

Lighting Strategy

Land at Colwell Farm
Haywards Heath

LAND AT COLWELL FARM, HAYWARDS HEATH

LIGHTING STRATEGY

Document Issue Sheet

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This Lighting Strategy has been prepared for our client as stated within our appointment only and expressly for the purposes set out in an appointment and we owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. This report has been based solely on the specific design assumptions and criteria stated herein.

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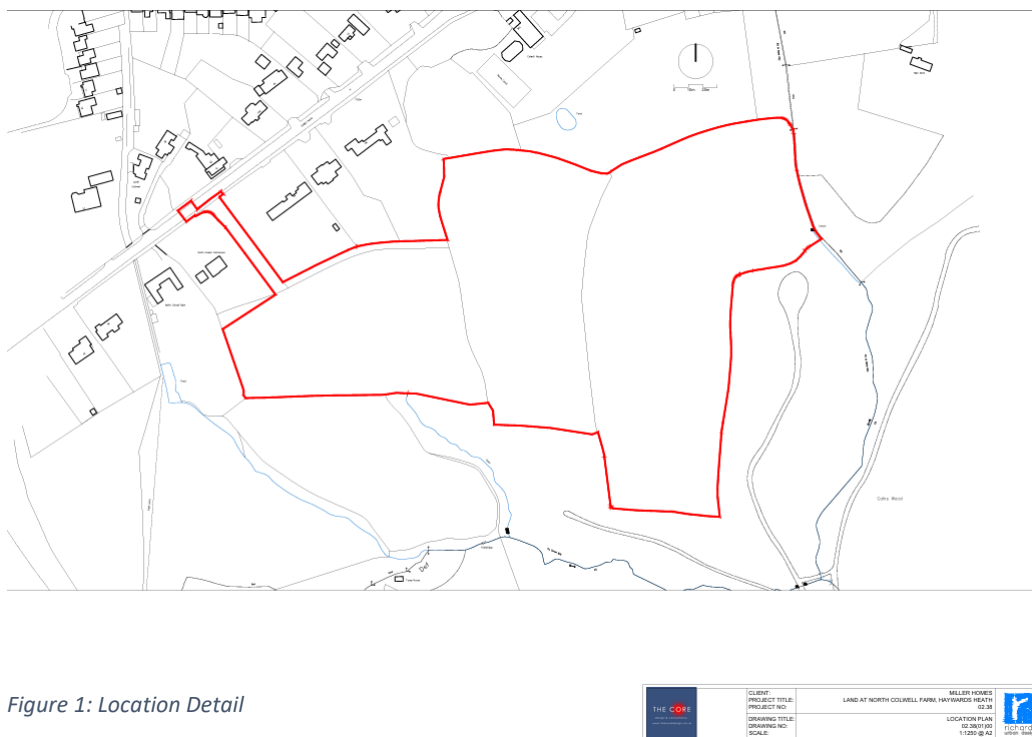
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1. Introduction

1.1 This Lighting Strategy has been prepared by Williams Lighting Consultants Ltd. on behalf of Miller Homes. The report outlines the exterior lighting strategy associated with the Outline Application (with all matters reserved except for access) for up to 80 dwellings and associated infrastructure at Land at Colwell Farm, Haywards Heath (the Proposed Development).

1.2 The strategy details the key principles, the exterior lighting design is to follow. These principles are in place to ensure adequate illumination of external areas, and that the design meets the criteria of the documents detailed in table 1.

1.3 Site Address and Location Detail: Land at Colwell Farm, Haywards Heath.



2. Lighting Design

2.1 Standards and Guidance

2.1.1 An exterior lighting system is required to facilitate safe and secure movement around the Proposed Development for all users. Exterior lighting will be required to light highway areas in accordance with the below list of documents and site-specific design criteria:

Table 1: Standards and Guidance Documents	
Document Reference	Document Title
1	ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2021
2	BS 5489-1:2020 Code of Practice for the design of road lighting
3	ILP and BCT GN08:2023 Bats and artificial lighting in the UK

2.2 Lighting Class Selection

2.2.1 The proposed lighting levels for the site are detailed below (table 2) along with a plan identifying the areas to be lit (figure 1):

Table 2: Proposed Lighting Levels					
Area	Lighting Class	Minimum Average Illuminance (lux)	Maximum Average Illuminance (lux)	Minimum Illuminance (point) (Lux)	Minimum Uniformity (%)
Site Access – for distance travelled at 40mph for 5 seconds either side of access.	M5*	3.00	5.00	0.60	N/A
Internal Road	P5**	3.00	5.00	0.60	N/A
*Lighting class for E3 zone with low to moderate traffic flow (between 7,000 and 40,000 ADT), 40mph, single carriageway.					
**Lighting class for E3 zone with quiet traffic flow speed limit less than or equal to 30mph with risk assessment reduction of 1 class considering immediate ambient light levels.					

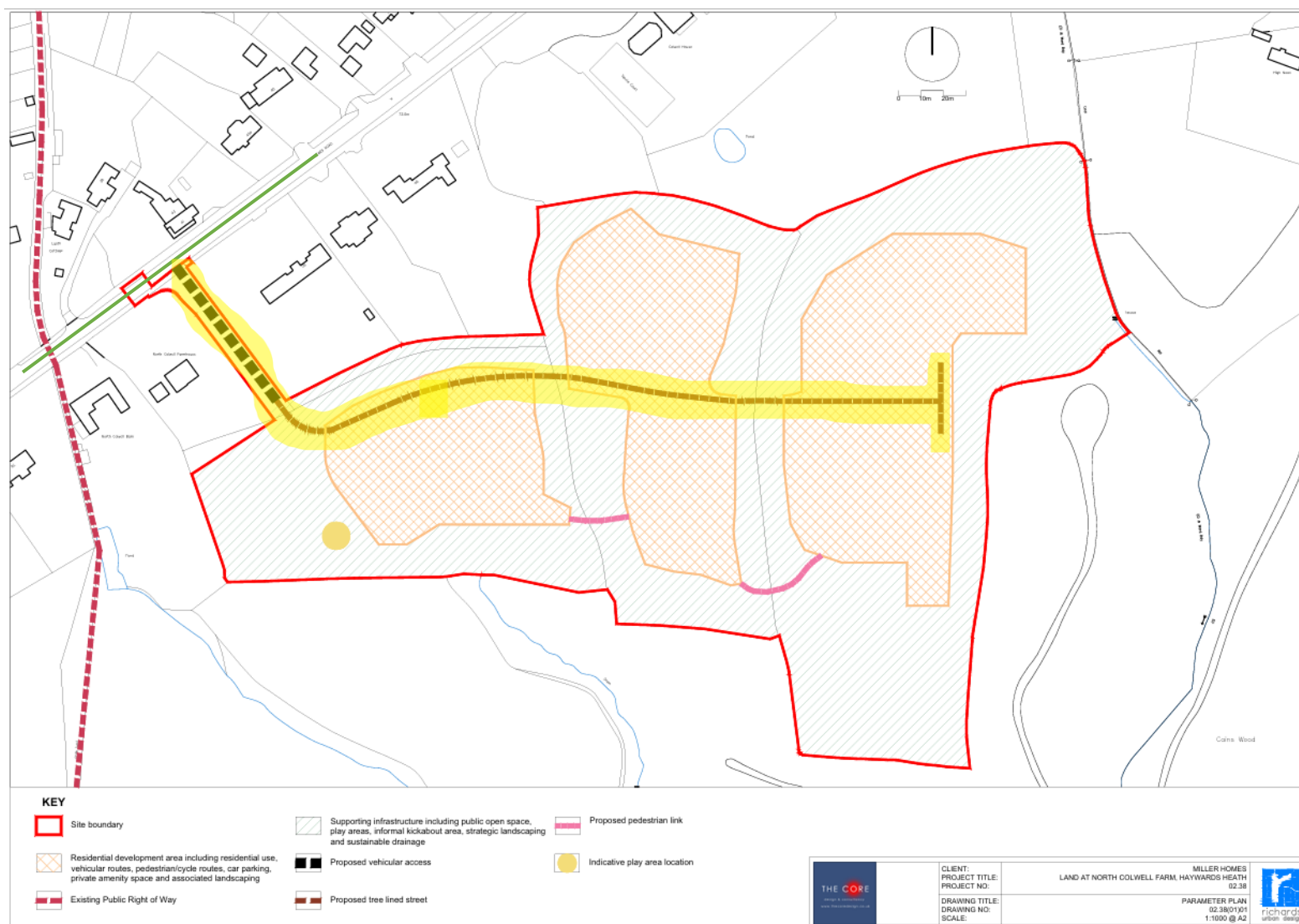


Figure 2: Parameter Plan



2.3 Luminaire Selection and shielding

2.3.1 The following lighting fixture has been selected for its versatility, low colour temperatures and ability to have factory fitted rear LED shields (louvres). The fixture has been compared against the lighting standards and applicable guidance notes.

Table 3: Luminaire Specification and shielding examples				
Luminaire	Proposed Locations	Characteristics		Image
DW Windsor Kirium Pro Mini	Highways – units on site boundary, access road and close to ecologically sensitive (site perimeter, hedgerows, tree lines and the area of ancient woodland which wraps itself around the southeastern sides of the site) areas are to have factory fitted rear LED louvres (shields). These greatly reduce back light.	Upward Light:	0%	
		Colour temperature:	2700/3000K (Warm White)	
		Control:	Photocell – to prevent daytime operation.	
		Efficacy:	Up to 140lm/W	

2.3.2 Energy efficiency – the detailed design is to consider the most appropriate optic setting for the development layout ensuring (as practicable as possible) light is only provided where required.

2.3.3 Light pollution (vertically and horizontally) is to be minimised as much as possible through careful luminaire selection and shielding (luminaire mounted). The design shall follow the principles set out in the ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2021 and shall conform with the below:

Table 4 (Table 3 GN01/20): Maximum values of vertical illuminance on properties.						
Light technical parameter	Application conditions	Environmental zone				
		E0	E1	E2	E3	E4
Illuminance on the 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

2.3.4 The proposed site is considered under Environmental Zone E3 (medium district brightness). Illuminance on proposed and existing properties can be established at detailed design stage – light can be well controlled via optic selection and shielding if required.

2.3.5 Upward Light Ratios

Table 5 (Table 6 GN01/20) Maximum values of upward light ratio (ULR) of luminaires.					
Light technical parameter	Environmental zone				
	E0	E1	E2	E3	E4
Upward Light Ratio (ULR %)	0	0	2.5	5	15

2.3.6 The maximum permitted ULR is 5%. All lanterns are to be mounted on the horizontal – 0 degree tilt. The proposed DW Windsor Kirium Mini lantern has an ULR of 0%.

3. Ecology

- 3.1 This strategy has been developed to align with the ecological recommendations outlined in the site's Ecological Impact Assessment (EIA, dated January 2025). Particular attention has been given to mitigating impacts on light-sensitive bat species and preserving their foraging and commuting habitats.
- 3.2 The layout retains the key commuting corridors for bats, including site boundary features and mature tree lines separating grassland parcels. To maintain ecological connectivity, new hedgerows are proposed to enhance movement across the site. Additionally, a 20m buffer along the southern boundary will safeguard the foraging and commuting habitat provided by the neighbouring ancient woodland.
- 3.3 The detailed lighting design shall ensure areas of importance for light-sensitive bat species (dark corridors) are kept below 0.1 lux (as detailed in section 6.2.3 and 6.2.6 of the EIA). This low-level lighting will limit disturbance and support ecological connectivity.
- 3.4 A badger sett is present on-site, as detailed in Section 6.3 of the EIA. The sett is located to the south of the site and is safeguarded by a designated 20m buffer zone to minimise disturbance and protect the habitat.
- 3.5 The below mitigation methods shall also be considered during the detailed design phase as a minimum:

Consultation: The lighting design shall be prepared in consultation with the site ecologists.

Colour Temperature Selection: A 2700K/3000K warm white colour temperature.

Lighting Optics: Careful selection of lighting optics, with a focus on reducing light spill onto ecological features.

Back Light Shields: Where lighting is necessary in areas adjacent to dark corridors, shielding should be considered. The Kirium Pro Mini optics are available with rear shielding modelled.

Positioning: Where located adjacent to green corridors and retained habitats, any lighting should face away from these features and where necessary, back/front light shields should be proposed.

Light avoidance: All ecological features shall remain unilluminated, and levels minimised to guidance levels.

Dimming and Part Night Lighting: Switching off and dimming of exterior street lighting shall be considered at the detailed design stage to further reduce any impact on the surrounding environment.

Bollard Lighting: The use of bollard lighting is strongly discouraged and shall not be proposed.

4. Environmental Residual Effects

4.1 Any proposed lighting will have residual effects on the environment, and these will occur at different phases during the project. The residual effects have been assessed below and consider the permanent and temporary effects.

4.2 Operational - Landscape and Visual (permanent impact)

4.2.1 The visual scene will experience a permanent impact; however, this can be minimised through thoughtful design practices. By reducing the number and height of columns and lanterns and creating dark areas, the overall impact can be kept low. Additionally, modern lanterns and shielding allow for precise light control, further mitigating potential effects.

4.2.2 **Recommendation:** Design prepared by a competent designer in consultation with the architect and ecologist and in accordance with BS 5489, ILP Guidance on the Reduction of Obtrusive Light.

4.3 Operational - Community (permanent impact)

4.3.1 A well-designed lighting installation will have a positive impact on the local community, providing:

- A reduction in the fear of crime
- Encourage the use of more sustainable modes of transport, such as walking and cycling.
- Encourage the use of shared community spaces.

4.3.2 **Recommendation:** Design prepared by a competent designer in consultation with the architect and ecologist and in accordance with BS 5489.

4.4 Construction and Demolition - Noise (temporary impact)

4.4.1 Noise during construction

4.4.2 **Recommendation:** Employment of a competent contractor with the use of appropriate tools to minimize noise.

4.5 Construction and Demolition - Dust (temporary impact)

4.5.1 Dust during construction

4.5.2 **Recommendation:** Employment of competent contractor with use of appropriate tools to minimize dust.

4.6 Construction and Demolition – Ground Contamination (temporary impact)

4.6.1 None anticipated

4.6.2 **Recommendation:** None

4.7 Construction and Demolition – Storage of Materials (temporary impact)

4.7.1 Storage of materials is anticipated

4.7.2 **Recommendation:** Hazardous materials are to be handled, stored and transported in accordance with COSHH regulations and manufacturer guidelines.

4.8 Construction and Demolition – Waste

4.8.1 Waste is anticipated

4.8.2 **Recommendation:** Lamps and lanterns are to be disposed of in accordance with WEEE regulations. Columns to be recycled where possible.

5. Summary

- 5.1 This Lighting Strategy, prepared by Williams Lighting Consultants Ltd., outlines the exterior lighting strategy for the development at Land at Colwell Farm, Haywards Heath.
- 5.2 It is in place to ensure detailed design proposals are prepared considering industry guidance, with a particular focus on mitigating light pollution and its potential impact on local wildlife, including bats, nearby properties and the ancient woodland. The site is situated within an Environmental Zone E3 and shall meet the maximum recommended levels as per ILP GN01/21 Guidance Notes for the Reduction of Obtrusive Light. Collaboration with site ecologists will be instrumental in developing a detailed exterior lighting design.
- 5.3 The potential for some areas within the site to remain unilluminated throughout the night should be considered at the detailed design stage to avoid unnecessary illumination.
- 5.4 Furthermore, our ecological lighting strategy encompasses the use of LED warm white light sources, careful shielding, and optic selection to avoid unnecessary light spill on ecologically sensitive areas.
- 5.5 In summary, this strategy strikes a balance between efficient lighting solutions and a commitment to environmental responsibility.