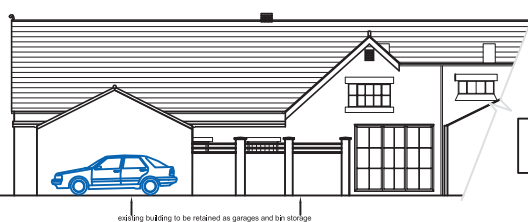
WEST ELEVATION
WITH GARAGES



PROPOSED DETACHED GARAGES FRONT, REAR AND SIDE ELEVATIONS



SOUTH ELEVATION
WITH GARAGES



- KEY:**
-  = Bat loft
 -  = Bat Ridge Access
 -  = Bat Access Slate
 -  = Barn owl nesting area

Rev					
A	Feb 2013	Planning Issues			m
	19/07/2009	Revisions on bat roof South Elevation shown			m
	Date	Revision No.			B

Copyright © All rights reserved. This drawing must not be reproduced without permission.
This drawing must not be copied or altered without written consent.
Dimensions are in millimetres unless otherwise specified.
All measurements to be checked on site before work commencing.
The materials to be agreed with Planning Authority prior to work commencing.



**BUILDING SURVEYING AND
ARCHITECTURAL DEPARTMENT**

37 Lower Bridge Street Chester CH1 1H
t +44 (0)1244 234888
e chesher@struttandparker.co.uk

Job title: Home Farm - Pias Power

client:

drawing title: Bat loft - Barn 1

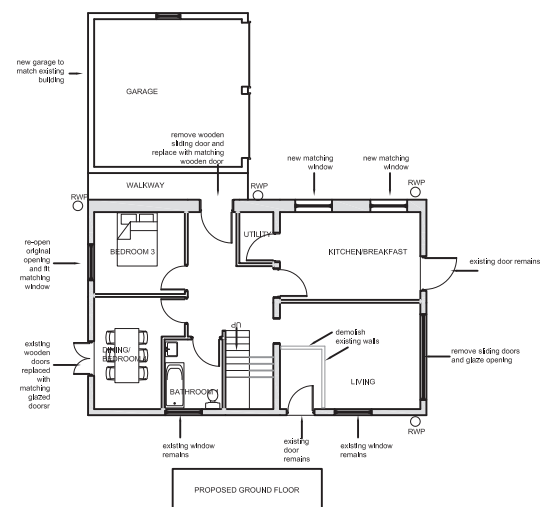
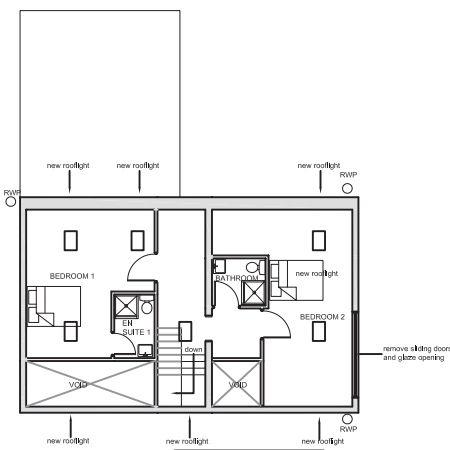
drawn by: JW	date: 14/03/13	scale @ A1: 1:100	scale @ A3:
------------------------	--------------------------	-----------------------------	-------------

drawing number: D/JWE/1130/004



KEY:

 = Ridge roosting area
 = Bat Ridge Access



Rev					
Feb 2013	Planning Issue				
Date	Revision Note				Sy

Geographic All rights reserved. This drawing must not be reproduced without permission.
This drawing may not be scaled
Dimensions are in metres unless otherwise specified.
All measurements to be checked on site before work commencing.
All materials to be agreed with Planning Authority prior to work commencing.


BUILDING SURVEYING AND ARCHITECTURAL DEPARTMENT
 37 Lower Bridge Street Chester CH1 1RN
 T +44 (0)1244 354888
 F +44 (0)1244 379060
c.henry@struttparker.co.uk

Job Site: Home Farm - Pias Power

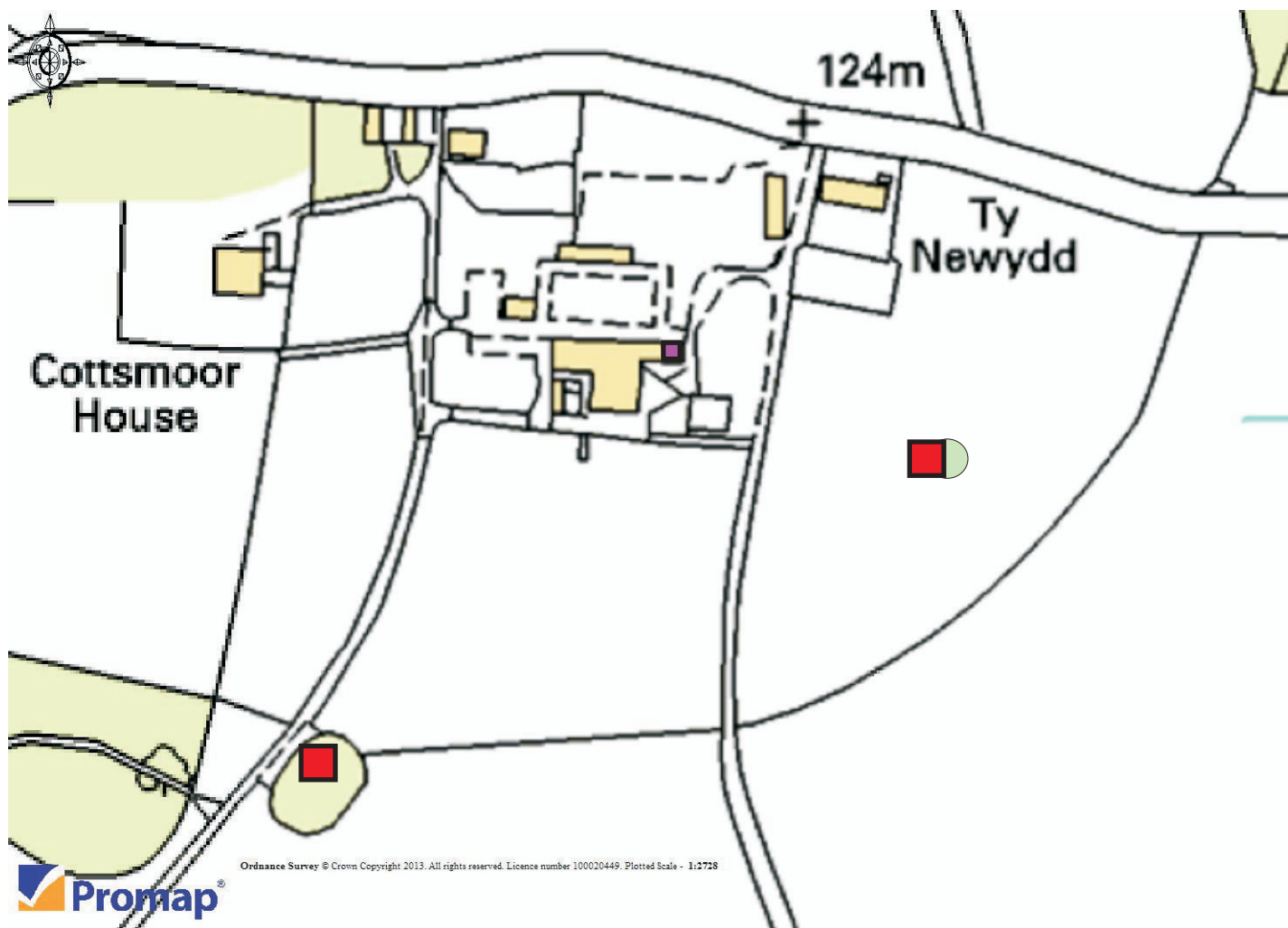
draft:

drawing title:
Ridge scaling area - Barn 2

drawn by: JW	date: 14/03/13	scales @ A1: 1:100	scale @ A3:
------------------------	--------------------------	------------------------------	-----------------

drawing number:

D/JWE/1130/005



- = Proposed barn owl boxes on trees
- = Proposed barn owl nesting area in barn 1

 JW ECOLOGICAL LTD	
TITLE: Barn Owl Mitigation (Overview)	
SITE: Plas Power Barns	
NGR: SJ 30393 50631	
DRAWING NUMBER: D/JWE/1130/006	