

# **LIGHTING ASSESSMENT**

**MAX FORDHAM**

**December 2020**



**LOVE WOLVERTON**

**Love Wolverton**  
**Development**  
**Lighting Assessment**  
**Rev C**  
**September 2020**

**Max Fordham LLP**  
Max Fordham LLP  
St Andrews House  
59 St Andrews Street  
Cambridge

T +44 (0)1223 240 155

maxfordham.com

Max Fordham LLP is a Limited Liability Partnership.

Registered in England and Wales  
Number OC300026.

Registered office:  
42-43 Gloucester Crescent  
London NW1 7PE

This report is for the private and confidential use of the clients for whom the report is undertaken and should not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express written authority of Max Fordham LLP

© Max Fordham LLP

## ISSUE HISTORY

Issue	Date	Description
A	03/09/20	First Draft to client
B	15/09/20	Amendments for Planning Submission
C	30/09/20	Amendments for Planning Submission

## **CONTENTS**

---

<b>1.0</b>	<b>Introduction</b>	<b>4</b>
<b>2.0</b>	<b>Executive Summary</b>	<b>4</b>
<b>3.0</b>	<b>Policy Context</b>	<b>4</b>
<b>4.0</b>	<b>Lighting approach</b>	<b>5</b>
	4.1 Lighting Strategy	5
	4.2 Obtrusive Light	6
	4.3 Lighting design targets	7
	4.4 Road Lighting	9
<b>5.0</b>	<b>Summary</b>	<b>9</b>

## **1.0 INTRODUCTION**

This Lighting Assessment has been prepared by Max Fordham LLP to accompany a detailed planning application for the redevelopment of the Agora Centre and adjacent car park. The application is submitted on behalf of Love Wolverton Limited by TOWN.

The statement describes the approach to the external lighting and how it will be designed to provide security and amenity whilst limiting nuisance and impact on nature. The specific details of the lightning design will likely be subject to a planning condition and this document aims to set the principals that the subsequent design will meet.

This statement supplements the design aspects of the external lighting as set out in the Landscape Statement.

The statement is compiled in accordance with the requirements set out by PlanMK (2019).

## **2.0 EXECUTIVE SUMMARY**

The approach described here provides design criteria and fitting types/strategies to achieve those criteria. These form the basis of the detailed design.

In general, the approach is to minimise the amount of external lighting to the levels required for security and amenity. This approach indirectly mitigates the negative impacts of external lighting, namely:

- Glare and light spill
- Light pollution
- Impacts on the natural environment

## **3.0 POLICY CONTEXT**

Plan MK was adopted in March 2019 and has been used to inform the approach. Policy NE6, section I is addressed here. This states:

Proposals that include external lighting schemes, including floodlighting, will be approved where it can be demonstrated through a Lighting Assessment that all of the following criteria can be satisfied:

1. The lighting scheme is the minimum required for security and operational purposes;
2. Glare and light spillage are minimised;
3. The amenity of residential areas is not adversely affected;
4. There would be no unacceptable adverse impact on the character and beauty, openness, tranquillity, dark landscapes or enjoyment of the night sky of the countryside;
5. The visual character of historic buildings and conservation areas are not adversely affected;
6. There would be no dazzling or distraction of drivers using nearby roads;
7. There would be no unacceptable adverse effects on species, habitats or the wider natural environment.

## 4.0 LIGHTING APPROACH

### 4.1 Lighting Strategy

The lighting strategy for the areas of the scheme is set out in the Landscape statement and replicated here for reference:



#### Main Roads

Remove and replace existing road lights that cannot be accommodated in the revised landscape proposals. Install new road lighting in accordance with the Wolverton Public Realm Design Manual 2012:



#### East West Lane

Bollard lighting at ~2m height with minimal upward component:



### 'Little Streets' and other pedestrian areas

Combination of low-level brick lights and ~2m bollard lighting:



### Churchyard and Wall adjacent to the South East of the Site

As above with care paid to the impact on persons and wildlife in the vicinity of the Churchyard.

### Shared Gardens

Low level brick lights.



### Cycle Racks and Carparks

Functional amenity lighting



## 4.2 Obtrusive Light

Lighting will be provided to satisfy the requirements of the following guidance:

- Guidance Notes for the Reduction of Obtrusive Light:2020 *Institute of Lighting Professionals (ILP)*
- CIE 115 Guide on the Limitation of Obtrusive Light from Outdoor Lighting Installations:2017 *International Commission in Illuminations (CIE)*

The key elements of this guidance being:

- To provide adequate levels of light to external areas, allowing spaces to be used effectively and safely, while avoiding “over-lighting” by turning off or dimming lights at times when they are not required.
- To limit light spill incident above the horizontal plane, that causes “Sky Glow”.
- To reduce the levels of light trespass after a curfew, for which 23.00hrs is suggested.

The following tables are taken from the CIE document, and offer guidance on the reasonable constraints for external lighting installations in a range of different environmental zones. Due to the development siting within a built-up residential area of Wolverton it would appear to fit in category E3;

**Table 1 - Environmental Lighting Zones**

Zone	Lighting Environment	Examples
E0	Intrinsically dark	UNESCO Starlight Reserves, IDA Dark Sky Parks, Major optical observatories
E1	Dark	Relatively uninhabited rural areas
E2	Low district brightness	Sparsely inhabited rural areas
E3	Medium district brightness	Well inhabited rural and urban settlements
E4	High district brightness	Town and city centres and other commercial areas

NOTE: Regardless of the level of urban development, the recommendations for Environmental Zone 1 or 0, should be followed for all locations within 100 km of a major optical astronomy observatory. Regardless of the level of urban development, the recommendations for Environmental Zone 2 (or better) should be followed for locations within 30 km of an operating urban optical astronomy observatory, and for locations between 100 km and 300 km from a major optical astronomy observatory.

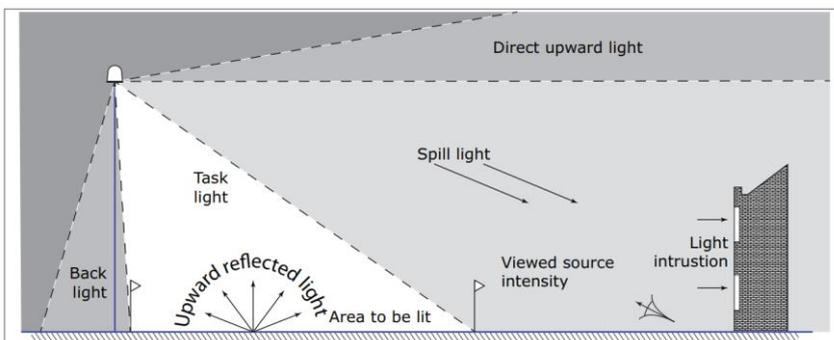
**Table 2 - Obtrusive Light Limitations for Exterior Lighting Installations - General Observers**

Light Technical Parameter	Application Conditions	Environmental Zones				
		E0	E1	E2	E3	E4
Illuminance in vertical plane ( $E_v$ )	Pre-curfew	n/a	2 lx	5 lx	10 lx	25 lx
	Post-curfew	n/a	< 0,1 lx*	1 lx	2 lx	5 lx

\* If the installation is for public (road) lighting then this value may be up to 1 lx.

Light Technical Parameter	Environmental Zones				
	E0	E1	E2	E3	E4
Upward light ratio (ULR) / %	0	0	2,5	5	15

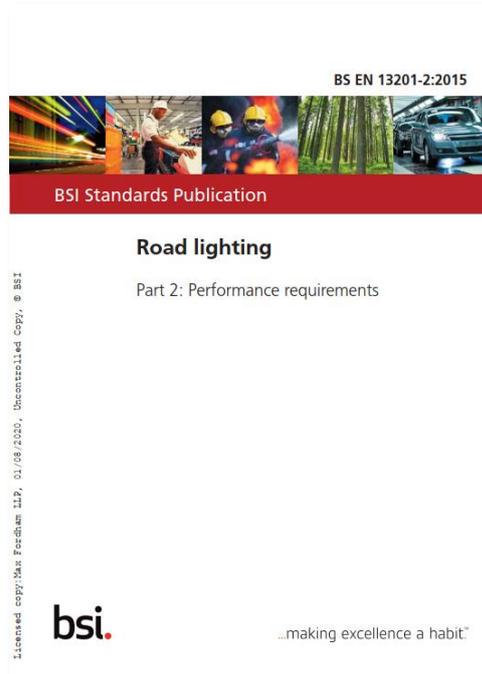
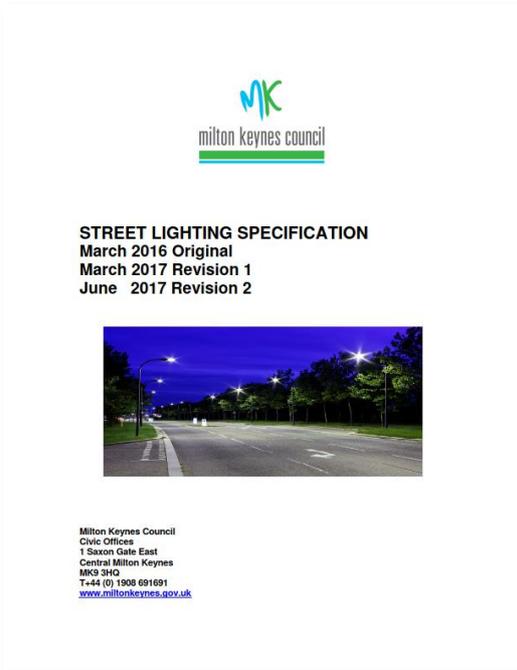
The diagram below shows the examples of obtrusive light pollution types.



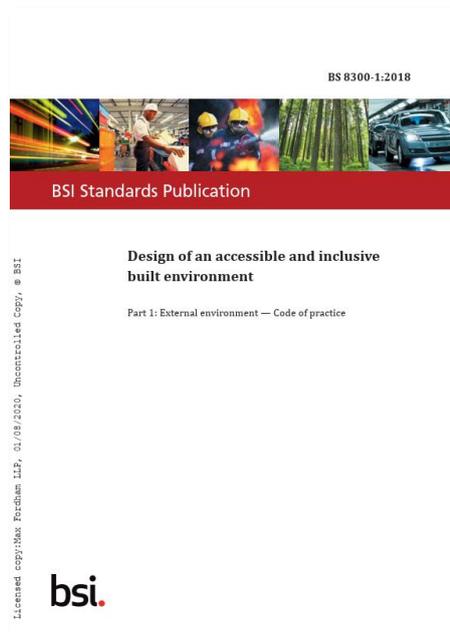
### 4.3 Lighting design targets

There are many standards and guides that can drive the design of external lighting schemes. In addition to the obtrusive light references above, the key documents used to inform this scheme are:

- **Roads – BS13201-2:2015 (As cited in the Milton Keynes Street Lighting Specification)**



- **Other Areas – BS8300-1:2018**



The table below summarises the design targets and their basis:

Area	Design Lighting Level	Measurement Plane	Reference
Little streets, Churchyard Wall plus ancillary	5 lux	Floor level Target horizontal component	BS8300-1 Table 5
Disabled Access Routes	5 lux (30 lux average on any ramps or stairs)	Floor level	BS8300-1 Table 5
External Cycle Storage Areas (Sheffield Racks)	10 lux	Floor level	Good Practice
Car Park and Access Route	10 lux	Floor level	BS8300-1 Table 5 Medium Traffic
Adopted Roads (Church St, Buckingham St)	See below		
Shared Gardens	5 lux	Floor level	BS8300-1 Table 5 'Pedestrian Routes in the External Environment'
East/West Route	10 lux	Floor level	BS8300-1 Table 5 Cycleways
Private Gardens	Unspecified	Unspecified	Doorway light

#### 4.4 Road Lighting

The two main streets on the site will become adopted highways. As such the provision of lighting must be involved by the relevant highways authority.

The Milton Keynes Street lighting specification references the need to apply BS13201-2. Within this standard there are numerous classes that must be assigned in order to develop the design. These include:

- Motorised traffic class
- Assignment or otherwise of conflict areas, particular consideration given the roundabout and bus stops
- Any special requirements for pedestrians or cyclists
- Any further requirements for safety

It is anticipated that these requirements can be negotiated and defined prior to commencing detailed design.

## 5.0 SUMMARY

The lighting design at the Love Wolverton scheme will meet the amenity needs of the variety of areas, as defined by relevant standards and Milton Keynes requirements.

By not exceeding these minimum requirements the impact of obtrusive light will be minimised.



**LOVE WOLVERTON**