

Ecological Impact Assessment and Bat Risk Assessment

CROSS COTTAGE, GLANTON, NORTHUMBERLAND

SUMMER 2022

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Disclaimer:

Ecology surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings or trees are in relation to the use of the building/tree by bats and birds and should not be considered as a building survey or arboricultural opinion on the condition of those features.

The client should be aware that the mitigation recommendations in ecology reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

Mitigation recommendations should be clearly marked on the Architect's Plans submitted with any planning or other consent.

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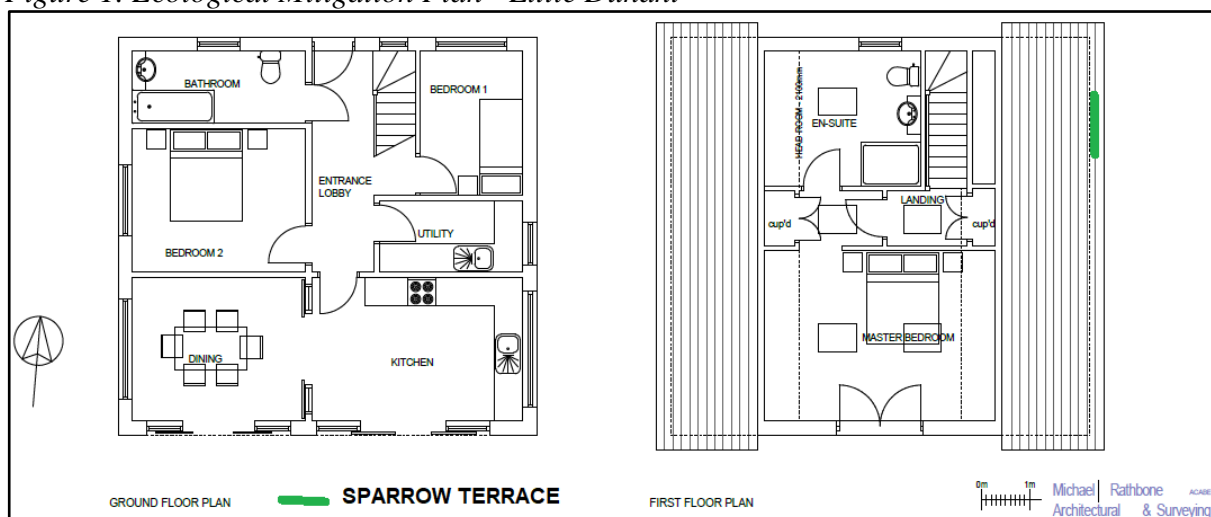
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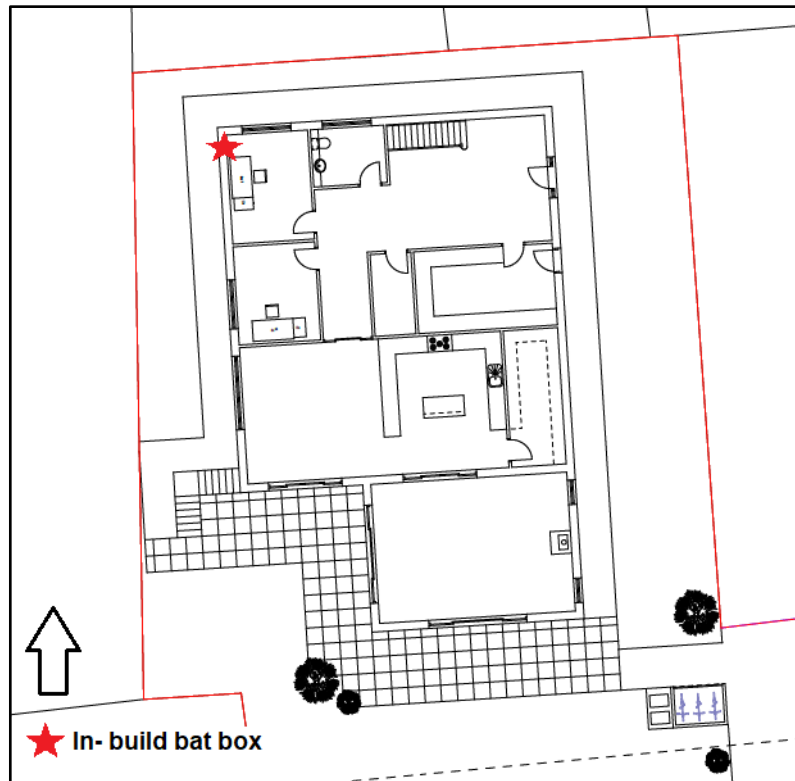
Ecological Impact Assessment for Cross Cottage, Glanton, Northumberland

Summary

- An ecological survey was requested primarily for bats and birds for Cross Cottage, Glanton, Northumberland by the owner Mrs Victoria Bell.
- Cross Cottage is situated to the south of the residential area of the village, which is surrounded by agricultural land of mainly improved grassland. To the southeast is arable land and boundaries are mainly fences and hedges. There are few trees around the village, suitable for foraging bats, however no areas of notable woodland or plantation are present.
- The building surveyed is brick built with a pitched corrugated asbestos roof.
- The proposals are to demolish the building to give access to the site and build two residential units on the land.
- Inspection results of the building affected by the proposals had no obvious evidence of bats present within or externally, however due to the possible roost potential at the ridge giving a low risk, one dusk survey was carried out.
- Known bat activity within 2km of the site are breeding roosts of Pipistrelle 45kHz and Brown long-eared within 200m to the north and a maternity roost of Pipistrelle 55kHz 2.7km to the northwest and an occasional Brown long-eared 2.7km to the north. Foraging whiskered/Brandt's and Pipistrelle 45kHz are also recorded within 2km.
- The emergence survey confirmed no bat emergence from the property though after sunset a small number of Pipistrelle 45kHz and a Pipistrelle 55kHz bats were noted commuting over the site.
- No bat roost is likely to be affected due to the proposals. Timing of any destructive works to avoid the hibernation period (November to March inclusive) if possible, will ensure that the works have as little negative affect as possible on bats. Dismantling works September to Feb to avoid the breeding period of birds, unless a suitably qualified ecologist has first confirmed that no nests are present.
- Mitigation in the form of an in-built bat box and sparrow terraces will be provided in the renovated building.
- No active nesting birds were noted around the building. Any nesting bird species though will be allowed access to the nest until the young have fledged.

Figure 1. Ecological Mitigation Plan - Little Dunant





1. Introduction.

The inspection was carried out and reported by Ruth Hadden BSc an experienced Ecologist and Licensed Bat Surveyor.

Figure 2. Survey area of the site within red and blue boundaries

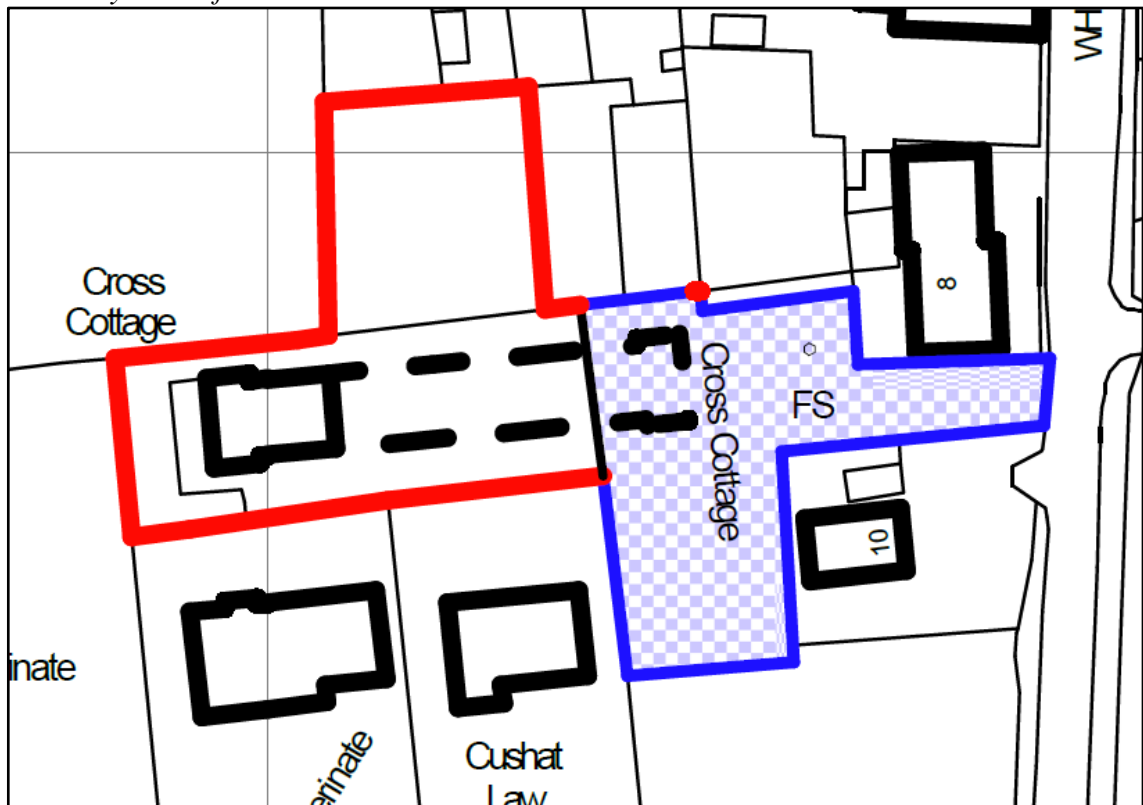
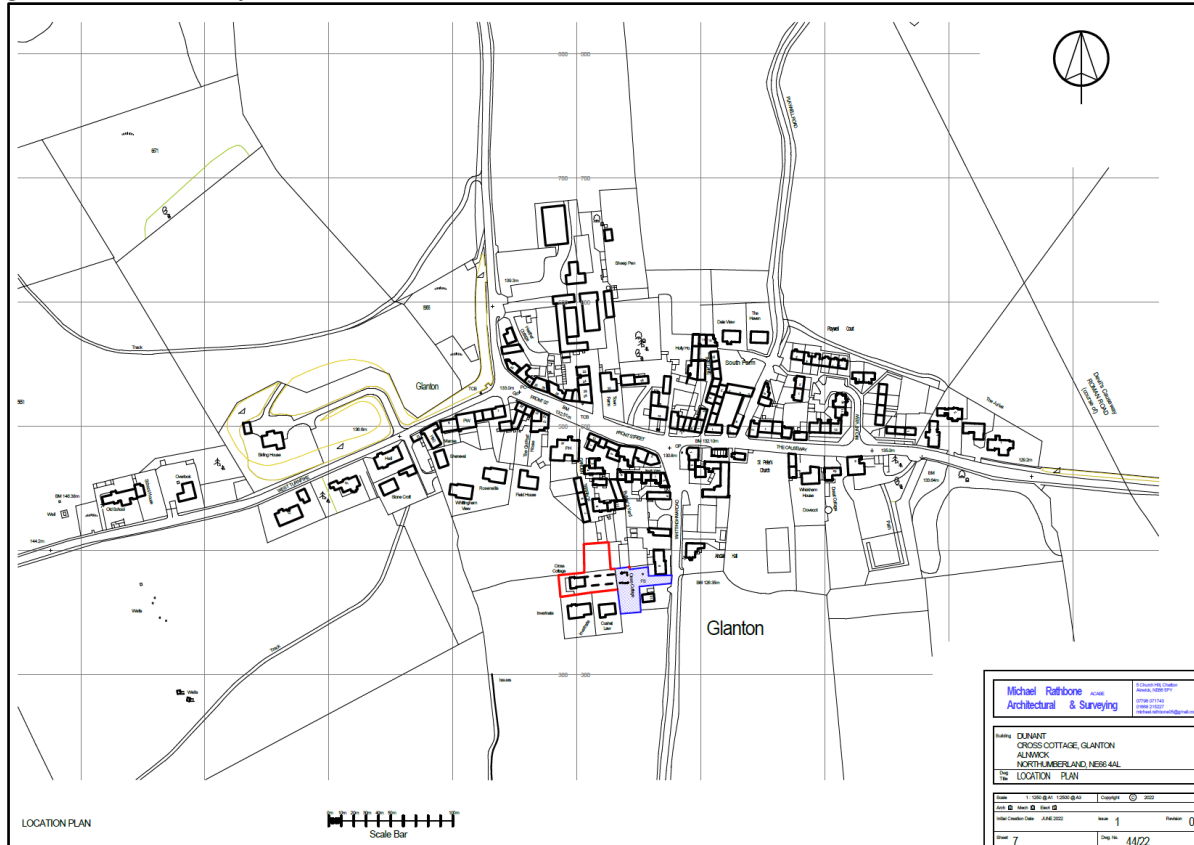


Figure 3. Location of site.



2. Relevant Policies and Legislation.

Under Section 25 (1) of the Wildlife & Countryside Act (1981) local authorities have a duty to take such steps as they consider expedient to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species.

The Natural Environment and Rural Communities Act (2006) places a Statutory Biodiversity Duty on public authorities to take such measures as they consider expedient for the purposes of conserving biodiversity, including restoring or enhancing a population or habitat.

The National Planning Policy Framework (NPPF) states “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;” (paragraph 175).

ODPM Circular 06/2005/Defra Circular 01/2005 states that the presence of a protected species is a material consideration when considering a development proposal that could harm the species or its habitat.

Appendix 1 details legislation relating to applicable species.

Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal

importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. This includes planning decisions.

2.1 Designated Sites

Site of Special Scientific Interest (SSSI) citations are for special features of importance to nature conservation. Sites of Special Scientific Interest (SSSIs) are nationally important sites protected under laws including The Wildlife and Countryside Act 1981, Countryside and Rights of Way Act 2000. LPAs must consult Natural England on planning applications that might affect SSSIs. Operations that could damage special interests require consent by Natural England. It is an offence for any person to intentionally or recklessly damage or destroy any of the features of special interest of an SSSI, or to disturb wildlife for which the site was notified.

3. Methodology.

3.1 Scope of the Assessment.

The zone of influence of this development is defined as being the site itself and habitats to the immediate boundaries within 2km.

The assessment has included consideration of:

- designated sites
- habitats and species of principal importance for conservation of biodiversity
- protected species, namely bats.

3.2 Desktop Survey.

Natural England's Magic on the Map website was accessed for details of any designated wildlife sites within 2km.

The Environmental Records Information Centre North East (ERIC) data search has been restricted to bats, as this is the major constraint to any destructive building works.

Natural England's Magic on the Map and OS Explorer 1:12500 maps were used to assess the distance to habitat features close to the site.

3.3 Site Survey

The survey area covered the buildings only within the red line boundary as shown within Figure 2 and included searching for signs of any wildlife using the site with the key aspects listed below.

The survey included an assessment of habitats on site for use by bats following the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3rd edition, 2016) and Natural England's definitions except where indicated. The survey effort at the site has taken account of the recommendations of the BCT Good Practice Survey Guidelines, taking proportionality into account and the proposals.

Field Survey for Bats and Birds

Visual Inspection

A close inspection of the building was made in good light, and by torch where required. The exterior and lofts of the building was examined as far as was feasible for signs of bats: droppings, urine streaks, clean cobweb-free areas on the ridge boards or crevices and potential roost exit holes. All external and internal crevices were checked using a torch and possible roosting sites were noted. Crevices loving bats can be difficult to find especially when bats are present between the roofing felt and slate/tiles. Emergence surveys were therefore used to check for the presence of bats missed during the visual inspections. Beneath ledges the ground was examined for feathers, pellets and birdlime that could indicate occupation by barn owls.

Emergence Survey

As dusk fell 3 surveyors, each using visual observations and bat detectors (Echo Meter Touch), and two-way radios, carried out the evening emergence surveys, covering all aspects of the buildings. Bat detectors convert bat echo-location signals into audible sounds, enabling the identification of some species, and aid the monitoring of the number of bats present. Two-way radios help to determine the emergence and flight paths of a bat seen by surveyors around the site and allow the bat activity of the whole site to be understood, whilst at the site.

Surveyors are on site for at least quarter of an hour before sunset and up to 1½ hours after sunset or until darkness falls as reduced visibility does not allow bats to be seen emerging from the building being surveyed. After this time any bats picked up by detector, cannot be guaranteed to have emerged from the building in question, but confirms if additional species are present in the area or not. If bats or a maternity colony is present the bats are counted until no bats have left the roost for 10 minutes for as long as it takes.

Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	27 July 2022	Externally and internally (40 mins).	Fine and dry
Emergence	27 July 2022	9.05pm – 10.50pm (Sunset 9.19pm)	Fine, cloudy and still. 15-14°C

Personnel

Ruth Hadden – Bat Consultant since 1996, Class Survey Licence CL20 2015-13665-CLS-CLS (Bat Survey Level 4). Licensed to handle bats and enter known roosts since 1986. Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM

Ben Hadden – Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 201514223-CLS-CLS. 15 years of experience.

Beth Patience 14 years of experience

3.4 Assessment.

The assessment has been conducted according to the *Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine*, CIEEM, September 2018. Impacts are considered for during construction and occupation.

Preliminary Ecological Appraisal Reports (PEAR) which CIEEM guidelines¹ states can be used to support a planning application where it can be determined that the project would have no significant ecological effects, no mitigation is required, and no further surveys are necessary. PEARs though can also provide;

- the results of initial ecological surveys associated with a proposed development
- identify further ecological surveys necessary to inform an EcIA
- identify ecological constraints to a project
- make recommendations for design changes
- highlight opportunities for ecological enhancement.

4. Baseline Ecological Conditions

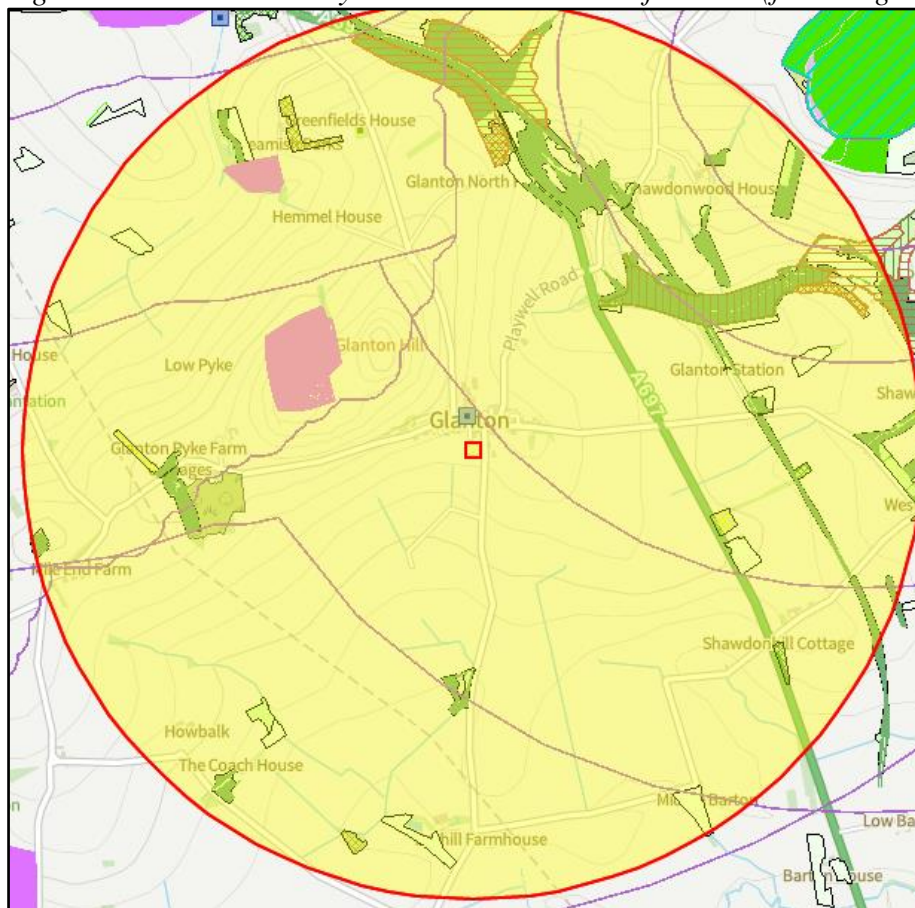
4.1 General

The building surveyed is located at NU070143 as shown below

4.2 Designated Sites

There are no statutory designated sites within 2km of the site, however the development site falls within the impact risk zones for SSSI's in the wider area.

Figure 4. Designated Sites and Priority Habitats within 2km of the site (from magic.defra.gov.uk)



¹ Guidelines for Ecological Report Writing Second Edition December 2017

4.3 Habitats

Figure 4 shows BAP Priority Habitats, within 2km (listed under Section 41 of the Natural Environment and Rural Communities Act 2006). These habitats are mainly deciduous woodland, ancient and semi-natural woodland, good quality semi-improved grassland, traditional orchard and wood pasture and parkland.

4.4 Species and Species Groups

4.4.1 Desktop Search

Records from the Environmental Records Information Centre North East (ERIC) show results from within 1-2km of the site for bats. There is one granted European Protected Species licence for bats and none for great crested newts within 2km. There are no ponds shown on Magic within 2km.

4.4.2 Habitat description

The site is located in Glanton to the south of the residential area of the village. Two further properties are present immediately to the south. Agricultural land surrounds the village of mainly improved grassland, further afield to the southeast is arable land and boundaries are mainly fences and hedges. There are few trees around the village, suitable for foraging bats, however no areas of notable woodland or plantation is present.

The site consists of a single storey brick-built building with a disused allotment area to the north (Area 2) and an area of hardstanding and rubble to the south colonised by weeds and ruderals (Area 1), both areas had been strimmed. Please see Appendix 2 for species lists. Boundaries are wooden fences and low stone walls where present.

Target Notes

1. Log shed, used by roosting and nesting birds.
2. Concrete base
3. Tank
4. Snowberry (*Symphoricarpos rivularis*)
5. Brick walled section. No roof.

4.4.3 Bats

Pre-existing information on the species at the site.

There are no known pre-existing records for the site. The closest records are for flight records of Pipistrelle 45kHz bats within 200m to the north (2016). (ERIC North East).

Status of species in the local/regional area.

Known bat activity within 2km of the site are a maternity roost of Pipistrelle 55kHz 2.7km to the northwest (2008) and an occasional Brown long-eared 2.7km to the north (2013). Foraging whiskered/Brandt's and Pipistrelle 45kHz are also recorded within 2km. (ERIC North East. A full data set available upon request).

One granted European Protected Species licence for bats is for breeding Pipistrelle 45kHz and Brown long-eared within 200m to the north (2013), (Magic Site)

Locally and regionally, the Common Pipistrelle is the most common bat. Both Pipistrelle 45kHz and 55kHz bats are frequent in northern England, although Pipistrelle bats are the

most abundant species, they are thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 monitoring by the National Bat Monitoring Programme (NBMP) has shown that bat numbers seem to be steady with small fluctuations up or down depending on the species and survey type carried out. The Brown long-eared bat is occasional with colonies much smaller in numbers than the Pipistrelle. Daubenton's, Natterer's and Whiskered/Brandt's bats are also occasional but widespread in Northumberland with an average colony size being about 35 adult bats. The Nathusius' Pipistrelle is a rare bat, has migratory habits and has been proved to fly across the North Sea from Bristol to Holland and has occasionally been recorded in Northumberland throughout the season.

Bats – Daytime Risk Assessment

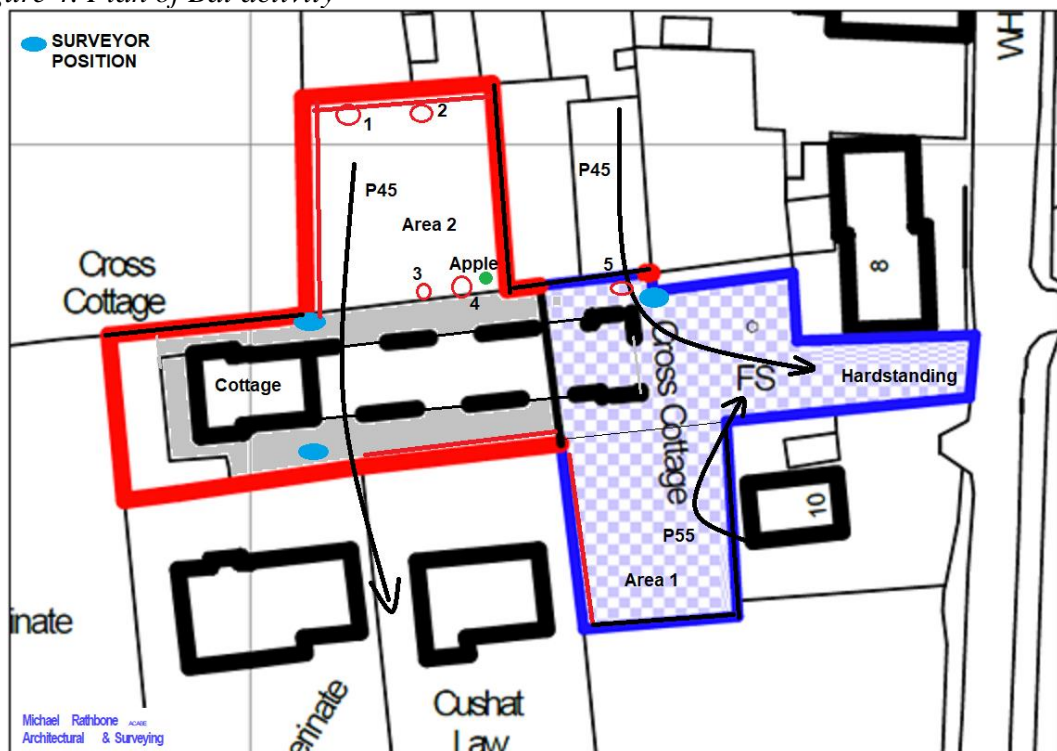
Inspection results of the exterior of the enclosed single storey brick built building affected by the proposals, identified no traces or evidence of bats. The building is enclosed and had a pitched corrugated asbestos roof, lined beneath, with no loft present. There was no obvious evidence of bats present within, however due to the occasional area of missing ridge giving a low risk of roost potential, one dusk survey was carried out.

No potential bat hibernation sites were identified in the building; however, bats may be present in any suitable crevice within the walls.

Bats – Activity Surveys

The emergence survey confirmed no bat emergence from the property though after sunset small numbers of Pipistrelle 45kHz and Pipistrelle 55kHz bats were noted passing over the site to the south. Please see Appendix 2 for further details.

Figure 4. Plan of Bat activity



4.4.4 Bird Assessment

No birds were seen on site apart from a dead swallow and an old nest within the building and a dead goldfinch in the garden area.

5. Photographs of the Site



West end of the building from the southeast

Looking west along south aspect



North aspect looking east

North aspect looking west



Tarmacked access, looking east

Looking west, neighbours' access to the left





Cottage at west end, looking east.



Soffits well sealed.



Looking west at the west end of the building



Area 1 ruderals over rubble

Area 1 Looking southwest



Area 2 looking northeast





Log Shed from the south

Looking west



Southeast corner of the Allotment Area 2.



Bird lime revealing bird roosting crevice



Interior of the building



No loft area, roof lined





Gap in the ceiling showing the corrugated asbestos roof

Tortoiseshell butterflies in the corner



Target note 5 roofless brick section

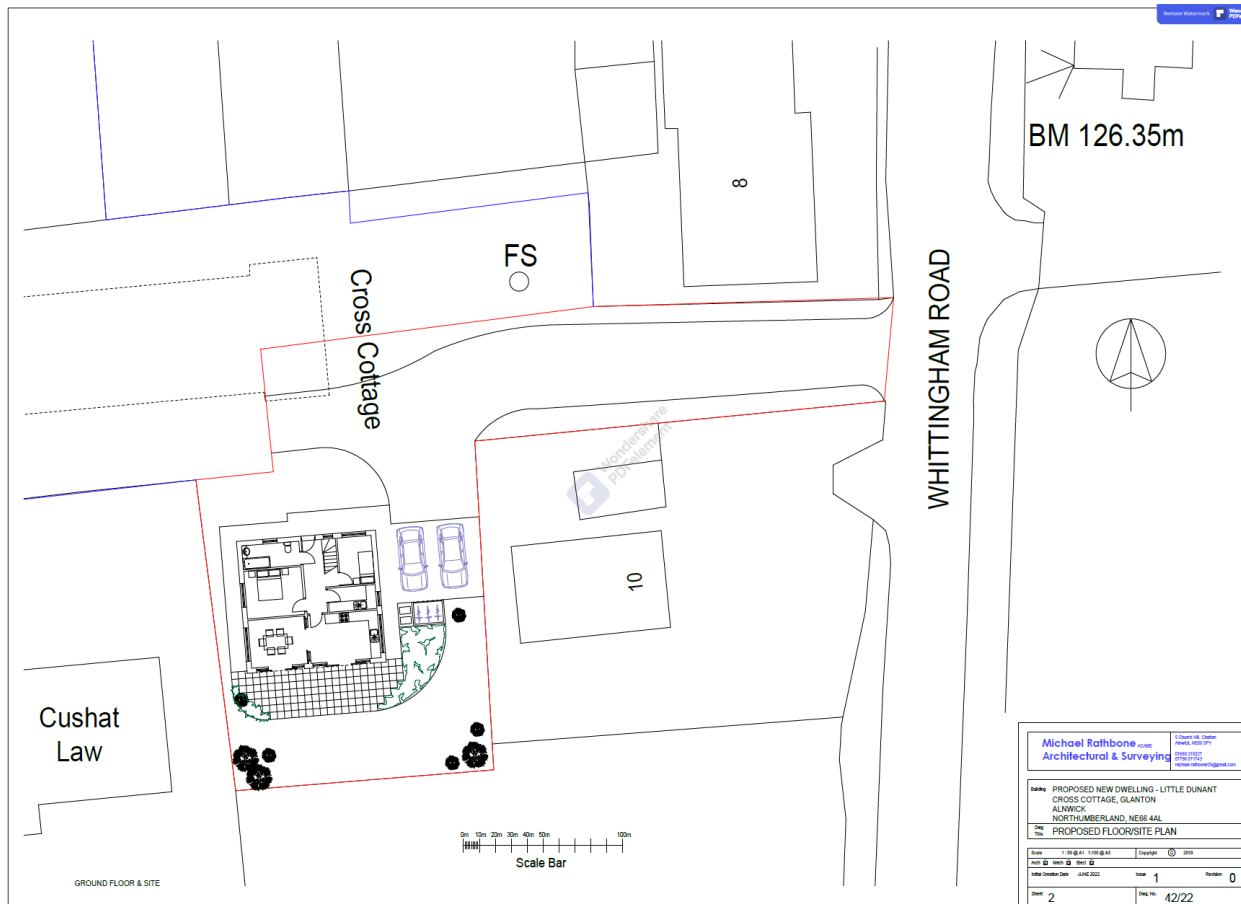
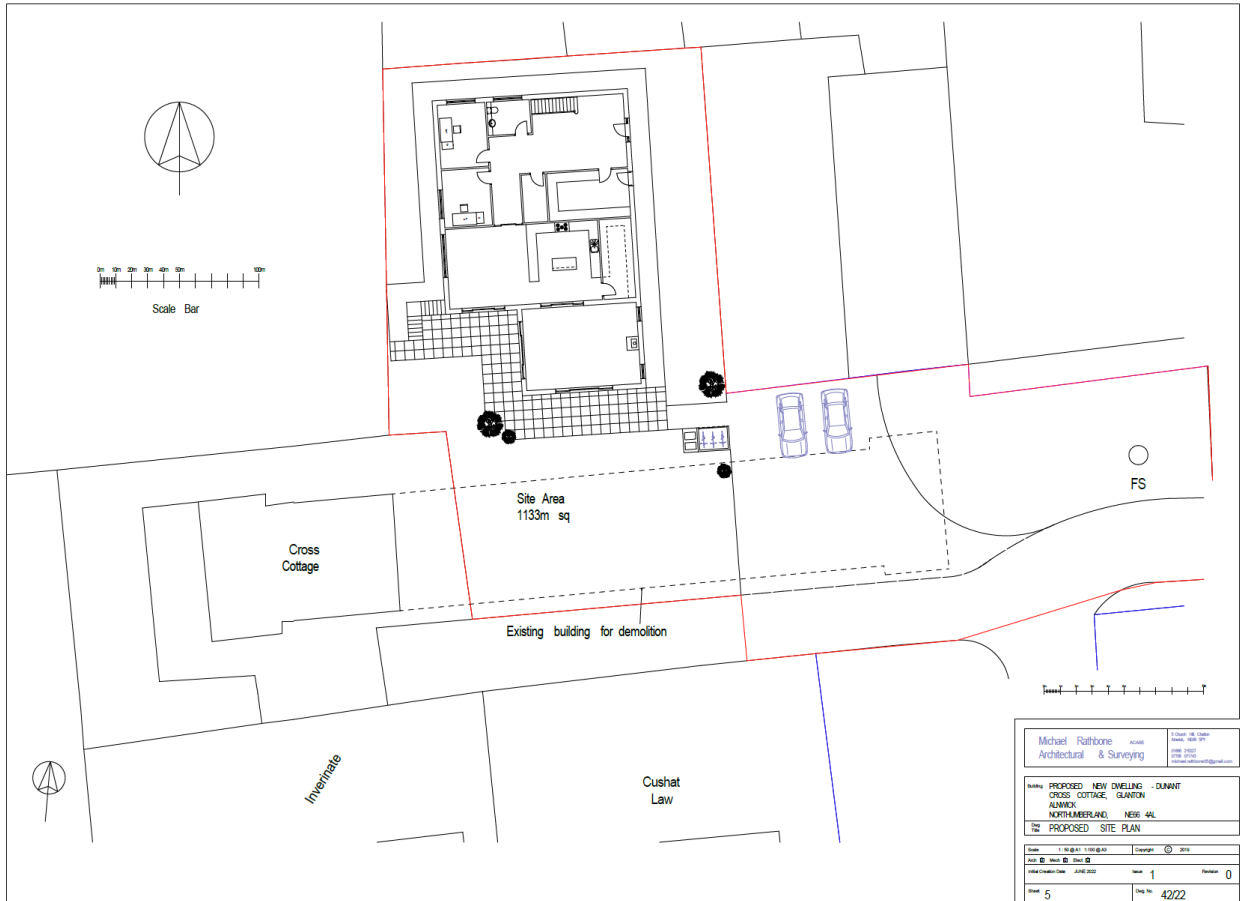
Roof of the building



6. Description of Proposed Development.

The proposals are to demolish the building and to build two residential properties on the site. This will entail removing the timber log building to the north of Area 2.

Figure 5. Proposed Works



7. Assessment of Impacts

7.1 Constraints

No constraints.

7.2 Site Based Impacts.

The building due to be renovated has negligible conservation significance for bats as a roost site at present. This assessment takes into account the location of the building and the good feeding habitat and shelter within 300m, the results of the inspection and survey, the construction of the building and the potential of the building as a maternity bat roost site.

Pre-activity impacts are negligible with no changes being made to the use of the buildings.

Mid-activity impacts of the proposed works will not impact any bat roosts. The works may cause disturbance, injury and death to bats or birds, if no mitigation is carried out in the eventuality of an animal being located during any destructive works.

Site Assessment

The site is considered to have negligible conservation significance for bats and low conservation significance for birds.

7.3 Impacts on the SSSI.

The development site does fall within the risk impact zones for the nearby SSSI's in the area, however the works are unlikely to greatly impact these designated areas.

8. Mitigation and Enhancement.

The National Planning Policy Framework (NPPF) requires that the planning system minimizes impacts on biodiversity and provides net gains. The following recommendations will likely be translated into conditions placed on any planning consent. They are intended to reduce the risk of this development to protected species and habitats.

Natural England guidelines on mitigation states timing constraints and like-for-like replacement is a minimum requirement.

8.1 Pollution Prevention

To protect any nearby waterways, measures to be made to ensure that there is no runoff (herbicides, wheel washing, cement washings etc.) either during construction to prevent pollution or sediment issues, or after development. (See Environment Agency's Pollution Prevention Guidelines (PPG5)) for guidance.

8.2 On Site Mitigation

Sensitive timing of any dismantling works between September to Feb to avoid the breeding period of birds, unless a suitably qualified ecologist has first confirmed that no nests are present.

One integrated Build-in WoodStone Bat Box to be built into the west wall at 500mm below the wall top in the new build, Dunant. Please see plan below for locations (Figure 6) and Appendix 3 for diagram.

Two Vivara Pro WoodStone sparrow terraces to be positioned together below the eaves on the east facing wall of Little Dunant. Please see plan below for location (Figure 6) and references for detail.

Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.

A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. **No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.**

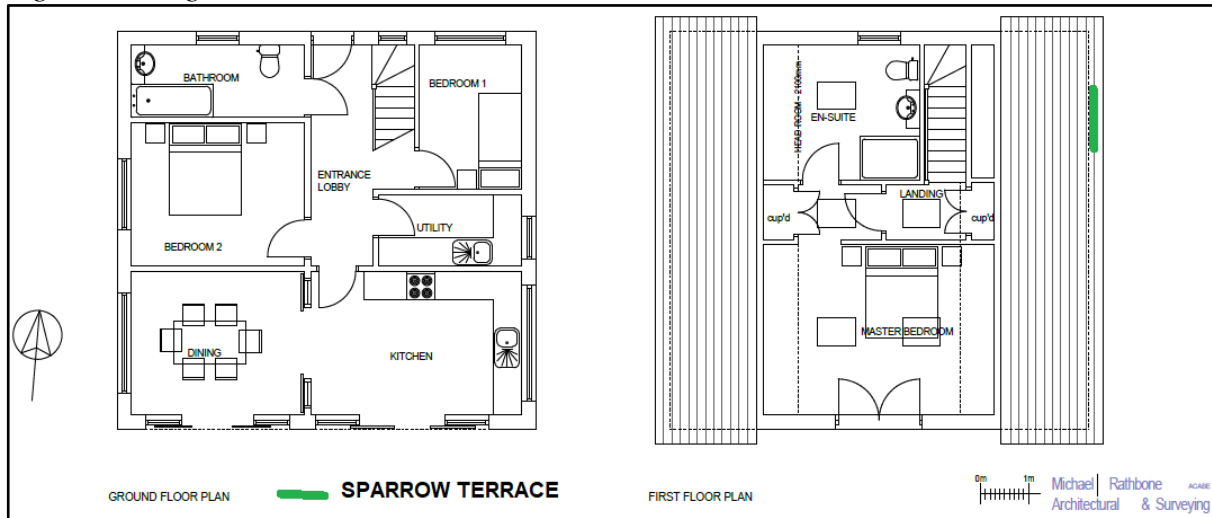
Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

8.3 Mitigation Summary

To maintain bat and bird populations in the area the following will be carried out:-

- A bat and bird Method Statement to be followed in the demolition of the building.
- Bat provision will be made in Dunant and two sparrow terraces will be provided in Little Dunant, please see Appendix 3.
- Any external lighting will be on a relatively short timer, directed away from bat roost access points and flight paths and motion-sensitive only to large objects.
- Any nesting bird species that may be present will be allowed access to the nest until the young have fledged between April and October. Access to swallows to be maintained to the garage.

Figure 6. Mitigation Locations – Little Dunant



Dunant

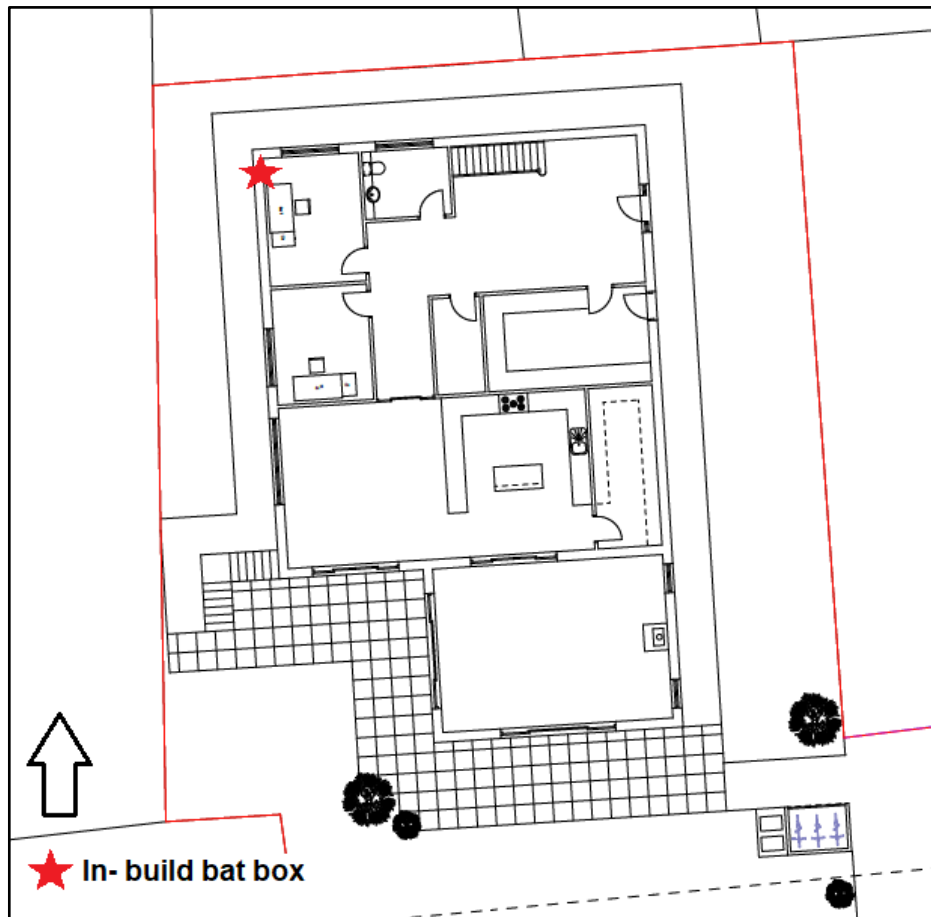


Table 1 Mitigation Summary

Location	Mitigation Type
Dunant, west wall	One integrated Build-in WoodStone Bat Box,
Little Dunant east wall	Two sparrow terraces, adjacent to each other, to be sited at the eaves.

8.4 Enhancement

Not applicable.

8.5 Monitoring

Due to low impact on bat activity on site, by the proposals, no monitoring after the development is completed will be required to assess the success of mitigation. (Bat Mitigation Guidelines 2004, Section 7.2). Ruth Hadden available to liaise with the owners as required regarding the mitigation.

8.6 Conclusions

- Without any mitigation the proposed works will result in low impact on any bat and bird populations that may be present.
- The provision of mitigation in the form of a timing and care will reduce the impact to negligible.
- The provision of two Sparrow Terraces and an in-build bat box will give a small net biodiversity gain over the existing building and site.

9. References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
Chartered Institute and Ecology and Environmental Management (CIEEM) (2017). Guidelines for Ecological Report Writing 2nd Ed.
Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.
Corbet and Harris (1991). The Handbook of British Mammals. Blackwell.
Durkin J L (2016) Amphibian Atlas of North East England.
English Nature (2004) Bat Mitigation Guidelines. EN
Environment Agency's (2007) Pollution Prevention Guidelines: Works and maintenance in or near water: PPG5 <https://www.sepa.org.uk/media/100531/ppg-5-works-and-maintenance-in-or-near-water.pdf>
Institution of Lighting Professionals/Bat Conservation Trust (2018) Bats and artificial lighting in the UK, Guidance Note 08/18.
Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.

Bat boxes: <https://www.nhbs.com/low-profile-woodstone-bat-box>

Build-in WoodStone Bat Box <https://www.nhbs.com/build-in-woodstone-bat-box>

Barn Owl Box : <http://www.barnowltrust.org.uk/infopage.html?Id=41>

Sparrow Terrace: www.nhbs.com/1sp-schwegler-sparrow-terrace

Swift boxes: <https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>

Bird box: <https://www.nhbs.com/1b-schwegler-nest-box>

Swift box <https://www.nhbs.com/woodstone-swift-nest-box>

APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES

Bats

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Barn Owls

Similarly, the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Hedgehog

The hedgehog is protected under the Wildlife and Countryside Act (Schedule 6) and is a priority species in the UK BAP and Northumberland BAP.

The Act and Regulations make it illegal to:

- Intentionally or deliberately kill, injure or capture (take) using certain methods.
- Hedgehogs are closely linked with urban and in particular garden areas and can be commonly found hibernating beneath garden litter.

Biodiversity

The National Planning Policy Framework (NPPF) 2012 requires Local Planning Authorities (LPA's) to seek to deliver biodiversity enhancement through the planning system, see paragraphs 9, 109 and 118. In particular Paragraph 109 includes a statement:

The planning system should contribute to and enhance the natural and local environment by:

- 'minimising impacts on biodiversity and providing net gains in biodiversity.'

APPENDIX 2. SURVEY DATA

Table 2 Emergence survey results.

Date	Bat Activity
27 July 2022	
9.19pm	Sunset
9.44pm	Pipistrelle 45kHz bat heard not seen.
9.50pm	No bats inside
9.51 – 10.07pm	2 Pipistrelle 45kHz bat flew from the north to the south over the ridge
10.00pm	Pipistrelle 45kHz bat flew from the north to the east
10.01pm	Pipistrelle 45kHz bat heard not seen. Pipistrelle 45kHz bat north t.
10.19pm	Pipistrelle 55kHz bat flew from the house south of the drive to the east
10.50pm	Survey concluded

Species List for Area to the South

Systematic Name	Common Name	DAFOR
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Ranunculus repens</i>	Creeping Buttercup	LF
<i>Rumex obtusifolius</i>	Broad-leaved Dock	LF
<i>Trifolium campestre</i>	Hop Trefoil	LF
<i>Trifolium repens</i>	White Clover	LF
<i>Cirsium vulgare</i>	Spear Thistle	O
<i>Epilobium montanum</i>	Broad-leaved Willow-herb	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Plantago major</i>	Greater Plantain	O
<i>Symphytum</i> sp.	Comfrey	O
<i>Taraxacum officinale</i> .	Common Dandelion	O
<i>Teucrium scorodonia</i>	Wood Sage	O
<i>Vicia sepium</i>	Bush Vetch	O
<i>Rosa</i> sp	Rose	R

Vegetation List for Area to the North

Systematic Name	Common Name	DAFOR
<i>Ranunculus repens</i>	Creeping Buttercup	A
<i>Dipsacus fullonum sylvestris</i>	Teasel	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Calystegia silvatica</i>	Greater Bindweed	LF
<i>Trifolium repens</i>	White Clover	LF
<i>Alchemilla mollis</i>	Lady's- mantle	O
<i>Alopecurus pratensis</i>	Meadow Foxtail	O
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O
<i>Cirsium arvensis</i>	Creeping Thistle	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Epilobium montanum</i>	Broad-leaved Willow-herb	O
<i>Lapsana communis</i>	Nipplewort	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Tanacetum parthenium</i>	Feverfew	O
<i>Taraxacum officinale</i> .	Common Dandelion	O
<i>Vicia sativa</i>	Common Vetch	O
<i>Vicia sepium</i>	Bush Vetch	O

DAFOR SCALE

D = Dominant
A = Abundant
F = Frequent
O = Occasional
R = Rare

APPENDIX 3. BAT METHOD STATEMENT FOR CONTRACTORS

This statement should be copied to the site owner, architect, clerk of works and to those contractors whose work may affect bat roosts including those involved in conversion, stone treatment, roofing and building works.

Bats are fully protected by law. To avoid breaking the law by damaging or disturbing bat roosts, resulting in possible imprisonment, fines or confiscation of equipment, certain procedures have to be followed.

Legislation

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Similarly the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Identifying roosts

Pipistrelle the most common bat, favours small crevices and spaces between brickwork, stone and roofing felt. Bats are small mammals and when at rest the bodies are only 4-6 cm long, their fur colour can range from brown to pale and dark grey. When disturbed the bat is likely to be torpid and unable to fly effectively for some minutes, because of this they are vulnerable to injury as they are not fast moving and may fall to the ground, breaking bones or be accidentally crushed. Basically, when material from the roof and tops of the walls is removed any crevices underneath should be checked to ensure that no bat has been disturbed.

Other traces that can indicate a past presence of bats are their droppings. These resemble mouse droppings but unlike mouse droppings can be crumbled to dust between finger and thumb. Droppings may be found on wall tops and beneath slates and tiles on top of any sarking.



Photo showing disintegrated bat droppings beneath coping stones. If examined carefully, in the black dust exoskeletons of insects can be seen shining.

Timing

Any development work involving the removal of the existing roof materials or stonework will be carried out avoiding the hibernation period (November to March inclusive) if possible. Periods of cold weather (below 5°C including night temperatures) will also be avoided if possible as any bats present will be in hibernation torpor and be extremely vulnerable. If torpid bats are encountered and disturbance is unavoidable the bat will be taken into care and fed until suitable conditions for release at the site is possible.

Contractors

All contractors will be aware that bats may be present in the area and could be present within the loft space and may be found torpid in crevices if any. Table 1 below highlights where bats may be found and the recommendations. Any bats found during operations will have the cavity re-covered for its safety and any work in the vicinity will cease. Ruth Hadden to be informed for advice immediately (01661 886562). As only licensed bat handlers can move bats and the contractors are not permitted to handle bats, the bat will be allowed to disperse of its own accord overnight.

Table 1 General Methodology for Demolition Works

STRUCTURE	METHOD	INSPECT
Roofs	Remove any ridge tiles and roof slates, lifting vertically to prevent any bats from being crushed. Removal of any beams.	Check any crevices underneath the roofing materials including the underside, as it is removed. Check any crevices around the beams as work proceeds.
Walls/Eaves	Expose the wall tops.	Examine for bat droppings and any wall cavities for bats.

When the roof coverings and the wall tops have been exposed for 24 hours the remainder of the buildings can be demolished, however if this is carried out in temperatures below 5°C the walls will be left for a further two days.

If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance. Any nesting bird species will be allowed access to the nest until the young have fledged between April and October.

Mitigation Summary

Sensitive timing of any dismantling works September to Feb to avoid the breeding period of birds, unless a suitably qualified ecologist has first confirmed that no nests are present.

One integrated Build-in WoodStone Bat Box to be built into the west wall at 500mm below the wall top in Dunant. Please see plan below for locations (Figure 6) and Appendix 3 for diagram.

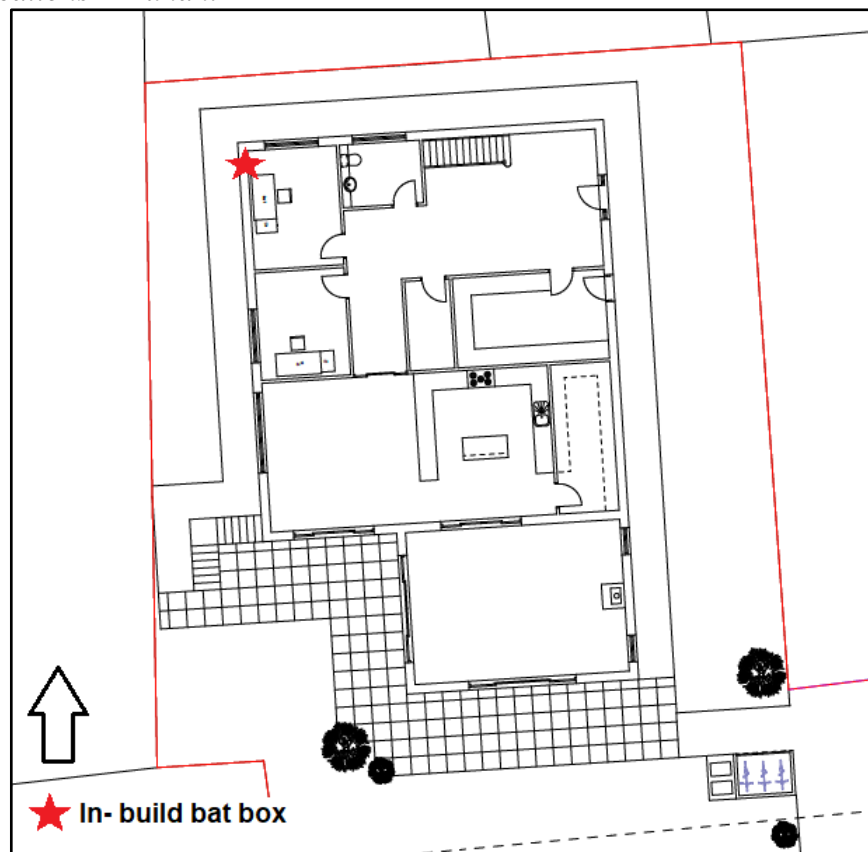
Two Vivara Pro WoodStone sparrow terraces to be positioned together below the eaves on the east facing wall of Little Dunant. Please see plan below for location (Figure 6) and references for detail.

Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.

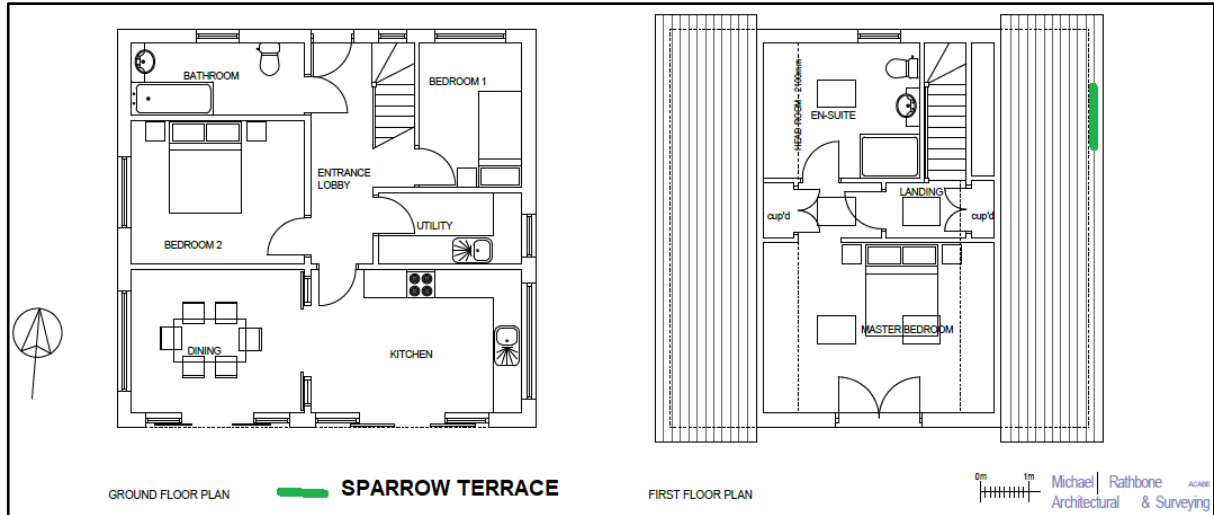
A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. **No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.**

Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

Mitigation Locations – Dunant



– Little Dunant



MITIGATION FEATURES

Build-in WoodStone Bat Box



Vivara Pro WoodStone sparrow terrace

