



“Providing Common-sense Solutions for Sustainable Development”

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Dear Ms. Hewitt,

This letter-statement relates to the Construction Management Plan (CMP) for the ecology planning conditions in relation to the planning application SMD/2016/0344 – The Crown Public House, Mobberley, Cheadle, Staffordshire.

The following information provides details in relation to planning condition 13 and the measures that Evolution Ecology Ltd will carry out to fulfill these conditions.

- 13a. *‘Demolition of the roof structures specifying where this will be carried out by hand to avoid potential impacts on bats. If bats are found work shall stop and an ecological consultant licenced by Natural England shall be contracted to draw up a mitigation plan.’***

Evolution Ecology Ltd - The soft demolition of the buildings will be undertaken by a licenced bat ecologist in January/February 2018. If any bats or evidence of bats are found during these inspections, works will cease, and a mitigation plan devised and if required Natural England (government wildlife licencing organisation) will be contacted.

- 13b. *‘Works shall be timed outside the bird nesting season between 1st March and 31st August inclusive. If this is not possible before works are undertaken a check for breeding birds shall be carried out by a suitably qualified ecological consultant. If nesting birds are located work shall cease until nesting is completed and fledged young have departed the site.’***

Evolution Ecology Ltd - All works will be undertaken outside of the stated dates. Therefore, no impacts on breeding birds are anticipated by the demolition works.

- 13c. ***'All vegetation removal and landscaping shall form part of a detailed landscaping plan at the reserved matters stage. Landscaping shall advocate the use of native species that will have positive biodiversity benefits.'***

Evolution Ecology Ltd - The landscaping plan provided to Evolution Ecology Ltd utilises native and wildlife attracting floral species. Therefore, this condition has been met.

- 13d. ***'Provision of new bat roosting provision of bat roosting opportunities in the new buildings. Full details and the proposed locations shall be provided.'***

Evolution Ecology Ltd - As part of the works, it is proposed that three Habibat Bat Boxes are installed into the fabric of the new buildings (details of this box can be found in Appendix A). This box is a self-contained unit and will not allow the bats to spread to other sections of the building. They will need to be located on the south-western elevation of the most southerly property (as shown in Figure 1).

This area needs to avoid being lit by artificial light to ensure that bats are not deterred from using these features (please see Appendix B for more information). This area has been deemed the most suitable location when considering factors like orientation, artificial lighting and anthropogenic use of the site. This will provide ample roosting opportunities for the known foraging common pipistrelle (*Pipistrellus pipistrellus*) bats within the area.

- 13e. ***'The biodiversity value of the development shall be enhanced by the provision of features for use by nesting house sparrows and swift (Red listed RSPB species of conservation concern). Nesting Roosting opportunities for swift shall be provided within the development and the exact location and design shall be specified.'***

Evolution Ecology Ltd - This condition requires swift, and house sparrow nest boxes to be installed at the site to enhance the site for these species. Therefore, it is recommended that two swift boxes are installed on the most northerly house on the northern elevation. In addition to this, two house sparrow boxes should be installed on the garage of the most northerly property near the apex. Please refer to Figure 1 for location details (information on these boxes can be found in Appendix A). These areas have been chosen as they will reduce the anthropogenic influence of the residents and reduce the potential 'nuisance' of droppings falling onto skylights.

- 13f. ***'The design and location of lighting shall not impact on foraging or commuting bats and minimise disturbance to other wildlife.'***

Evolution Ecology Ltd - No additional *street lighting* is proposed for the project. Therefore, this will not impact on the current flight paths in use by the local bat populations.

After discussions with Ms. Natalie Hewitt (Hewitt and Carr Architects), the proposed *security lighting* for the project will include:

'There may be some bollard lighting around the car park areas, a light at the front doors and maybe one in the rear garden areas.'

It is anticipated that the inclusion of such security lighting will not increase the artificial light around the bat flight paths that are currently in use by the local bat populations. In addition to this, should the proposed bat and bird features be inhabited, the proposed lighting will not impact upon these features. This artificial lighting will not disturb any other wildlife that may inhabit the local landscape.

Figure 1: Diagram 1 is illustrating the locations of the Habibat Bat Boxes (red square), sparrow boxes (blue square) and the swift boxes (yellow shapes) to be installed into the fabric of the dwellings. Please note: these are for illustration purposes only and are not to scale.

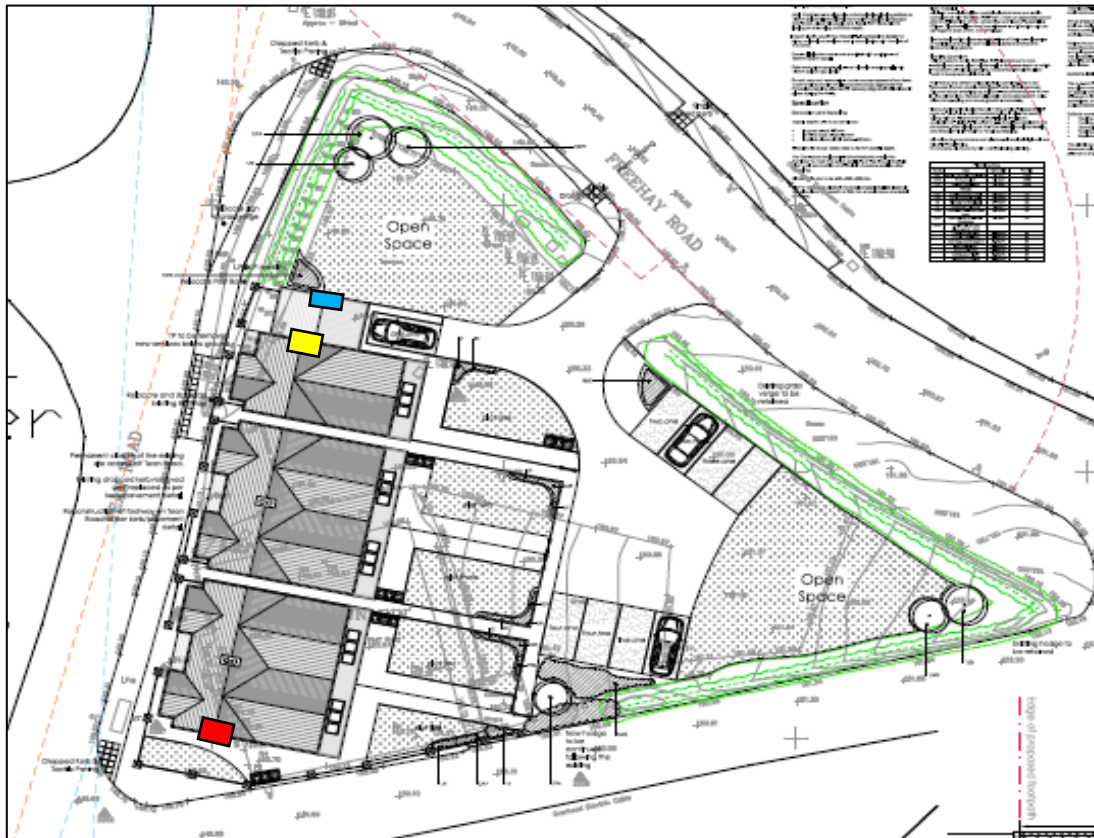


Diagram 2: A plan of the site with the recommended locations of the Habitat Bat Boxes on the south-western elevation.

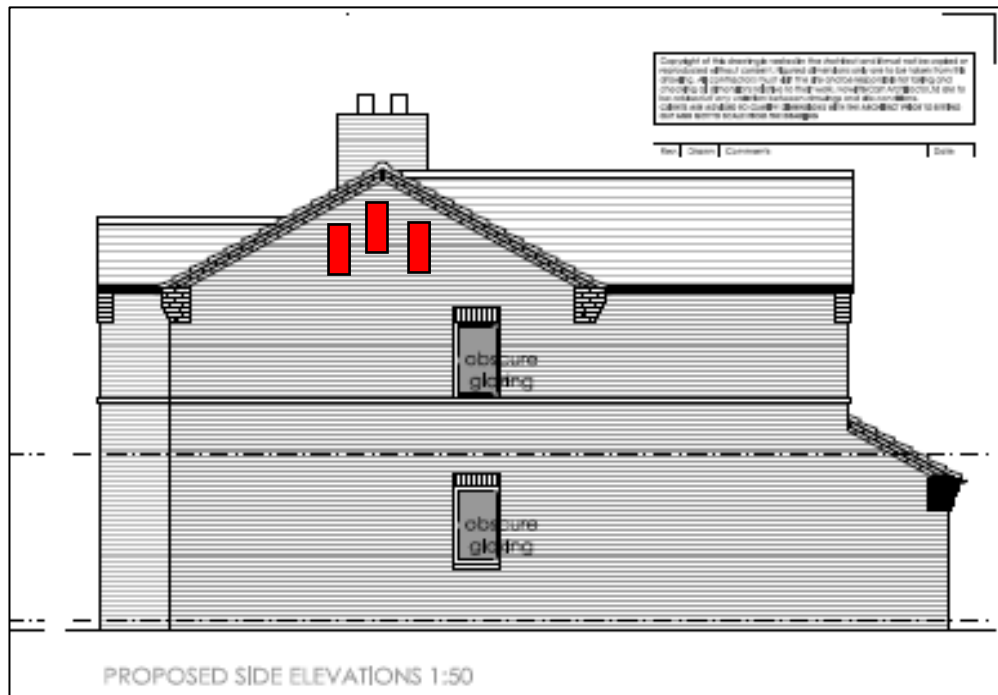
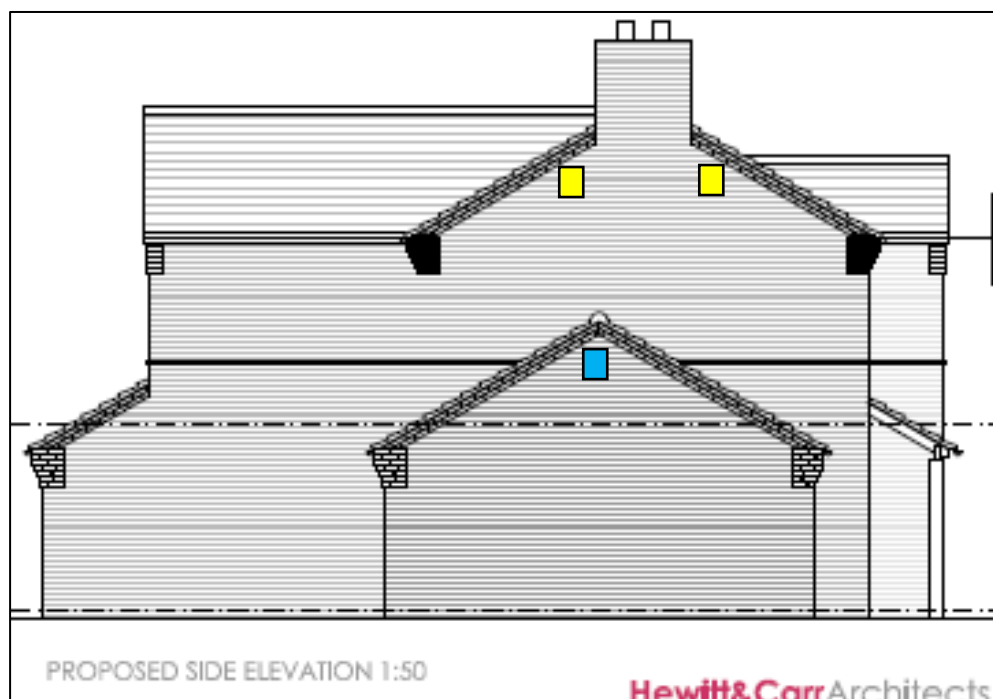


Diagram 3: A plan of the site with the recommended locations of the Swift and Sparrow boxes on the northern elevation of the most northerly property and its associated garage.



Additional Information - If you require any further information, please do not hesitate to contact me on my direct line – 07838 377 612 or via my email – paul@evolutionecology.co.uk

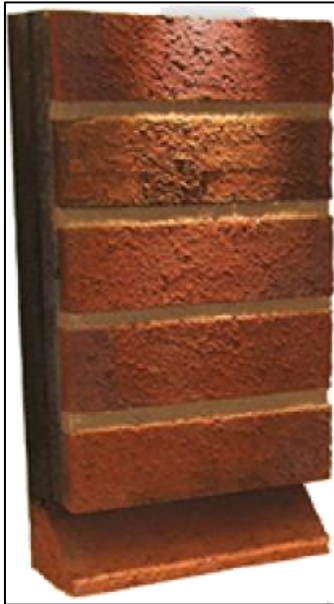
Kind regards,

Paul Keeling BSc (Hons) MCIEEM
Director of Evolution Ecology Ltd

Appendices

Appendix A: Information on the Bat and Bird enhancement measures required for the project.

Habibat Bat Boxes



With the increase in development of new building sites and redevelopment of older buildings, especially in rural areas, availability of roost sites for bat species is becoming more limited. However, bats can be encouraged to remain at old sites or colonise new ones by incorporating artificial roost spaces into the building during the build or renovation process.

The Habibat Bat Box is a large, solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any existing brick, wood, stonework or rendered finish, rendering the box unobtrusive and aesthetically pleasing. The Habibat box is suitable for species which are most commonly found roosting in buildings in the UK, such as Pipistrelle, Natterer's, Whiskered, and Brandt's bats.

This box is made to order and faced in brick to match your building. For certain brick types it may be necessary for you to send your own bricks to be used on the face of the box (six required for each box). This is also recommended if you require the bricks to match your own exactly, as slight variations between batches do occur. Please let us know your brick code or name at the time of ordering. We will then let you know if bricks will need to be provided or if they can be sourced by the manufacturer.

The box is supplied unpointed so it can be matched as closely as possible to the building.

Installation information:

Correct placement of Habibat is fundamental to the successful uptake by bats.

Orientation: Temperature is known to be the major factor influencing successful uptake of artificial roost by bats. In general, bats seek warm spaces to help them with rearing young. For this reason, Habibat should be located where it will receive the maximum amount of sunlight. In the Northern hemisphere this will be the Southerly aspects/orientation (South, South-West and South-East).

Height: Position Habibat a minimum of 2 metres but preferably 5 to 7 metres above ground. Avoid placement above windows, doors and wall climbing plants, thereby reducing the likelihood of predation by cats. A position near the eaves or gable apex of the property would be preferable.

Landscape considerations: To make Habibat a potential roost for a wider range of bat species, it is helpful to consider whether there is nearby linear vegetation features such as hedges and treelines. This is because some bat species use these features for navigation between their roosting site and feeding ground and to avoid flying in open and exposed areas.

Monitoring: Bats and their roosts are legally protected from disturbance and damage. For this reason only a licenced bat worker should closely examine the Habibat to check for bat usage. However, anyone can check for signs of bat use. This includes the presence of bat droppings on the plinth and surrounding walls and the out flight of bats at dusk.

Please note: Bespoke boxes are shipped direct from the manufacturer and incur a minimum shipping cost of £30 (ex VAT) for between one and ten boxes. Shipping costs may be higher for some postcodes. Delivery time is expected to be two weeks but may be longer during busy periods.

This product is available from [NHBS](#) at a cost of £139.00 (including V.A.T.) each.

The Standard Box – for house sparrows



This nesting box is suitable for House Sparrows and members of the Tit family. The single entrance hole allows the entire internal area to be available for nesting and roosting. The aperture size will vary according to the target species (see The Design) and box fronts can be removable (4 stainless steel screws) if required.

A sparrow terrace box is available; this has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows. The terrace box is also suitable for Redstarts, Black Redstarts and Wagtails.

	Standard Integral bird box for Blue/Great Tits fitted with red brick in stretcher bond Code STB Brick Read more...	Price £98.00	Quantity 0
	Standard Integral bat box lined internally with wood fitted with our standard red brick stretcher bond Code STBAT Brick Read more...	Price £115.00	Quantity 0
	Swift box fitted with our standard red or yellow brick in stretcher bond Code STSW Brick Read more...	Price £110.00	Quantity 0
	Sparrow terrace fitted with our standard red or yellow brick in Stretcher bond Code STSPTR Brick Read more...	Price £105.00	Quantity 1
	Starling Integral bird box fitted with bricks in stretcher bond Code STST Read more...	Price £110.00	Quantity 0
	Mesh fronted Bat box Code MFBB	Price	Quantity

This box is available from [Bird Brick Houses](#) for £105 each.

Swift Box



The swift box has a crescent shaped hole to one side of the box, allowing swifts access but restricting use by starlings.

This box has a rough internal floor to make it easier for the birds to move around; in the

centre of the floor is a raised nest cup to assist the birds' nest building. The ideal internal depth of a swift box is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm). Please specify requirements at the point of order.

	Standard Integral bird box for Blue/Great Tits fitted with red brick in stretcher bond Code STB Brick Read more...	Price £98.00	Quantity 0
	Standard Integral bat box lined internally with wood fitted with our standard red brick stretcher bond Code STBAT Brick Read more...	Price £115.00	Quantity 0
	Swift box fitted with our standard red or yellow brick in stretcher bond Code STSW Brick Read more...	Price £110.00	Quantity 2
	Sparrow terrace fitted with our standard red or yellow brick in Stretcher bond Code STSPTER Brick Read more...	Price £105.00	Quantity 0
	Starling Integral bird box fitted with bricks in stretcher bond Code STST Read more...	Price £110.00	Quantity 0
	Mesh fronted Bat box Code MFBB Stainless Steel Mesh Laying	Price	Quantity

This box is available from [Bird Brick Houses](#) for £110 each.

Appendix B: Bats and Lighting.

Artificial lighting is known to affect bat roosting and foraging behaviour with lighting shown to result in a range of impacts including roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux. In contrast slow-flying bats, including myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012). Current recommendations for all bat species specifies that no bat roost should be directly illuminated (BCT 2014).

Mitigation and lighting design Bat friendly lighting plans should first look to avoid lighting where possible and minimise lighting impacts by adopting the following measures:

- Lighting curfews or use of PIR sensors. Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of the overall time.
- Consider no lighting solutions where possible. Options such as white lining, good signage and LED cat's eyes, should be considered as preferable, especially within Zones 1 and 2. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.
- Use only high-pressure sodium or warm white LED lamps where possible. High-pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).
- Minimise the spread of light. The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.
- Consider the height of lighting column. While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard

lighting can often be designed to provide uplighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce up-lighting. Column height should be carefully considered to balance task and mitigation measures.

- Avoid reflective surfaces below lights. The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration