



EXTERNAL LIGHTING ENVIRONMENTAL
IMPACT ASSESSMENT

For the proposed

NEW RETAIL FACILITY AND PUBLIC HOUSE
at New Road / Brook Lane,
Rustington, West Sussex.

Issued by:-
GWLC Lighting Consultancy
4 Rosemary Lane
Farnham Surrey
GU10 4DB



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NEW RETAIL FACILITY AND PUBLIC HOUSE

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1.0 Introduction:

This document has been prepared to provide guidance to those considering this planning application in relationship to the proposed external lighting scheme.

A desk top exercise has been undertaken to establish the external lighting environmental impact conditions and the likely impact to the surrounding environment of the proposed development.

2.0 Site Location:

The existing site location lies to the east of the junction of New Road and Brook Lane, Rustington, West Sussex.



3.0 Baseline Conditions

The site is bounded on its north side by the A259 New Road bypass and to the south the main south coast rail link between Brighton and Portsmouth.

The land to the east boundary adjacent to the A259 and up to Mill Lane is to be occupied by a motor garage and two large retail units (it is understood that this scheme has recently been granted planning permission).

The proposed development is situated on land which has not been built on before but is separated from the countryside running north by the A259 road and south by the railway line and the developed areas of Rustington.

4.0 Why Lighting is needed:

Adequate but measured, levels of light are required so that relevant tasks can be carried out safely, so that all persons using the site will feel secure in their environment.

An appropriate level of lighting is required so that pedestrian and vehicular activities can proceed in safety, particularly in conflict areas.

Poor lighting levels and /or the lack of lighting can lead to serious incidents involving injury through accident or criminal damage and theft.

Car parking, pedestrian and vehicle routes need to be adequately illuminated to provide safe passage on the site and ingress and egress routes to be illuminated to compatible levels with connecting roads.

HSE Workplace Health, Safety requires that lighting should be sufficient to enable personnel and vehicles to move around safely and for a required illumination level for particular task areas.

5.0 Design Criteria:

The external lighting scheme shall be designed in line with the best practice for visual performance and comfort.

Environmental considerations for exterior lighting shall comply with the recommendations of the Chartered Institute of Building Services Engineers (CIBSE).

Illuminance levels for lighting in all external areas shall be as specified in the CIBSE Lighting Guide 6 (The Outdoor Environment) and relevant British Standards.

The design will comply with the Institute of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light.GN01. 2011.

The scheme shall be designed so as to ensure that external lighting is concentrated in the appropriate areas and that upward light is minimised,

reducing unnecessary light pollution, energy consumption and nuisance to adjacent property. Appropriate landscaping will provide suitable screening to the public highway, the railway line and adjacent property, further reducing any ambient light contribution to the immediate area.

Any illuminated advertisements, will comply with the requirements of the Town and Country Planning (Control of Advertisements) (England) Regulations 2007.

6.0 Proposed Lighting:

The scheme shall be designed so as to ensure that external lighting is concentrated in the appropriate areas and that upward lighting is restricted to reduce unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

All external light fittings for the building, access ways and pathways shall have a luminous efficacy of at least 50 lamp Lumens /circuit Watt when the lamp has a colour rendering index (CRI) value (Ra) greater than or equal to 60 or 60 lamp Lumens/circuit Watt if the CRI value (Ra) is less than 60.

All external light fittings to car parking areas, associated roads and floodlighting shall have a luminous efficacy of at least 70 lamp Lumens /circuit Watt when the lamp has a CRI value (Ra) greater than or equal to 60 or 80 lamp Lumens /circuit Watt when the lamp has a CRI value (Ra) less than 60.

All external lighting shall be controlled by a daylight sensor time switch via contactors. The time switch and contactors shall be configured so as to prevent operation during daylight hours and the maximum hours of permitted usage during the hours of darkness.

The details of the lighting scheme (location and specification) incorporating the above measures can be submitted pursuant to planning conditions.

7.0 Conclusion

Desk top and site inspection assessments on the existing site and proposed development indicate that overall light pollution levels will not be significantly influenced by the proposed development.

It is proposed that the lighting impact from the development can be minimised by a lighting scheme which provides the minimum illumination for safety and a boundary treatment of vegetation planting to give suitable screening to neighbouring property.

Accepted methods of lighting control (to include occupancy detection if required) will be used in addition to the latest LED lighting technology to maximise beam control onto subject areas only.

In summary it is our considered opinion that the proposed development will not have any significant negative impact on the immediate environment with respect to lighting pollution.



8.0 Glossary of Terms

Colour rendering index (Ra): A measure, between 0 and 100, of the ability of a lamp to reproduce the colour of objects in comparison to their aspect under a natural or reference source of light. An incandescent source has an Ra of 100 and a low pressure sodium source an Ra of 0 (see below for further information on colour rendering).

Daylight Sensors: A type of sensor that detects daylight and switches lighting on at dusk and off at dawn.

Luminous efficacy in lamp Lumens per circuit Watt: The ratio between the luminous flux produced by a lamp (in Lumens) and the total power consumed by both the lamp and its associated control gear (in Watts).

Time switch: A switch with an inbuilt clock which will allow lighting to be switched on and off at programmed times.

Colour Rendering: At night time, the sensitivity of the eye is shifted towards the blue region of the visual spectrum. As a result, lamps with poor colour rendering index (CRI), such as some sodium lamps that emit light between the yellow and red region of the visual spectrum, require more luminous output to light an object than a source with a better CRI. Sources with a poor CRI also make the differentiation of coloured objects more difficult for individuals.

In BS 5489-1:200353 Code of practice for the design of road lighting - Part 1: Lighting of roads and public amenity areas, this is acknowledged by allowing a relaxation of the lighting levels (illuminance levels) required when the source specified has a Ra greater than or equal to 60.

Other benefits of using sources with an Ra greater than 60 include an increased feeling of safety for individuals, making recognition of spaces and other individuals easier.

In areas where CCTV is used or where tasks requiring high definition are performed then the CRI of light sources can be more critical.

