

LIGHTING DESIGN SCHEME: BIODIVERSITY

ADDRESS: Hollytree House, Cuckfield Road, Burgess Hill, RH15 8RE

INTRODUCTION

Planning permission (application reference: DM/23/2023) was granted by Mid Sussex District Council in November 2023 for demolition of existing dwelling, erection of replacement dwelling and annex building.

Amongst the conditions associated with the granting of planning permission, condition 4 states:

4. A lighting design scheme for biodiversity shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate lighting contour plans, Isolux drawings and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.

SCOPE

This document outlines the features or habitats on or adjacent to the site used by foraging and commuting bats, and identifies lighting specifications required to avoid or reduce potential impacts upon those features and species. It is based on the baseline ecological assessment for the scheme¹ as well as current guidance, specifically:

- Bats and artificial lighting guidance note (2018) produced by the Bat Conservation Trust (BCT) and the Institute of Lighting Professionals (ILP); and

- Eurobats guidance on bats and artificial light (2018) produced by a panel of experts including the BCT, to provide broad international guidance that complements the nationally drafted BCT/ILP guidance above.

The specifications aim to balance the important safety and amenity needs of future residents of the site, with the requirement to minimise impacts upon biodiversity features on and adjacent to the site (and to comply with the relevant wildlife legislation).

SENSITIVE HABITAT FEATURES

Habitats which support commuting or foraging bats include retained, and once established, future boundary hedgerows, gardens and shrubs. Gardens and planting may provide foraging habitat, whilst it is likely that the rear and front boundary edge habitats provide movement corridors at a local scale. Even low-level light pollution upon these features has the potential to impact animals using these and adjacent habitats. Therefore, the lux and duration of light reaching the features should be minimised where possible.

PROPOSED LIGHTING LAYOUT

External lighting proposed for the site will comprise:

- Exterior lighting for buildings including within entrance areas and on the walls of the dwellings overlooking patios etc; and
- Low level bollard lighting around driveway areas

The location/number of lighting units proposed is shown on the 'landscaping and lighting scheme design plan', with areas where PIR units must be used if installed along the sides or to the rear of the buildings also indicated.

LIGHTING DESIGN

Guidance ¹ recommends the following mitigation measures be used to minimise lighting impacts:

- Light levels should be as low as possible, and the number of fixtures kept to the minimum required, to fulfil the lighting need;
- Lamps should have a maximum of 7.5 to 10 lux;
- LED lights should be installed, using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 or 3000°K) and no UV component;
- Lighting should be directed to where it is needed, with horizontal spillage towards retained or establishing habitats minimised. This can be achieved by restricting the height of the lighting installation and the design of the luminaire;
- Light fixtures should be erected at the lowest reasonable height;
- Luminaires must have an upward light ratio of 0%, mounted on the horizontal (or overhead in porches);
- Lighting mounted on the dwellings should incorporate Passive Infra-Red (PIR) motion sensors and timers to minimise the lit time, set to the minimum to minimise the duration of disturbance;
- As a matter of last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
- Low level bollard lighting design should reduce spillage to the rear and above the unit.

Because bats may use boundary lines to both front and back of the properties as commuting routes (as well as side boundaries), PIR sensor switches should be installed as standard on the dwellings, with override facility for resident's for occasional use as necessary. Additional time-controlled switches could Suppliers include (but are not limited to): DW Windsor GHM Eclatec Design Plan BEGA 3 be added to porch lighting if required. Porch lighting should be mounted at a height to ensure the porch reduces light

¹ www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting

And

www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf



spillage (i.e. acts as a cowl). Bollards must be directional to the car parking bays and avoid upwards, sideways and backwards light pollution. Operation will be via a dusk to dawn switch, though PIR sensors can be used also as required.

CONCLUSION

The proposed lighting design aims to minimise impacts from artificial lighting upon wildlife (notably bat commuting and foraging habitat), whilst still providing a safe and practical solution for householders and enhancing the properties within the development. It is the responsibility of the developer and their contractor(s) to ensure lighting installation is as per the specifications proposed. If any significant deviations or amendments are subsequently required, the prior consent of the LPA must be sought by the proposer prior to installation.