



# White Butterfly Developments

## EXTERNAL LIGHTING DESIGN STRATEGY FOR BIODIVERSITY

**Site:** Plot 2, 26 Wimpole Road  
Great Eversden  
Cambridgeshire  
CB23 1HR

**Date:** 15<sup>th</sup> April 2024

**Ref:** 22/02102/REM



## **Plot 2, 26 Wimpole Road, Great Eversden, Cambridgeshire, CB23 1HR**

### **Condition 6 – External Lighting Design Strategy for Biodiversity**

Prior to occupation an "external lighting design strategy for biodiversity" features or areas to be lit 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 that 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 specification) 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 these shall be maintained thereafter in accordance with the strategy. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.**

**Reason: To minimise the effects of light pollution on the surrounding area and to protect biodiversity interests in accordance with Policies SC/9 and NH/4 of the South Cambridgeshire Local Plan 2018.**



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## 1. Introduction

Light pollution refers to any light emitted in a direction in which it is not required or wanted and as such is detrimental to wildlife or other people. The purpose of this document is to outline the protection measures planned to mitigate this.

## 2. External Lighting Design

The following recommendations are based on current guidance, specifically:

- Bats and artificial lighting guidance note (2018)<sup>1</sup> produced by the Bat Conservation Trust (BCT) and the Institute of Lighting Professionals (ILP); and
- Eurobats guidance on bats and artificial light (2018)<sup>2</sup> 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 occupiers of the property, with the requirement to minimise impacts upon biodiversity features on and adjacent to the site.

Dark corridors along existing hedgerows have already been established by no glazing on the east elevation close to the boundary and a sensitive lighting scheme will be developed to ensure that there is no unnecessary light spill within the site in line with guidance notes (above) of the bat conservation trust in relation to species including Barbastelle Bats.

The external lighting scheme design and luminaire selection has been undertaken to minimize both obtrusive light trespass and sky glow. This has been achieved primarily by restricting both the source intensity and upward light ratio of the luminaires selected.

The exterior lighting will incorporate the following features:

- Light levels will be as low as possible, and the number of fixtures kept to the minimum required, to fulfil the lighting need
- Lighting will aim to minimise light spillage towards boundary features
- Lighting will have a maximum of 7.5 to 10 lux
- Low energy LED lights will be installed, using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700°K) and no UV component
- Lighting will only be directed to where it is needed, with horizontal spillage towards retained habitats minimised. This will be achieved by restricting the height of the lighting installation and the design of the selected luminaire
- Luminaires will have zero upward light ratio by specifically selecting units which can be downlight project only
- There will be no directional lights towards the rear elevation
- Where appropriate (e.g. patios, porch and paths) lighting will incorporate Passive Infra Red (PIR) motion sensors and timers to minimise the lit time, set to the minimum to minimise the duration of disturbance;

1 - <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

2 - [https://www.eurobats.org/sites/default/files/documents/publications/publication\\_series/WEB\\_DIN\\_A4\\_EUROBATS\\_08\\_ENGL\\_NVK\\_28022019.pdf](https://www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf)



Below is the sole luminaire chosen for the site, accompanied by the proposed LED bulbs. These have been changed following the previous refusal of discharge (your ref 22/02102/CONDB) and we hope they now satisfy the condition requirements.

The unit has been specifically selected due to its small size, low power output and the fact it directs light downwards only.

The LED bulbs have been specifically selected due to their low power output, low light output, narrow beam angle and colour temperature of 2700k. In addition, their LED technology reduces the percentage ultraviolet (UV) output to a minimum and hence will have a negligible impact on the foraging and roosting of bats. The respective UV output for LED luminaires is 0%.

### ASTRO CHIOS 80



#### KEY FEATURES

- ✓ Down light in a black finish
- ✓ Colour: Black, Clear
- ✓ Material: Aluminium
- ✓ IP Rating: IP44
- ✓ Power Source: Mains Voltage
- ✓ Bulb Requirement: Max 6W LED GU10 B
- ✓ Guarantee: 3 years guarantee.
- ✓ Dimensions:  
Overall - H 80 x W 70 x D 95mm



### LAP GU10 LED 2.4W

SPECIFICATION	
Beam Angle	36 °
Brand	LAP
CALC - Light Bulb Technology	LED
Cap Fitting Type	GU10
Colour Temperature Description	Warm White
Colour Temperature Value	2700 K
Dimmable	Non-Dimmable
Equivalent Wattage	35 W
Life Length	25,000 hours
Light Bulb Technology	LED
Light Bulb Type	GU10
Lm	230 lm
Manufacturer Guarantee	3 Year Manufacturer's Guarantee (T&Cs Apply)
Pack Size	5
Power Consumption	2.4 W



Please also see below photos of the timed motion sensors that will be installed.



## LAP INDOOR & OUTDOOR WHITE / BLACK PIR STANDALONE SENSOR 180° (8461V)

★★★★★ 3.2 (103)  
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**Saving energy at home**



- IP44: For Indoor & Outdoor Use
- Adjustable Dusk-to-Dawn Sensor
- Adjustable Time On
- 180° 12m Sensor Range
- Plastic Body
- Wall-Mounted
- Manual Override

[More Info](#)



### 3. Site plan



The yellow dots mark the external lights (model as detailed above) which will be attached to the house and garage. There will be no external lights in the garden itself and no horizontal light directed at the rear field or eastern boundary. The blue dots mark where the PIR motion sensors will be installed.

We have kept the number of lights to a minimum based on the size of what is a large building, and indeed reduced the total from 12 down to 9 following the previous refusal of discharge (your ref 22/02102/CONDB). The building measures 19 metres wide by 14 metres, with a total external linear meterage of 66m. The separate garage measures 7.8m wide by 6.35m. We therefore propose that this number of lights, at a very low output, is justified.

### 4. Summary

- The number of external lighting fixtures will be kept to the minimum in relation to the size of the building
- Specifically selected low lumen luminaires will be utilised
- Low energy, warm white LED lights of 2700K will be installed
- The household keeps 'normal' hours so all lights will usually be off by 11pm
- Passive Infra Red (PIR) timed motion sensors minimise the lit time