

258 HAVANT ROAD, HAYLING ISLAND, HAMPSHIRE

DEPOL

EXTERNAL LIGHTING ASSESSMENT

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RECORD OF REVISIONS		
Date.	Revision.	Description of change.
13/08/2026	P01	First Issue for Comment

1. INTRODUCTION

This report has been provided on behalf of Depol, to review the proposed external lighting scheme at 258 Havant Road, Hayling Island PO11 0LP.

This report is prepared in support of a Planning Application, the intent of this report is to provide an External Lighting Assessment of the potential obtrusive light impact to surrounding buildings and the environment within the vicinity.

Where applicable, this document will outline the requirements of mitigation measures to be implemented at design and operational stages to reduce or remove any potential impact. The potential impact of obtrusive lighting is categorised below:

- *Light Spill: The spilling of light beyond the boundary of a property which may cause nuisance to others.*
- *Glare: The uncomfortable brightness of the light source against a dark background which results in dazzling the observer, which may cause residents and a hazard to road users.*
- *Sky Glow: The upwards spill of light into the sky which can cause a glowing effect and is often seen above cities when viewed from a dark area.*

The type of luminaire at canopy level is unclear but is most likely a dated LED. The existing luminaires shall be removed to make way for a new lighting layout which is in keeping with the proposed development and current British, European, and BREEAM standards.

The luminaires selected will be canopy mounted LED fittings, which are to comply with BREEAM requirements; Pol 04 (Reduction of nighttime light pollution), ENE 03 (External lighting) & Part L2A of the building regulations.

The site has been classified as an E3 Environmental zone according to BS EN 12464-2:2014, Lighting of Workplaces, Part 2. The table below is taken from BS 12464-2:2014, Table 2 and summarises the classifications of Environmental Zones.

Table 2 — Maximum obtrusive light permitted for exterior lighting installations

Environmental zone	Light on properties		Luminaire intensity		Upward light ratio	Luminance	
	E_v lx		I cd		R_{UL} %	L_b cd·m ⁻²	L_s cd·m ⁻²
	Pre-curfew ^a	Post-curfew	Pre-curfew	Post-curfew		Building facade	Signs
E1	2	0	2 500	0	0	0	50
E2	5	1	7 500	500	5	5	400
E3	10	2	10 000	1 000	15	10	800
E4	25	5	25 000	2 500	25	25	1 000

where

E1 represents intrinsically dark areas, such as national parks or protected sites;

E2 represents low district brightness areas, such as industrial or residential rural areas;

E3 represents medium district brightness areas, such as industrial or residential suburbs;

E4 represents high district brightness areas, such as town centres and commercial areas;

E_v is the maximum value of vertical illuminance on properties in lx;

I is the light intensity of each source in the potentially obtrusive direction in cd;

R_{UL} is the proportion of the flux of the luminaire(s) that is emitted above the horizontal, when the luminaire(s) is (are) mounted in its (their) installed position and attitude, and given in %;

L_b is the maximum average luminance of the facade of a building in cd·m⁻²;

L_s is the maximum average luminance of signs in cd·m⁻².

^a In case no curfew regulations are available, the higher values shall not be exceeded and the lower values should be taken as preferable limits.

2. TERMINOLOGY

Luminaire

Electrical device used to create artificial light, also known as a light or light fitting.

Luminous intensity

Power emitted by a light source in a particular direction, measured in candelas [cd].

Luminous flux

Measure of the amount of visible light from a source, measured in lumens [lm].

Note: one lumen is defined as the luminous flux produced by a light source that emits one candela of luminous intensity over a solid angle of one steradian [$\text{lm}=\text{cd}\cdot\text{sr}$]

Illuminance

The total luminous flux incident on a surface, per unit area, measured in lux [lx] or lumens per square metre [$\text{lm}\cdot\text{m}^{-2}$] or [$\text{cd}\cdot\text{sr}\cdot\text{m}^{-2}$].

Luminance

The luminous flux emitted per unit area, also measured in lux [lx] or [$\text{lm}\cdot\text{m}^{-2}$] or [$\text{cd}\cdot\text{sr}\cdot\text{m}^{-2}$].

Photometric diagrams

The diagrams display luminous intensity of the luminaire as a function of direction. An example of a photometric diagram is given in the figure below. The distance from the centre of the diagram to the line corresponds to a luminous intensity value, in this case, measured in candelas per kilo-lumen [$\text{cd}\cdot\text{klm}^{-1}$]. The angles on the diagram are the elevation angle, usually denoted as gamma (γ). This angle is shown graphically in figure 2. The red and blue lines on the photometric diagram refers to the luminous intensity of the luminaire in the $C = 0^\circ$ & 180° planes and the $C = 90^\circ$ & 270° planes respectively. These C planes are also shown graphically in figure 2.

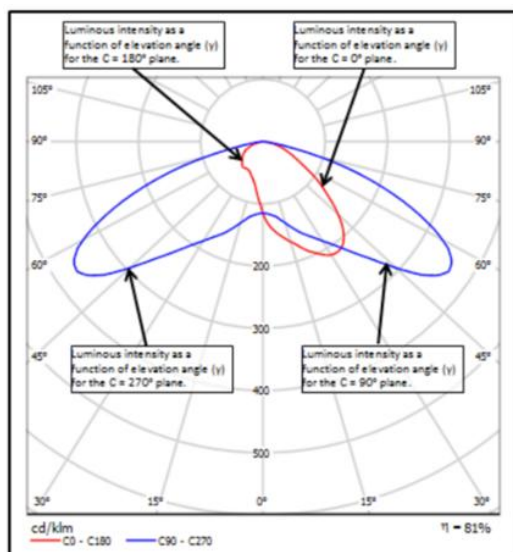


Figure 2

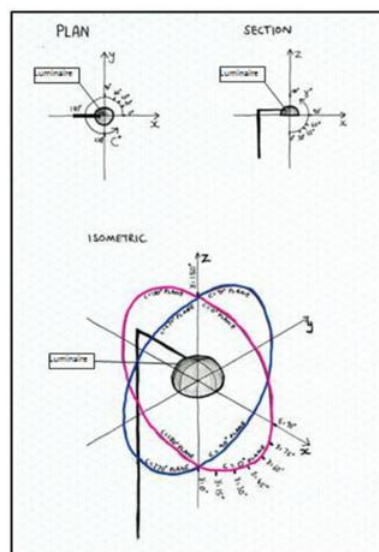


Figure 3

3. RELEVANT POLICY AND GUIDANCE

3.1. LEGISLATIONS

Clean Neighbourhoods and Environment Act (CNEA) 2005

The Clean Neighbourhoods and Environment Act (CNEA) 2005 gives Local Authorities additional powers to deal with artificial lighting by classifying artificial light emitted from defined premises as a statutory nuisance (from April 2006). Guidance produced on Sections 101 to 103 of the CNEA extends the duty on local authorities to ensure their areas are checked periodically for existing and potential sources of statutory nuisances including nuisances arising from artificial lighting. Local authorities must take reasonable steps to investigate complaints of such nuisances from artificial light.

Empowerment to Light Roads - The Highways Act 1980

Section 97 empowers a Highway Authority to provide lighting for any highway or proposed highway for which they are or will be the Highway Authority. District Councils and many Parish or Town Councils also have the power to provide lighting as local lighting authorities.

3.2. NATIONAL PLANNING POLICY

The National Planning Policy Framework 2024

The National Planning Policy Framework (NPPF) encourages good design, high quality and sustainable buildings/places with planning policies and decisions limiting the effect of light pollution from artificial light on local amenity, intrinsically dark landscapes, and nature conservation.

Artificial lighting needs to be considered when a development may increase levels of lighting or would be sensitive to prevailing levels of artificial lighting. Artificial light provides a valuable benefit to society, including opportunities for sport and recreation grounds, and can be essential to a new development. However, for maximum benefit, it is important to get the right light, in the right place and for it to be used at the right time.

Artificial light is not always necessary. It has the potential to produce 'light pollution' or 'obtrusive light', and not all modern lighting is suitable in all locations. It can be a source of annoyance to people, harmful to wildlife and undermine enjoyment of the countryside or the night sky, especially in areas with intrinsically dark landscapes. Intrinsically dark landscapes are those entirely, or largely, uninterrupted by artificial light. National parks and nature reserves can serve as good examples, particularly where they support habitats for native nocturnal animals. The following National Planning Practice Guidance (NPPG) further details the factors relevant to the control of obtrusive light.

Light pollution – (<https://www.gov.uk/guidance/light-pollution>)

The National Planning Guidance (NPPG) advise on how to consider light within the planning systems, focusing mainly on the following:

- *When light pollution is relevant to planning*
- *What factors should be considered when assessing whether a development proposal might have implication for light pollution.*
- *What factors are relevant when considering where, when and how much light shines?*
- *What factors are relevant when considering possible ecological effects.*

3.3. OBTRUSIVE LIGHT AND DESIGN GUIDANCE

Institute of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light GN01:2020

This guidance provides measurable design guidance limits and recommendations to ascertain acceptability of obtrusive light levels at nighttime.

The purpose of this guide is to help formulate guidelines for assessing the environmental effects of outdoor lighting. This guide will also recommend limits for relevant lighting parameters to contain the obtrusive effects of outdoor lighting within tolerable levels. Obtrusive effects of outdoor lighting are best controlled initially by appropriate design, the guidance given is primarily applicable to new installations; however, some advice is also provided on remedial measures which may be taken for existing installations. This guide refers to the potential adverse effects of outdoor lighting on both natural and man-made environments for people in most aspects of daily life, from residence, sightseers, transport users to environmentalists and astronomers.

BS5489-1: 2020 – Code of practice for the design of road lighting – Part 1: Lighting of roads and public amenity area

This part of BS 5489 gives recommendations on the general principles of road lighting, and its aesthetic and technical aspects, and advises on operation and maintenance.

BS EN 13201-2: 2015 – Road lighting – Part 2: Performance requirements

This part of this European Standard defines, according to photometric requirements, lighting classes for road lighting aiming at the visual needs of road users, and it considers environmental aspects of road lighting.

BS EN 12464-2: 2014 – Lighting of Workplaces – Part 2: Outdoor Workplaces

This European standard specifies lighting requirements for outdoor workplaces, which meet the needs for visual comfort and performance. All usual visual tasks are considered.

Campaign to Protect Rural England (CPRE) – Night Blight 2017

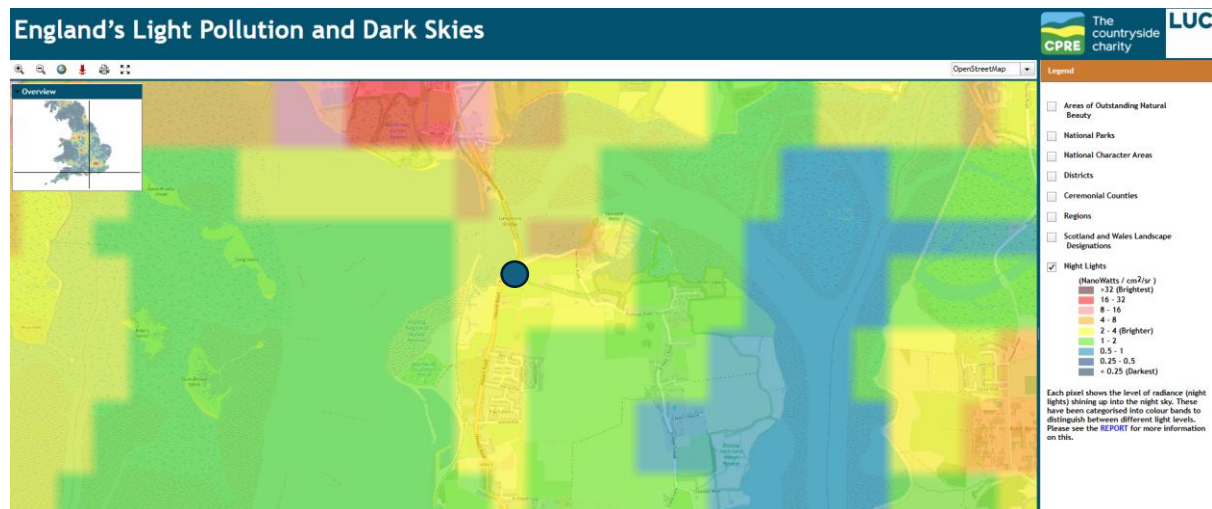
CPRE – Night Blight data (2017) gives a broad-brush indication of upwards light (sky glow) experienced within the UK. The interactive mapping tool allows specific areas and locations to be assessed with regards to a baseline condition.

4. DARK SKY

The image below shows the satellite Sky Glow overview of Hinckley Road, Ansty, Coventry, (<https://www.cpre.org.uk/light-pollution-dark-skies-map/>). The blue circle on the image below is the approximate location of the existing site. As shown below the yellow and orange shading around the blue circle identifies the current level of Sky Glow within the development areas.

Current levels are at the mid-lower range of the indicated Night Light levels. The external lighting strategy to be employed will ensure recommended Sky Glow limits are not exceeded.

The external lighting strategy to be employed will ensure recommended Sky Glow limits are not exceeded, or where existing local area Sky Glow levels already exceed recommended limits, then the proposed lighting solution will not produce an exacerbation or worsening of these levels.



5. LUMINAIRE SELECTION AND TYPE

The following luminaires have been selected:

Qty	Range	Mounting Height (m)	Mounting Type	Lamp (W)	Lm/W	LOR %	RA	L2A Compliant	BREEAM Compliant
84	FLEXI-Line-S	4.42	Canopy	6	63	100%	90	Yes	Yes

6. LUMINAIRE CONTROL PHILOSOPHY

A combination of photocells & timeclocks shall be installed to control all external lighting. The time clocks will act as a master control and be set to switch off at times when the development is not in operation. Outside of these hours photocells will control the site external lighting according to day light levels. This will prevent nighttime lighting pollution and to comply with POL 04/L2A.

7. ECOLOGICAL MITIGATION MEASURES

Precautionary mitigating measures have been taken, these will include minimisation of illumination to vegetated boundaries, together with the utilisation of a warmer colour temperature of 2700-3000 degrees kelvin throughout. This is thought to be less impactful to the species and is the preferred correlated colour temperature in accordance with the 'ILP Bat Conservation Trust Guidance note 08/18'.

8. ASSESSMENT SUMMARY MATRIX

Effect/Description	Mitigation	Calculation Results
Light Intrusion: Light intrusion from the site to surrounding residential areas.	All luminaires will be fitted with suitable optics to limit excessive emissions on the horizontal plane.	The Light Trespass at the site has been assessed but not calculated * This is below the maximum permitted level of Light Intrusion for an Environmental Zone deemed to be E3.
Sky Glow: Brightening of the night sky	All Luminaires will be fitted with horizontal cut off optics to minimise upward light spill.	Skyglow cannot be measured, as the graphics and material type of the branded canopy lighting are unknown.
Luminaire Intensity: Glare, the uncomfortable brightness of light against a dark background	Lighting design will comply with the relevant limits on lighting intensity.	Luminaire Intensity (Pre and Post curfew) at the site has been assessed but not calculated. * This is below the maximum permitted level of luminaire intensity for an Environmental Zone deemed to be E3.

* Light intrusion and intrusion has been taken into consideration, but not calculated. This assumes that no luminaire fittings will be left on, post curfew.

9. CONCLUSION

Relevant polices have highlighted that it is necessary to both ensure sufficient lighting is provided for security and working purposes, and to ensure that light spillage from the site is minimised. Guidance from relevant institutions has been used to set design lux levels at the levels for the scheme. As the site is classified as an E3 environmental zone, external lighting calculations have been carried out to achieve the correct lux levels for this site, taking into consideration, light pollution, surrounding the premises and other aspects.

The proposed lighting will be switched via a combination of photocells & timeclocks. The time clocks will act as a master control and be set to set off at times when the development is not in operation. In addition, for security purposes, some lighting may be required to stay on throughout the night although this would be kept to a minimum.

Final luminaire selection, including confirmation of whether ATEX-certified equipment is required, shall be undertaken by the contractor based on the completed Hazardous Area Classification drawings and the requirements of the Energy Institute Model Code of Safe Practice Part 15, DSEAR and BS ENIEC 60079.

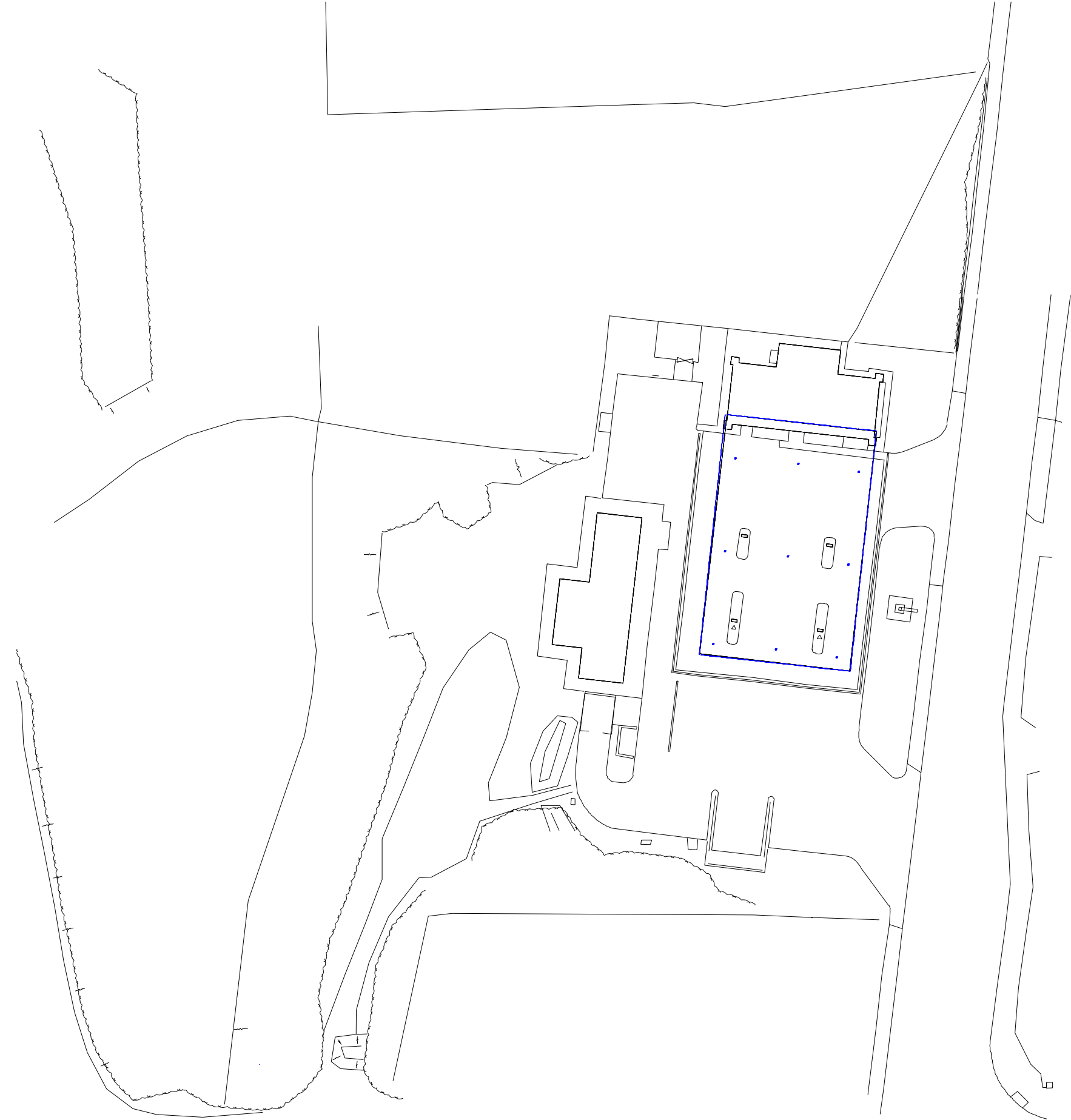
The proposed luminaires used to carry out external lighting calculations are LED. Utilising LED luminaires helps reduce light pollution and can reduce the overall power consumption by 40-60%. Criteria set by the Institute of Lighting Professionals regarding limiting obtrusive light will be met, these criteria are:

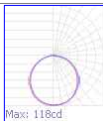
	ILP Guideline	Calculated Achieved
Sky Glow	< 15%	Not calculated
Light Intrusion	< 5 Lux	Not calculated
Luminaire Intensity	< 2,500 candelas.	Not calculated

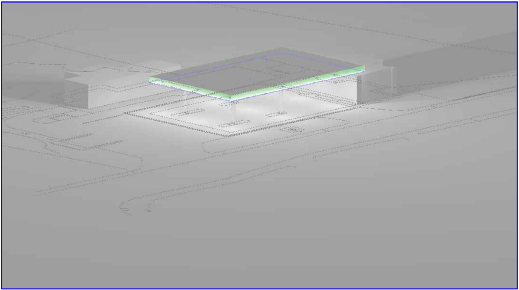
In summary, it has been ensured that the entire proposed lighting scheme meets the minimum levels for security and working purposes while also meeting the post curfew requirements for a relatively dark urban area.

10. APPENDICES

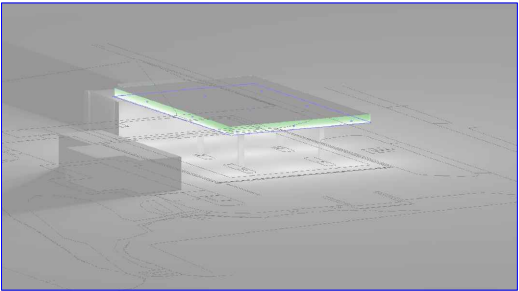
10.1. LIGHTING DESIGN



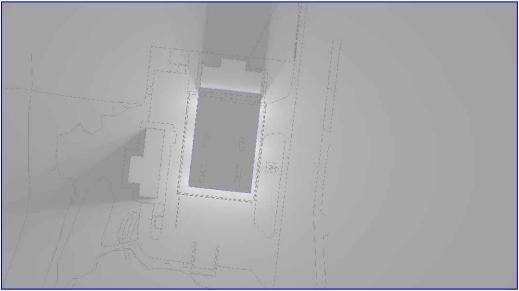
Schedule										
Symbol	Label	QTY	Manufacturer	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Polar Plot
	A	84	Vexica by Lighting Project Solutions	VEX-FLEX-LINE-S-2700K-1017-6W-IP67- DIF	LED	1	378	0.9	6	



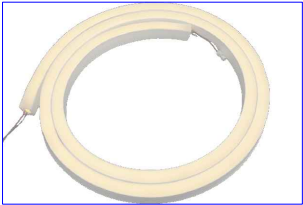
View #1



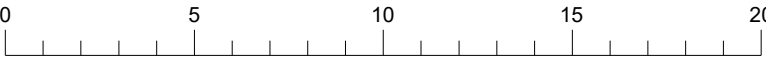
View #2



View #3



Ref A



SCALE 1:200

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Drawing Status

PRELIMINARY

Client

DEPOL

Project/Site Location

HAVANT ROAD,
HAYLING ISLAND

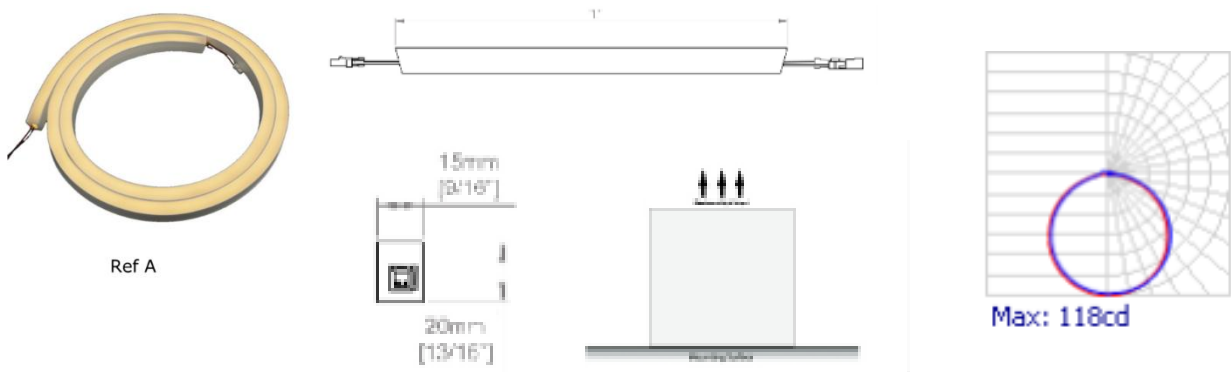
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EXTERNAL LIGHTING ASSESSMENT

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Drawing Reference					Revision
7274-CBC-XX-XX-DR-U-196001					P01

10.2. LUMINAIRE TYPE 1 – FLEXI-LINE-S

Luminaire Reference: VEX-FLEXI-LINE-S-2700K-1017-6W-IP67-DIF



Manufacturer	Vexica by Lighting Project Solutions	Product Code	VEX-FLEXI-LINE-S-2700K-1017-6W-IP67-DIF
Product Name	Flexi-Line-S	Dimensions - Width	15mm
Product Description	Canopy Light	Dimensions - Depth	1017mm
Mounting Type	Ceiling Mounted (4.22m)	Dimensions - Height	20mm
Lamp Type	LED, 2700K, 90CRI	Emergency	NA
Optic	Diffused Resin	Accessory	-
Luminaire Performance	Connected Load: 6W Lumen Output: 630lm		
Finish	Flexible Polyurethane Resin	Note	
Control Gear			
IP/IK	IP67/IK03		



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