



MEC
Consulting Group

LIGHTING

Land West of Ravenscroft, Storrington
Lighting Impact Assessment
September 2026

Report Ref: 30871-LIGH-0401-Rev A



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REPORT REF: 30871-LIGH-0401-Rev A

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REGISTRATION OF AMENDMENTS

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- B. LUX CONTOUR PLOT

1.0 INTRODUCTION

General

- 1.1 MEC Consulting Group Ltd (MEC) has been commissioned by A2Dominion to undertake a Lighting Impact Assessment for a proposed residential development at Land west of Ravenscroft, Storrington, West Sussex. A proposed site layout is provided in Figure 2.1 and in **Appendix A**.
- 1.2 The description of the development proposed for the reserved matters application is:

“Reserved Matters Submission comprising: Layout; Landscaping; Scale; and, Appearance pursuant to Hybrid Consent (References: DC/21/2086 and SDNP/21/04702/OUT).”

For context, the description of the development proposed as part of the original hybrid application was:

“Hybrid application consisting of full permission for the relocation and enhancement of the Ravenscroft Allotment site and outline planning permission for up to 78 homes with all matters reserved except access (excluding internal estate roads) from Ravenscroft, and new community parkland.”

- 1.3 This report assesses, in terms of artificial lighting, the likely effects of the proposed development. The assessment quantitatively considers the potential effects of the proposed lighting on surrounding sensitive receptors and, if required, considers possible mitigation measures to reduce potential light spill into neighbouring properties and ecological receptors, and upward light (which can create sky glow). An indicative illuminance lux plot for exterior areas of the proposed development is included in **Appendix B**.

Disclaimer

- 1.4 MEC has completed this report for the benefit of the individuals referred to in paragraph 1.1 and any relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this report unless explicit written approval has been gained from MEC.
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2.0 SITE DESCRIPTION

Existing Site

2.1 The proposed site is currently comprised of allotments and arable land. The site is bound by:

- Residential properties along Browns Lane and Orchard Gardens to the north, with the main source of light from street lighting,
- Residential properties along Ravenscroft and Abbey Walk to the east, with the main source of light from street lighting,
- Arable land to the south, with no main source of light, and;
- Treeline to the west, with no main source of light.

2.2 A proposed site layout is provided in Figure 2.1 below.

Figure 2.1: Proposed Site Layout



3.0 POLICY AND GUIDANCE

Environmental Protection Act 1990 / Clean Neighbourhoods and Environment Act 2005

- 3.1 Light pollution was introduced within the Clean Neighbourhoods and Environment Act 2005 as a form of statutory nuisance under the Environmental Protection Act 1990, which states the following:

“... artificial light emitted from premises so as to be prejudicial to health or nuisance.”

National Planning Policy Framework

- 3.2 The National Planning Policy Framework (NPPF), published in August 2026, sets out the Government's planning policies for England and how they are expected to be applied and provides a framework for local plans. With regard to artificial light, the NPPF states:

“P3: Living conditions and pollution

1. Development proposals should be appropriate for their location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, whether these effects are on or off-site; and whether this is as a result of the development itself or the product of preexisting conditions in its vicinity. In assessing the potential effects of pollution, consideration should be given to the potential sensitivity of the site, and its intended occupiers and users, as well as that of the environment and population in the surrounding area (including where certain groups could be particularly vulnerable to its effects, such as children and older people).

2. Within this context development proposals should:

- a. Provide healthy living conditions for occupiers and users in terms of adequate access to light and avoiding exposure to levels of air, noise, artificial light or other sources of pollution which could have an unacceptable adverse effect on health and the quality of life. Where necessary suitable mitigation measures should be incorporated to secure acceptable living conditions;*
- b. Not give rise to, or contribute to, an unacceptable level of access to daylight and sunlight for neighbouring residents and occupiers, or unacceptable levels of air, noise, artificial light, water, soil or other forms of pollution on or beyond the site. Adverse impacts of this nature should be avoided where possible, or else mitigated to an acceptable degree. Where possible, opportunities should be taken to reduce pollution affecting the wider area (such as through traffic and travel management or improved external lighting);*
- e. Limit any adverse impact from artificial light on local amenity, intrinsically dark landscapes (those areas entirely, or largely, uninterrupted by artificial light) and nature.”*

National Planning Practice Guidance 2019

- 3.3 This report has also taken into account the relevant questions set out in the Planning Practice Guidance (PPG) regarding lighting within the planning system, including:

- What light pollution considerations does planning need to address?
- What factors can be considered when assessing whether a development proposal might have implications for light pollution?
- What factors are relevant when considering where light shines?
- What factors are relevant when considering when light shines?
- What factors are relevant when considering how much the light shines?
- What factors are relevant when considering the possible ecological impacts of lighting?
- What other information is available that could inform approaches to lighting and help reduce light pollution?

Relevant British Standards

3.4 The most applicable British Standards relating to lighting for the proposed development are:

- BS EN 12464-2 Light and Lighting – Lighting of Work Places – Outdoor Work Places, 2024.
- BS 5489-1:2020 Design of Road Lighting – Lighting of Roads and Public Amenity Areas – Code of Practice, 2020.

Institute of Lighting Professionals Guidance

3.5 The following Institute of Lighting Professionals (ILP) guidance documents have been consulted in relation to the proposed development:

- PLG 04 Guidance on Undertaking Environmental Lighting Impact Assessments, 2013.
- Guidance Note 01/26 The Avoidance of Obtrusive Light, 2026.
- Guidance Note 08/23 Bats and Artificial Lighting in the UK, 2023.

4.0 ASSESSMENT METHODOLOGY

4.1 Guidance notes produced by the Institute of Lighting Professionals (ILP) are among the most commonly referenced guidance notes for good practice within the lighting design industry.

4.2 The methodology of this report is as follows:

- Identify the environmental zone of the site and surrounding sensitive receptors in accordance with ILP GN01/26 and PLG 04;
- Produce a detailed 3D model using industry-standard light modelling software and quantitatively assess the following parameters: light intrusion and upward light spill/sky glow; and;
- If required, consider possible mitigation measures to reduce potential light intrusion into neighbouring properties and ecological receptors, and upward light (which can create sky glow).

4.3 In accordance with the ILP Guidance Note 01/26 The Avoidance of Obtrusive Light, the following definitions are used to describe lighting effects in this assessment:

- Light intrusion – light entering windows or extending beyond the boundary of a property, which may cause a nuisance to others.
- Skyglow – the combination of direct and indirect upward light emitted into the night sky, which can create a diffuse glow that is particularly visible above urban areas when viewed from darker locations.

4.4 The ILP Guidance Note 01/26 The Avoidance of Obtrusive Light defines environmental zones, with the applicable zone for the proposed development highlighted in Table 4.1:

Table 4.1: Environmental Zones

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Natural	Dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low district brightness (SQM ~15 to 20)	Sparsely inhabited rural areas, villages or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small-town centres of suburban locations
E4	Urban	High district brightness	Town/city centres with high levels of night-time activity

4.5 The environmental zone applicable for the proposed development is zone **E2**. The obtrusive light limits defined in ILP GN01/26 are summarised in Tables 4.2 to 4.3.

Table 4.2: Maximum values of vertical illuminance on properties

Application conditions	Environmental Zone				
	E0	E1	E2	E3	E4
Pre-curfew (07:00-23:00)	n/a	2lx	5lx	10lx	25lx
Post-Curfew (23:00-07:00)	n/a	<0.1 lx*	1lx	2lx	5lx
*Note: If the installation is for public (road) lighting then this may be up to 1 lx.					

- 4.6 Skyglow is the brightening of the night sky caused by artificial lighting resulting from the reflection of radiation (visible and non-visible); ULR (Upward Light Ratio) is the maximum permitted percentage of luminaire flux that goes directly into the sky. The ILP limits for ULR are shown in Table 4.3 below.

Table 4.3: Maximum values of upward light ratio (ULR) of luminaries

Application conditions	Environmental Zone				
	E0	E1	E2	E3	E4
Upward Light ratio (ULR)/%	0	0	2.5	5	15

5.0 RECEPTORS

5.1 Following a desktop survey of the site and having liaised with the project team, the following light-sensitive receptors have been identified:

- Residential – Properties along Browns Lane, Orchard Gardens, Ravenscroft and Abbey Walk.
- Ecological – Treelines surrounding the site, with particular consideration given to the proposed ecological corridor along the western boundary.

Figure 5.1: Residential and Ecological Receptor Locations



(Yellow = Residential, Green = Ecological)

Residential Receptors

5.2 The following residential properties surrounding the site have been identified and assessed based on their proximity to the site and the potential impact of the proposed lighting on them. Each receptor has been modelled at 4.0m to represent a first-floor bedroom. The locations of these receptors are visually presented in Figure 5.1, as well as in Table 5.1 below.

Table 5.1: Residential Receptor Locations

Receptor	Location Description	Height (m)	Environmental Zone (ILP)
R1	Orchard Gardens, Northeast of the site	4.0	E2 (Rural)
R2	Browns Lane, North of the site	4.0	E2 (Rural)
R3	Browns Lane, North of the site	4.0	E2 (Rural)
R4	Ravenscroft, East of the site	4.0	E2 (Rural)
R5	Ravenscroft, East of the site	4.0	E2 (Rural)
R6	Ravenscroft, East of the site	4.0	E2 (Rural)
R7	Abbey Walk, East of the site	4.0	E2 (Rural)

Ecological Receptors

- 5.3 The ILP Guidance Note 08/23 specifies that when a planning application includes additional artificial lighting, developers should ensure that a lighting assessment is done alongside an ecological assessment. Lighting can impact light-sensitive species such as bats by impacting roosting, commuting and foraging behaviour.
- 5.4 There is potential for a number of bat species to use the treeline surrounding the site, in particular the proposed ecological corridor along the western boundary. Ecology receptors have been located along the adjacent woodland at a height of 2.0m, and along the 9m wide proposed ecological corridor. The locations of these receptors are visually presented in Figure 5.1, as well as in Table 5.2 below.

Table 5.2: Ecological Receptor Locations

Receptor	Location Description	Height (m)
E1	Treeline, Southern boundary of the site	2.0
E2	Hedgerow, South of the site	2.0
E3	Ecological Corridor, Western boundary of the site	2.0
E4	Ecological Corridor, Western boundary of the site	2.0
E5	Ecological Corridor, Western boundary of the site	2.0
E6	Treeline, Western boundary of the site	2.0
E7	Treeline, Western boundary of the site	2.0

6.0 LIGHTING ASSESSMENT

- 6.1 A proposed site layout (**Appendix A**) was provided by the project architect for this development, and the lighting criteria has been discussed with the project team. A 3D model has been produced using a range of industry-standard light modelling software including Lighting Reality and Dialux; the model only considers the effect of solid structures, so natural structures such as trees will be assessed qualitatively outside the model calculations.
- 6.2 DW Windsor Kirium Pro luminaires were used in the lighting design. The main road on-site has been designed to lighting class P4 (Eav = 5.00 to 7.50 lux, Emin = 1.00 lux). Given the ecological sensitivity of the site, rear shields have been incorporated on all luminaires to minimise light spill.
- 6.3 The assessment currently considers 24 hours operation of the light fittings as a worst-case scenario.

Light Intrusion Residential Receptors

- 6.4 Table 6.1 compares the modelled light intrusion at the surrounding residential properties with the relevant ILP environmental zone criteria as specified in Tables 4.1 and 4.2. For this assessment, based on the site location, this will be environmental zone **E2** (rural area of low district brightness), with the criteria being 5 lux pre-curfew and 1 lux post-curfew.

Table 6.1: Residential Receptor Results

Receptor	Predicted Model Vertical Illuminance	ILP Pre-curfew Criteria (lx)	ILP Post-curfew Criteria (lx)
R1	0.00	5.0	1.0
R2	0.00	5.0	1.0
R3	0.00	5.0	1.0
R4	0.00	5.0	1.0
R5	0.00	5.0	1.0
R6	0.00	5.0	1.0
R7	0.00	5.0	1.0

- 6.5 The results in the table above show that with the proposed development in place, lighting from the site will not exceed the recommended ILP pre- and post-curfew criteria.

Ecology Receptors

- 6.6 The ILP Guidance Note 08/23 specifies that acceptable lux limits should be used to assess the impact of lighting upon ecological species, including bats. Therefore, impacts will be considered significant where predicted vertical illuminance levels exceed 0.4 lux. The results of this assessment can be found in Table 6.2 below.

Table 6.2: Ecology Receptor Results

Receptor	Predicted Model Vertical Illuminance
E1	0.02
E2	0.01
E3	0.00
E4	0.00
E5	0.00
E6	0.00
E7	0.00

- 6.7 The results show that lux levels along the woodland surrounding the development, and along the proposed ecological corridor, will be below 0.4 lux vertically, therefore, lighting is not anticipated to have a significant impact on light-sensitive species using this space.

SkyGlow

- 6.8 The model has been used to calculate the predicted Upward Lighting Ratio (ULR) of the proposed lighting scheme. Model outputs predict a sky glow figure (ULR) of 0.0%. As illustrated in Table 4.3, the ILP sky glow limitation for environmental zone **E2** is 2.5% ULR. The indicative lighting scheme meets the ILP sky glow limitations and is not considered to result in detrimental impacts on the dark sky landscape.

7.0 CONCLUSIONS

- 7.1 MEC has been commissioned by A2Dominion to undertake a Lighting Impact Assessment for a proposed residential development at Land west of Ravenscroft, Storrington, West Sussex.
- 7.2 With the proposed development in place, lighting from the site will not exceed the recommended ILP pre- and post-curfew criteria.
- 7.3 Lux levels along the light-sensitive ecological areas surrounding the development will be below 0.4 lux vertically, therefore, lighting is not anticipated to have a significant impact on light-sensitive species using this space.
- 7.4 The proposed lighting scheme will comply with all relevant British Standards and the Institution of Lighting Professionals' lighting guidance.



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APPENDICES

Appendix A





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P05	Western Range Adjustment	GP	LD	13/08/26
P04	Design Freeze Issue	GP	LD	07/08/26
P03	General Adjustments	GP	LD	06/08/26
P02	Revised Semi-Detached Layout	NC	LD	28/07/26
P01	Initial Issue	GP	LD	21/07/26
Rev	Amendments	By	Chkd	Date



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APPENDICES

Appendix B





NOTES:

- DO NOT SCALE THIS DRAWING.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH REPORT 30871-LGH-0401.

LIGHTING KEY

PROPOSED STREET LIGHT (REAR SHIELD)
HEIGHT: 6m
LANTERN MANUFACTURER: DW WINDSOR
LANTERN NAME: KIRIUM PRO 1
LAMP TYPE: LED 3000K WARM WHITE
WATTAGE: 15W
OPTIC: 2.15KLM

QUANTITY 14

5.00 LUX ISO CONTOUR
1.00 LUX ISO CONTOUR
0.20 LUX ISO CONTOUR

ECOLOGICAL LIGHT MONITORING LOCATION
QUANTITY 7

SITE BOUNDARY

A	MINOR AMENDMENTS	HA	CA	NA	09.09.26
-	FIRST ISSUE	HA	CA	NA	03.09.26
REV	AMENDMENTS:	DRN	CHK	APP	DATE:

PROJECT:

LAND WEST OF
RAVENS-CROFT, STORRINGTON

DRAWING TITLE:

LUX CONTOUR PLOT

CLIENT:

A2DOMINION

DRAWING NUMBER:

30871_02_100_01

REVISION:	SHEET SIZE:	SCALE:
A	A1	1:500

STATUS:

FOR INFORMATION / APPROVAL

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