

**WALLTOWN CRAG CENTRE, NEAR GREENHEAD,
PROPOSED DEVELOPMENT
BAT AND BARN OWL REPORT – SUMMER 2014**

SECTION 1 BACKGROUND AND SUPPORTING INFORMATION

A. Executive Summary

- Walltown Crag Centre is situated close to Hadrian's Wall near Greenhead in Northumberland. The Centre is stone built with a slate roof. The proposals are to create two extensions/lean-to's to the Centre and to enclose the present seating area as a visitor centre.
- Inspection results revealed the presence of a scatter of large bat droppings beneath the ridge and in one other area in the loft space over the kitchen and shop consistent with a small number of void-loving bats (Brown Long-eared). Two species of bats have in the past emerged from the centre at dusk in small numbers from two sites on the west gable and north eaves, with the west gable being in use in use more consistently in 2014 by Pipistrelle 45kHz bats. A Brown Long-eared bat emerged from the covered area during the August survey and a Daubenton's bat during the September survey.
- There are some good bat-feeding corridors in the area along the plantation edges, over the lake and below cliffs in sheltered areas.
- There are several roosting sites in the building at the eaves and gable walls that have been highlighted and a method statement provided for the development. The occasional bat may also be present in any suitable crevice at any time of the year in small numbers. Timing of the development works affecting the existing roof and eaves to avoid the hibernation period, the retention of the gable and eaves crevices used by bats and a cautionary methodology will ensure that the development has as little negative affect on bat conservation status as possible.
- All contractors involved in the development will read the method statement, prior to commencing the work.
- There were no traces of Barn Owls around or in the building. Swallows are present and any nesting birds will be allowed access to the nest until the young have fledged.

B. Introduction.

B1 Background.

Walltown Crag Centre is situated close to Hadrian's Wall near Greenhead in Northumberland. The Centre is stone built with a slate roof.

B2 Proposed Works.

The proposals are to extend and internally redesign the layout of the Visitor Centre with two extensions/lean-to's to the south and east to provide a covered sitting area and access. The present seating area will be enclosed as a visitor centre and the existing WC's are also to be reconfigured as part of the works with new access created to the exterior of the building.

External works involve the installation of a sewage system and temporary office accommodation to the south of the building.

C. Survey and site assessment

C1 Pre-existing information on the species at the site.

Surveys carried out on site identified 3 Pipistrelle 45kHz bats from the west gable in May 2010 and a Whiskered/Brandt's from the north eaves in June 2010. Foraging Pipistrelle 55kHz, Natterer's and Noctule bats were also recorded in the area (2010).

C2 Status of species in the local/regional area.

Known bat records within 2km of the site are roosts of Pipistrelle (1990), Natterer's (2003) and an unknown species (1988). Foraging Brown Long-eared, Pipistrelle 45kHz and 55kHz and Whiskered/Brandt's are known 3km to the northeast (2012). (Own Records 1986-2014)

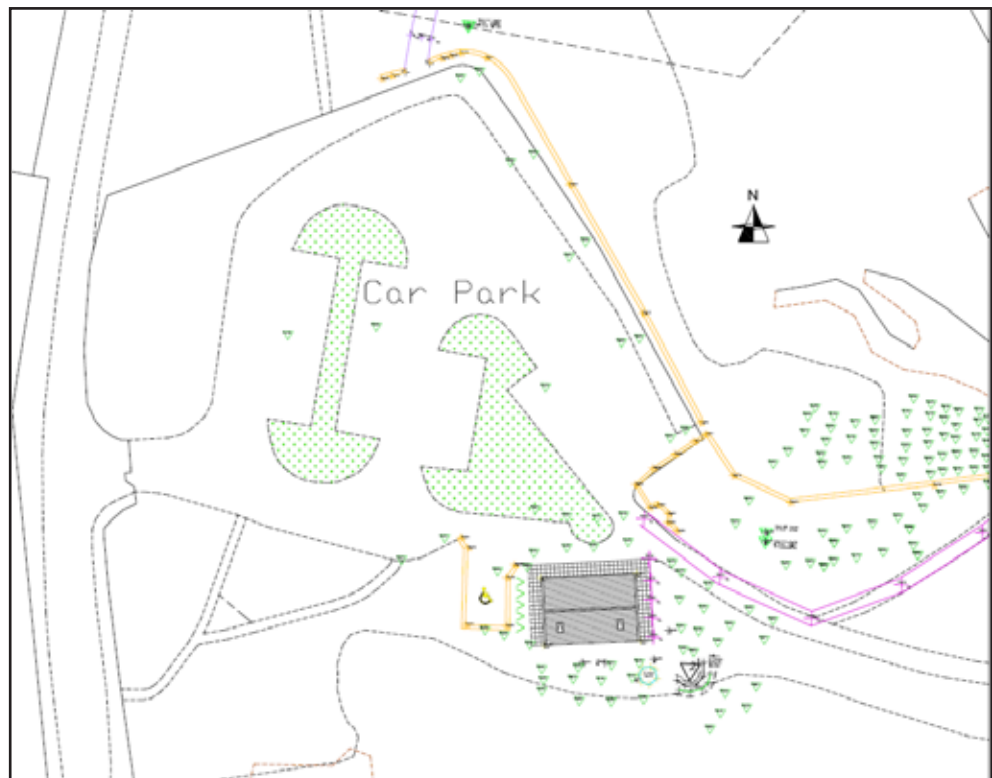
Locally and regionally, the Common Pipistrelle is the most common bat. The Pipistrelle bat is frequent in Northumberland, although it is the most abundant species it is thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 monitoring by the National Bat Monitoring 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 the colony sizes can be larger.

C3 Objectives of survey

The survey was to determine as far as possible, the presence of bats and Barn Owls including their roost sites at Walltown Crag Centre, near Greenhead affected by the proposals. The aim is to prevent any animal being physically harmed, to protect all roost sites where possible and to provide mitigation for the proposed renovation to maintain conservation status.

C4 Survey area

The building surveyed is located at NY669659 and is shown below.



Photographs of the Site



The building from the southeast.

The Centre from the northwest.



C5 Habitat description

The Visitor Centre is situated about 1km northeast of Greenhead and located in agricultural land consisting of permanent improved grassland with boundaries of walls. Immediately to the northeast rough grassland is present on a crag with some scrub and planted saplings and also further afield. In all directions young mixed plantations provide some foraging for bats. Two small lakes are present 100m to the east and 400m to the north and further mature plantations are present to the south and east providing good foraging for bats.

Bat roosts are limited to scattered residences in the area or buildings in Greenhead.

C6 Field Survey

C6.1 Methods

A close inspection of the building was made in good light, by torch where required. The interior including the loft spaces and exterior of the building were 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.

As dusk fell 2 surveyors, using visual observations and bat detectors (EM3 and Bat Box IIID) and two-way radios, carried out the evening emergence surveys. Two surveyors were on alternative corners of the building and one monitored activity in the area of the proposed turbine. 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 allows 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.

C6.2/3 Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	6 August 2014 11 September 2014	Externally (15 min) both visits and internally on second visit.	Fine and dry
Emergence	6 August 2014	8.40pm – 10.25pm (sunset 8.58pm)	Fine, light cloud and slight breeze 17-15°C
Emergence	11 September 2014	7.15pm – 8.55pm (sunset 7.32pm)	Fine, light cloud and slight breeze 16-13°C

C6.4 Personnel

Ruth Hadden - Bat Consultant since 1996, Class Survey Licence WML CL20 (Bat Survey Level 4). Licensed to handle bats and enter known roosts since 1986. Class Survey Licence WML CL15 (Volunteer Bat Roost Visitor Level 1). Registration number CLS0 2762. Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM Steve Hadden

C7 Results

The centre is stone built with a slate roof with a felt sarking and the occasional missing slate. The building has two loft spaces, one over the toilets and one over the kitchen/ shop area. An



Active swallow nests



open covered area is lined with wood with crevices present where it abuts the stonework. A bat box is in place. The bat box was checked in June 2010 and though bat droppings were seen no bats were present or emerged during the May survey. No bat droppings were present in 2014 with only Woodlice droppings present.

The bat box is presently located on the far wall.



Small patch of large Brown Long-eared bat droppings, 2014.

No bat droppings were present on the walls and windowsill on the north wall, where a crevice is present around the insect mesh at the eaves and from where a Whiskered/Brandt's bat emerged in 2010. The building is well pointed with only one crevice seen on the west gable wall close to the apex, it was from this that 2 Pipistrelle 45kHz bats emerged confirming that the roost is still in use this year. Internally in the kitchen loft small clusters of large bat droppings were located internally on the west wall and on top of the water tank (the lid and insulation had slid off, needs to be resealed) and floor of the loft (2010). Fresh bat droppings consistent with Brown Long-eared were also found in 2014.

The August emergence survey revealed 2 Pipistrelle 45kHz bats emerging from the west gable of the building and a silent bat, possibly a Brown Long-eared emerging from the covered area. A further three species were identified foraging in the area, Pipistrelle 55kHz crossing the car park and at the lake, Whiskered/Brandt's at the lake and a Noctule bat flying high overhead. The September survey identified 4 Pipistrelle 45kHz bats emerging from the west gable and 1 from the ridge/skylight area on the south aspect, plus a Daubenton's bat was also heard under the covered area, but as it was dark the exact emergence point was not confirmed.

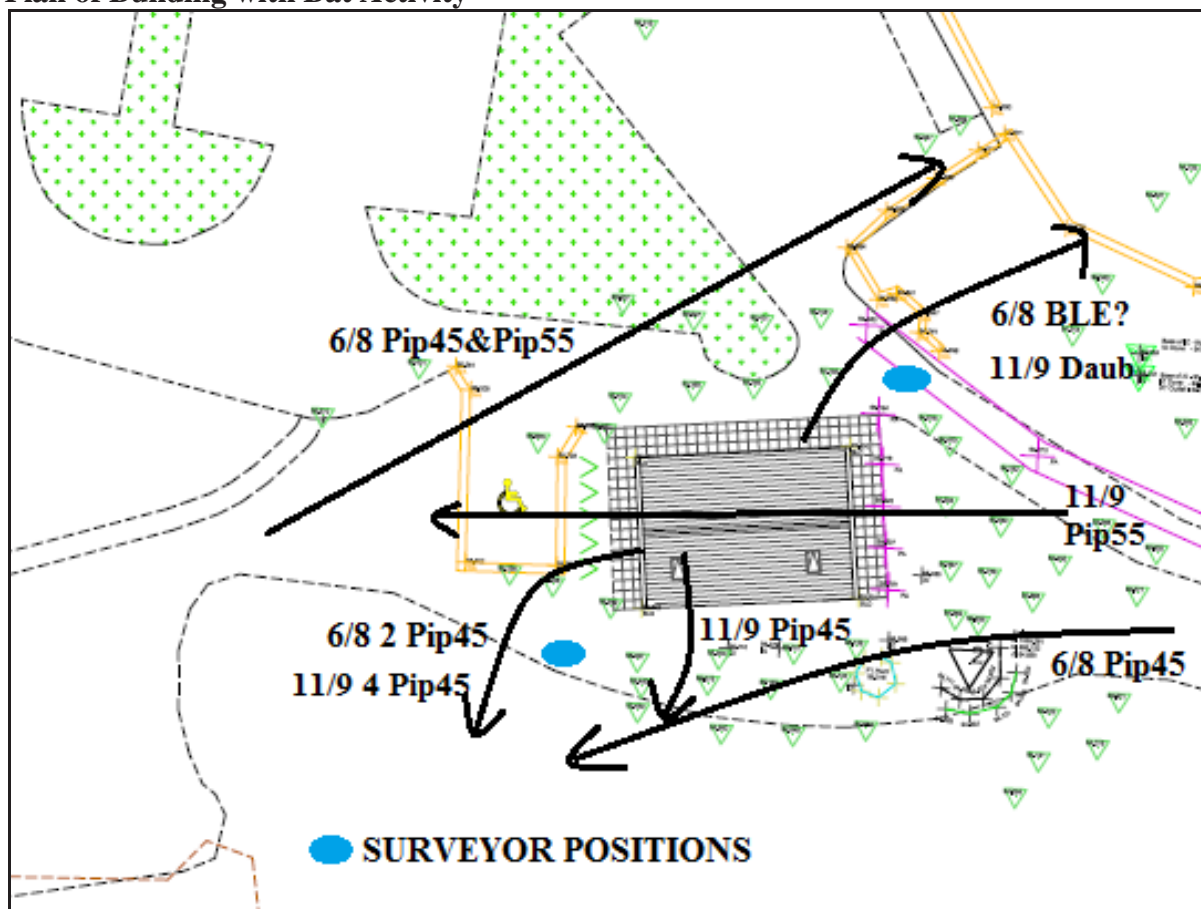
Table 1 Emergence survey results.

Date	Bat Activity
6 August 2014 8.58pm 9.12pm 9.13pm – 9.30pm 9.28pm 9.29pm 9.30pm 9.31pm 9.39pm 9.40pm 9.53pm - 9.54pm 9.56pm – 10.13pm 9.59pm 10.11pm 10.25pm	Sunset Bat murmur heard not seen 2 Pipistrelle 45kHz bats emerged from a crevice close to the west gable apex. Pipistrelle 55kHz bat crossed the car park to the northeast. Pipistrelle 40-42kHz bat crossed the car park to the northeast. Silent bat emerged from covered area. Pipistrelle 45kHz bat flew from the east into the trees. Noctule seen above. Pipistrelle 45kHz bat crossed the car park to the northeast. Noctule seen above. Pipistrelle 45kHz and 55kHz foraging at the lake Whiskered/Brandt's bat heard at the lake Myotis sp (Daubenton's) heard at the lake Survey concluded.
11 September 2014 7.32pm 7.38pm – 8.02pm 7.55pm 8.04pm 8.06pm 8.11pm 8.17pm 8.21pm 8.32pm 8.35pm 8.38pm 8.45-8.47pm 8.55pm	Sunset 4 Pipistrelle 45kHz bats emerged from a crevice close to the west gable apex. Pipistrelle 45kHz bat emerged from the south aspect of the roof from the ridge or close to a roof light. Pipistrelle 45kHz bat heard not seen to the south. Heard not seen to the west of the building. Pipistrelle 45kHz bat heard to the west and in the covered area. Pipistrelle 55kHz bat heard not seen. Pipistrelle 55kHz bat flew over the building to the west. Myotis sp. (Daubenton's) bat heard beneath the covered area, possible emergence. Pipistrelle 55kHz bat heard not seen. Pipistrelle 55kHz bat heard not seen. Myotis sp (Daubenton's) heard at the lake Survey concluded.

Possible hibernation sites include any suitable cavities if present, in the walls and wall tops of the building.

There was no evidence of barn owl activity on site. Several active swallow nests were present in the covered area and on the south eaves.

Plan of Building with Bat Activity



C8 Interpretation and evaluation

C8.1 Presence

The occasional crevice-loving bat, Pipistrelle 45kHz, a possible Brown Long-eared bat (confirmed through droppings) and a Daubenton's bat were identified as emerging and roosting in the building. There is always the possibility of the additional occasional bat being present in a crevice e.g. on the gable or eaves wall tops and below flashing throughout the year including the hibernation period.

Four species were identified as being in the locality in low numbers, with Whiskered/Brandt's and Pipistrelle 55kHz foraging and Noctule bats commuting across the site. A *Myotis sp.* bat identified as Daubenton's was also recorded in the covered area and at the lake.

C8.2 Population size

These estimates of population are based on bat activity identified during the surveys, allowing a proportion for additional bats that may be present at other times of the year/night.

Roosts

<8 Pipistrelle 45kHz bats.

< 2 Brown Long-eared bats
<2 Daubenton's bats.

Additional Foraging Species

< 3 Noctule
<5 Pipistrelle 55kHz
<3 Whiskered/Brandt's bats

C8.3 Site status

The building being developed has low/moderate conservation significance for bats as a roost site at present. This assessment takes into account the good feeding habitat within 200 metres, the results of the inspection and survey and the potential of the present building as a maternity roost and the number of species present in small numbers.

The occasional male or non-breeding female bat will be present on the wall tops or in a small crevice such as in the wall cavity where they may be present at any time throughout the year.

C8.4 Constraints

No constraints. The exterior and lofts of the building were accessible and inspected.

D Impact assessment in absence of mitigation

D1 Short-term impacts

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

Mid-activity impacts would be low and would cause disturbance, injury and death to bats, if no mitigation were carried out, in the eventuality of an occasional bat being located during works and injured.

D2 Long-term impacts: roost modifications

Not applicable.

D3 Long-term impacts: roost loss

The roosts identified, as being used by crevice-loving bats and one void-loving bat, will not directly be affected by the proposals, however the bat box will need to be relocated.

Impacts would be moderate if no precautionary mitigation was carried out as bats may be harmed and no potential roosting spaces would be available if no bat provision was retained.

D4 Long-term impacts: fragmentation and isolation

There are no proposals that will affect bat flight lines around the centre.

D5 Post-activity interference impacts

Any additional floodlights that would increase light levels and shine on the bat access points would be a high impact.

D6 Predicted scale of impact

The impact on bats will be low on site, negligible in the county and at regional level.

E Land ownership – Mitigation sites

E1 Mitigation site ownership

Mitigation will be carried out on this site, which is all in the ownership.

F References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
Bat Conservation Trust (2012) Bat Surveys – Good Practice Guidelines. BCT
Corbet and Harris (1991). The Handbook of British Mammals. Blackwell.
English Nature (2004) Bat Mitigation Guidelines. EN
Joint Nature Conservancy Council (2004) 3rd Ed. The Bat Workers Manual. JNCC.

Bat boxes: <http://www.nestbox.co.uk/Improved-Cavity-Bat-Box.html>

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

SECTION 2

DELIVERY INFORMATION/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 development, timber 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 1994. 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 stonework, timber 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, that and 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.

A1 Mitigation strategy

Architect

The bat provision specified below will be incorporated into the plans submitted. This will show the location of the bat crevices retained as in this report.

Timing

Any development work involving dismantling of any stonework and the removal of the existing roof materials will be carried out avoiding the hibernation period (November to March inclusive). Periods of cold weather (below 5°C including night temperatures) will be avoided 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 when removing tiles, ridge tiles or flashing etc and may be found torpid on wall tops or in wall cavities 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 either allowed to disperse of its own accord or the licensed bat handler will move the bat to a safe alternative crevice.

Table 1 General Methodology for Renovation works

STRUCTURE	METHOD	INSPECT
Roofs	Remove any ridge tiles, slates or roof coverings including loose felt by hand, lifting vertically to prevent any bats from being crushed. Removal of any timbers/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. Remove any gutters. Dismantle any walls required, by hand.	Examine for bat droppings and any wall cavities for bats.
Walls - Pointing	Only point crevices where the full depth can be seen. Leave some of the crevices beneath the eaves that are 10cm deep and long and 2 to 1cm wide	Check deep crevices for the presence of bats using a torch.
Windows/doors	Remove windows, doors and frames by hand.	Examine any wall cavities exposed. Avoid blocking any external pre-existing gaps.

The same will apply if a barn owl or nest 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.

B Works to be undertaken by the ecologist or suitably experienced person.

B1 Capture and exclusion

The bat box will be checked and moved to the new location by a licensed bat handler.

If any bat is found unexpectedly during operations the cavity will be recovered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance.

C works to be undertaken by the Developer/Landowner

C.1 Bat roosts

C1.1 In-situ retention of roost(s)

The crevices in the west gable wall and above the window on the north wall will be retained as at present. Similarly the loft space will be retained together with bat access beneath a ridge tile. Please see plan below at C1.4 for locations.



Crevice used by bats on the west gable wall

A crevice used by a bat is above this window on the north side (2010).



No crevices on the south aspect of the roof will be blocked, if repairs are necessary to the slates or ridge tiles, a crevice measuring 15 x 20+mm will be retained allowing bat access to beneath the slate or tile.

Bats will roost in wall cavities, on the wall tops; hang from the ridge board or between the roofing felt and tiles, depending on the species. Pipistrelle bats, the commonest species, and Whiskered/Brandt's bats prefer to roost in small cavities often staying on top of the wall and do not enter the open roof spaces. Natterer's, and Brown long-eared bats will use loft spaces.

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.

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.

A traditional felt or wood sarking that would give bats some grip will be used where bat provision will be provided and not a more modern smooth membrane.

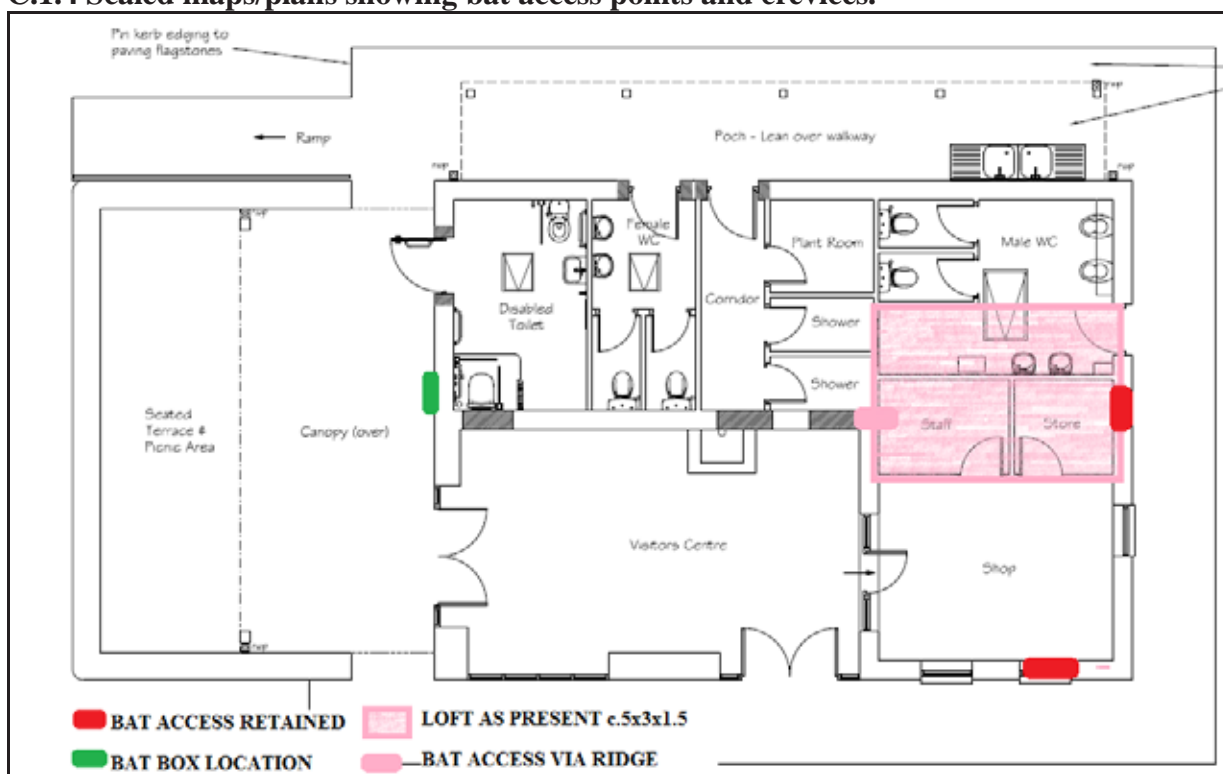
C1.2 Modification of existing roost(s)

The bat box will be relocated on the west wall, please see plan below at C1.4 for location

C1.3 New roost creation

Not applicable as roosts are being retained. Provision for swallows will be provided below the sheltered walkway and covered area as at present, access to active nests will be provided at all times.

C1.4 Scaled maps/plans showing bat access points and crevices.



D Post-development site safeguard

D.1 Habitat/site management and maintenance

Any water tanks present in the building, will be covered to prevent debris and bats from falling in.

D.2 Population Monitoring

Due to low bat activity on site monitoring will not 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 any mitigation.

D.3 Mechanism for ensuring delivery

Bat mitigation as shown on the plans will be subject to the conditions of the Planning Consent when granted.

E Timetable of works

Not known at present.