

1 INTRODUCTION

Planning permission (application reference: 240833) was granted by Wokingham Borough Council for the erection of 3 no. three bedroom terraced dwellings with associated access, car parking and landscaping following demolition of the existing bungalow and outbuilding at 105 Colemans Moor Road, Woodley, Wokingham, RG5 4DA.

Amongst the conditions associated with the granting of planning permission, condition 8 states:

8. Prior to commencement of development a lighting design strategy for biodiversity for all retained and proposed external lighting and full details of the roof windows, glazing, blinds and mitigation and control measures to control lightspill shall be submitted to and approved in writing by the local planning authority. The strategy shall:

- a) identify those areas/features on site that are particularly sensitive for bats and birds are likely to cause disturbance in or around their breeding sites and resting places or along important routes used to access key areas of their territory, for example, for foraging and
- b) show how and where external lighting will be installed (through the provision of appropriate lighting contour plans and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent the above species using their territory or having access to their breeding sites and resting places.

All external lighting shall be installed in accordance with the specifications and locations set out in the strategy and shall be maintained thereafter in accordance with the approved details.

Reason: In the interests of ecological safeguarding. Relevant policy: Core Strategy policy CP7 and Managing Development Delivery Local Plan policy TB23.

2 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 preliminary ecological assessment for the scheme as well as current guidance. 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).

3 SENSITIVE HABITAT FEATURES

Habitats which support commuting or foraging bats include 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.

4 PROPOSED LIGHTING LAYOUT

External lighting proposed for the site will comprise:

- Exterior lighting for properties on the front and rear walls of the dwellings overlooking patios etc; and
- Low level bollard lighting adjacent to car parking bays.

The location/number of lighting units proposed on exterior walls and by parking bays is shown in Figure 1. The technical specifications of the lighting to be installed are outlined in Section 5 below.

5 LIGHTING DESIGN

Current guidance 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

be added to porch lighting if required. Porch lighting should be mounted at a height to ensure the porch reduces light 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.

6 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.

Figure 1

Legend

- Low Level Bollard Lighting
- Downward Wall Lights
- No Lighting



Light source

Light bulb:	LED 9 W total
Light bulb included:	Yes
Wattage (watts):	9
Integrated LEDs:	Yes
Luminous colour:	warm white (3,000 K)
Lumens (lm):	600

Technical specifications

IP code:	IP65
Protection class:	I
Supply voltage (volts):	230

Outdoor bollard light in a black finish with clear glass diffuser casting downward light

Colour: Matt Black, Clear

Material: Aluminium

IP Rating: IP54, Class III

Power Source: Mains Voltage

Dimmable: Non-Dimmable.

Light Output: 10W, Warm White

Average Life Expectancy: 30,000 hours.

Guarantee: 5 years guarantee.

Dimensions:
Overall - H 650 x W 110 x D 92mm

