
Stag Brewery

Floodlighting Proposal Review

November 2019

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About LPA Lighting

1.0 Introduction

The purpose of this report is to independently review the proposed floodlighting of a 3G sports pitch in the context of its likely impact on the local character, biodiversity, amenity and living conditions.

The proposed floodlighting scheme consists of eight 15m masts, each supporting 2 floodlights, thereby a total of 16 floodlights. This is designed to deliver a Class III Standard of an average of 120lux with 60% uniformity, in accordance with the Football Association requirements for a community pitch.

It is proposed to have operational hours of dusk until 9pm Monday to Saturday and dusk until 8pm Sundays and Bank Holidays.

As an independent lighting practice, LPA Lighting has been asked to comment on some specific questions and areas of concern, which will be listed within this report. The proposed floodlighting scheme has formerly been independently reviewed by Michael Grubb Studio, who had previously prepared a lighting strategy for the overall site, not exclusively the sports pitch.

2.0 Floodlighting Proposal

Can you please confirm whether the recommended illuminance (the quantity of light falling on the court surface) and uniformity (minimum lighting level/average lighting level) and environmental lighting impact complies with the Sport England Design Guidance Note- Artificial Sports Lighting Updated guidance for 2012

Yes - the illuminance levels and uniformity across the pitch surface both meet the Class III requirements for a community pitch. Page 11 of the impact assessment demonstrates a lighting level of 144lux with overall uniformity of 0.65.

Do the plans adequately show the area to be lit relative to the surrounding area, the existing landscape features together with proposed landscaping features to mitigate the impacts of the proposed lighting? Please also summarise these

Yes – the existing and proposed landscaping have been incorporated into the design and there has been extensive calculations carried out for any possible intrusion into neighbouring properties, listed on page 10 of the impact assessment. The graphical table on page 15 shows the extent of the calculation area for any spill light, extending 100m around the pitch.

Do the documents adequately detail the make and catalogue number of any luminaires/floodlights?

Please also summarise these

Yes - the floodlights are Signify / Philips *Optivision BVP515 LED (gen 2)*. Each floodlight is 917.2W. There is a quantity of twelve Asymmetric Wide Beam floodlights and four Asymmetric Narrow Beam floodlights. All floodlights are fitted with an internal louvre to reduce glare and spill light.

Do the documents adequately detail the size, type and number of lamps fitted within any luminaire or floodlight? Please also summarise these

Unlike traditional floodlights used in the past, these floodlights are fitted with LED boards with an initial output of 120,000 lumens.

What is the overall mounting height of the luminaires/floodlights specified?

The floodlights are mounted on 15m columns, with each column housing two floodlights.

What is the location and orientation of the luminaires/floodlights?

The columns are evenly distributed along the side of the pitch, at 25m intervals. They are set back to the edge of the 'run-off' area, adjacent to the fencing.

Most of the floodlights are tilted upwards slightly, which is usual for a sports floodlighting scheme, in order to meet the requirements of illuminance and uniformity. The maximum tilt in this case is 7-degrees, which is acceptable.

Does the submission provide a technical report prepared by a qualified Lighting Engineer or the lighting company that sets out:

- the type of lights, performance, height and spacing of lighting columns. – Please also summarise these*
- The light levels to be achieved over the intended area, at the site boundary and for 25 metres outside it. Please also summarise these*

As described above, the reports details all of the information required. The calculations have been completed by a lighting engineer who has been at Philips / Signify for 20 years and the calculations have been reviewed by Michael Grubb Studio, an independent lighting design practice, who is also responsible for the overall lighting masterplan.

3.0 Impact Assessment

Have the lighting calculations been undertaken in accordance with Sport England Sport England and the Institution of Lighting Engineers on Artificial Sports Lighting and ILP Guidance Notes for Obtrusive Light 2011

Yes. The calculations more than meet the requirements, showing spill light and light trespass into neighbouring properties. These, again, have been checked and validated by Michael Grubb Studio.

Will the floodlighting – based on the location, height, luminaries and hours of use, cause demonstrable harm to the amenity and living conditions on nearby residents? Please expand on the response and the reasoning for your answer

It is not my opinion that demonstrable harm will be caused by the proposed floodlighting installation. The floodlights are fitted with internal louvres, which will minimise any glare and light trespass into neighbouring properties.

The spill light calculations show a very tight perimeter of light around the pitch. Whilst the columns may seem to be quite tall, they enable fewer floodlights to be used and aimed more directionally to the pitch, rather than across it, which would cause significantly more trespass and spill light.

The hours of use seem very reasonable; many private and community sports pitches would have a 10pm curfew time to ensure maximum use, so I believe the proposed hours of use to be very acceptable.

If in your professional opinion is there a gap between the proposal and the requirements in IOL/Sports England documents? If so, what else can be practically installed or the scheme managed in order to achieve compliance?

It is not my opinion that such a gap exists and with the floodlighting scheme proposed, together with the proposed new landscaping, I believe this to be a suitable and compliant scheme.

The new floodlighting is a concern to the Council's ecologist who advises that it is extremely important that the lighting does not impact the ability of wildlife to use the tree belt for movement. Bats will use both sides of a green corridor dependent upon weather conditions and shelter. The following condition is recommended. Can you confirm whether the outputs are achievable (Refer to the attached Landscape Design and Access Statement Rev: 4 for the landscaping scheme around the 3G pitch):

Prior to the commencement of any works to external lighting, submit for approval; a lux contour plan (with trees showing), at ground level and at the height of the lamp columns at completion and as predicted at 25 years tree growth. (Please note it is expected that light levels at tree canopies will be less than 1 lux), details of lamp specifications and methods of light spill control. Reason: To protect nature conservation interests of site and protected species.

Whilst there will be new planting of trees along Williams Lane, it is my opinion that the existing green corridor along Ship Lane, leading from Mortlake Green will most likely be an established commuter route for bats leading to the river for foraging (shown in yellow on Fig 1).

Based upon the assumption that the Green offers the best roosting sites, along with Ship Lane and the new proposed tree line to the East, I believe it is unlikely that they will traverse along the busy, well-lit Lower Richmond Road, to use the new tree-line on Williams Lane.



Figure 1: Potential commuter routes for bats

Whilst the calculations are possible, I don't believe they will inform much further than what has already been provided. It may be worthwhile to add a monitoring programme of illuminance measurements post-construction, if it is found that protected species are using the new tree-line.

4.0 Summary

It is my opinion that the calculations provided are very thorough and fully comply with all of the requirements laid out in respect of the illuminance levels, uniformity and potential light spill and trespass.

Furthermore, the impact of the local character, biodiversity, amenity and living conditions is likely to be limited, given proposed planting to shield the nearest residential units, the style and mitigating effects of internal louvres to the floodlights.

Liz Peck MSc FSL

7th November 2019

About LPA Lighting

LPA Lighting is an independent lighting design consultancy. Within the architectural lighting market, LPA Lighting offers a range of technical and design services. LPA Lighting is owned and run by Liz Peck.



Liz studied Business and Finance at Sheffield Hallam University.

She joined Concord Lighting in their customer service department in early 1999. When Concord merged with Marlin Lighting to form Concord:marlin, she joined their Lighting Design department.

Liz studied the Lighting Industry Federation course and then went on to complete an MSc in Light and Lighting at the Bartlett School of Architecture (UCL), as part of her continuing lighting education.

She spent a further two years with Concord:marlin before joining Philips Lighting as Senior Lighting Designer. Liz worked for Philips for just under five years, providing lighting design expertise on a huge variety of projects and applications, spanning the whole industry. She then had a brief spell with independent consultant, Urban Projects, before establishing LPA Lighting in 2007.

Liz is also extensively involved with the Society of Light and Lighting. The Society acts as the professional body for lighting. It has over 3,400 members in the UK and worldwide, and carries out a full range of activities. The Society is part of the Chartered Institution of Building Services Engineers.

Liz has been an active member of the Society for a number of years, sitting on the Newsletter and Communications Committee and both CIBSE and SLL Council. She was elected as a Fellow of the Society in 2012 and became President in May 2015, serving a one-year term. In November 2015, she was awarded "Lux person of the year" at the annual Lux Awards.