LINK ROAD – SOUTH WOKINGHAM SDL

LIGHTING STRATEGY

MILLER HOMES, KIER VENTURES AND KINGACRE ESTATE LTD

11 AUGUST 2025

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1.0 Introduction

Context

1.1. Abley Letchford Partnership Limited has been instructed by Miller Homes, Kier Ventures and Kingacre Estates to provide highway, drainage and infrastructure support in respect of the progression of a series of reserved matters planning applications to facilitate development at the South Wokingham Strategic Development Location (SDL).

1.2. The SDL site is an urban extension of Wokingham in Berkshire and is bisected by an existing railway line linking Wokingham and Bracknell. The SDL proposals comprise of approximately 2,500 homes, a new South Wokingham Distributor Road and other facilities such as two primary schools and a community centre.

1.3. Parcel R10 is located at the eastern end of Phase 2b, adjacent to the Eastern Gateway roundabout. Parcel R14 is then located within Phase 2a further to the east. The SDL proposals involve the provision of an alternative Link Road between the southern arm of the Eastern Gateway roundabout and Waterloo Road, routing through parcels R10 and R14.

Development Proposals

1.4. The proposed development comprises the proposed R10-R14 Link Road which is approximately 520m in length and will also facilitate access to the future residential parcels in the area. The extent of the Link Road is identified on General Arrangement Drawing A389-LR-101 which is attached as **Appendix 1**.

1.5. The proposals will require a system of artificial lighting for safety, security, and amenity during the hours of darkness and low light levels. The Lighting Strategy shall be applied to ensure the potential for obtrusive light is suitably minimised in accordance with the predetermined obtrusive light limits within the Environmental Zone in which the Site is located, and with reference to the guidance within the Institution of Lighting Professionals (ILP) Guidance Note 8 (Bats and artificial lighting in the UK).

2.0 Standards and Policy

2.1. This chapter provides a review of policy relevant to the assessment and sources of information.

National Policies

2.2. Clean Neighbourhoods and Environment Act 2005 gives local authorities and the Environment Agency additional powers to deal with a wide range of issues by classifying artificial light emitted from defined premises as a statutory nuisance.

2.3. The CNEA 2005 amended paragraph 79(1)(fb) of the Environmental Protection Act 1990 to extend the statutory nuisance regime to include light nuisance stating the following: 'artificial light emitted from premises so as to be prejudicial to health or a nuisance'.

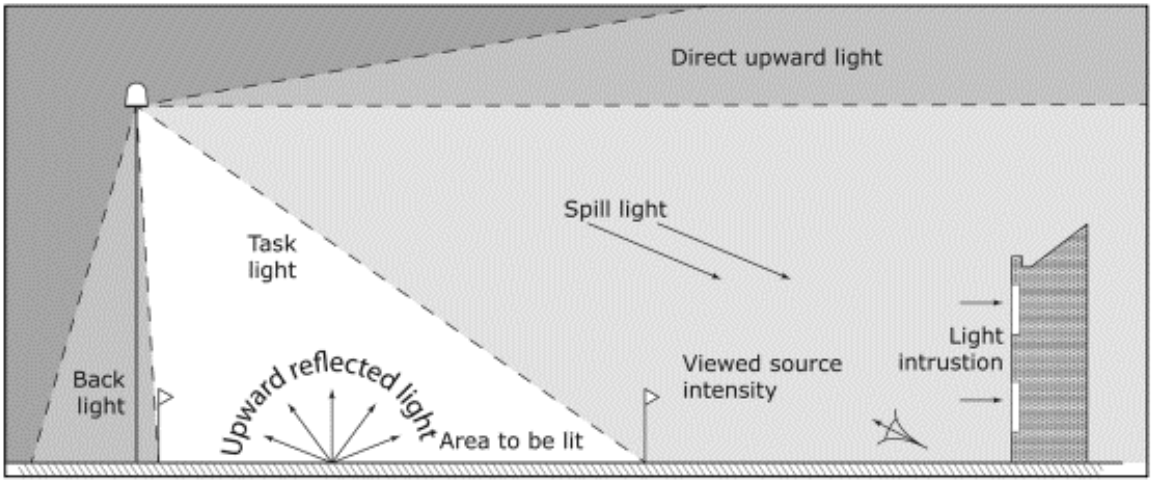
2.4. Guidance produced on Sections 101 to 103 of the CNEA 2005 by DEFRA (DEFRA, April 2006) extends the duty on local authorities to ensure their areas are checked periodically for existing and potential sources of statutory nuisances including nuisances arising from artificial lighting. Local authorities must take reasonable steps to investigate complaints of such nuisances from artificial light. Once satisfied that a statutory nuisance exists or may occur or recur, local authorities must issue an abatement notice (in accordance with section 80(2) of the Environmental Protection Act 1990), requiring that the nuisance cease or be abated within a set timescale.

2.5. National Planning Policy Framework 2023 (NPPF) encourages good design with planning policies and decisions limiting the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes, and nature conservation.

2.6. Planning Practice Guidance 2019 – Light Pollution, gives advise on how to consider light within the planning system.

ILP Guidance Notes for the Reduction of Obtrusive Light - GN01:2021

2.7. The Lighting Strategy has been prepared utilising GN01:2021 which aims to limit the potential for obtrusive light to arise. The extract below, illustrates the types of obtrusive light to be considered.



2.8. It is recommended that Local Planning Authorities specify the environmental zones given in the table below for exterior lighting control within their development plan.

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, village 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

2.9. It is recommended that glare is kept to a minimum by ensuring that the main beam angle of all luminaires directed towards any potential observer is no greater than 70 degrees.

ILP Bats and Artificial Lighting at night – GN08:2023

2.10. The Lighting Strategy also utilises the above guidance notes which is intended to raise awareness of the impacts of artificial lighting on bats, and mitigation is suggested for various scenarios.

2.11. The guidance note suggest when selecting luminaires, the following should be considered:

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent source should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.
- Column height should be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used (Refer to Guidance for the Reduction of Obtrusive Light).
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1 minute) timers.

- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

British Standards

2.12. BS 5489-1:2020 – Code of Practice for the Design of Road Lighting – Lighting of Roads and Public Amenity Areas, gives recommendations for the design of lighting for all types of highways and public thoroughfare, including those specifically for pedestrians and cyclists.

2.13. This standard provides a solid point of reference for lighting designs but is often supplemented by local highway authority criteria.

Wokingham Borough Council Specification

2.14. The standard street lighting specification (including columns height) for this development project is contained within Wokingham BC Street Lighting - Design Process, Requirements and Specification Guide - V2 (November 2013), and supporting Appendices.

2.15. These documents, specifically Appendix A – V11 (June 2023) provides the pre-requisite column and luminaire types based upon the appropriate road type.

3.0 Sensitivity Receptors

3.1. The principal of the lighting design shall be sympathetic to these sensitive receptors; the lighting design will accord with the criteria set out below as well as other relevant guidance documents.

3.2. The Environmental Zone for the proposed development and immediate surrounding is E3: Suburban, Medium district brightness – Well inhabited rural and urban settlements, small town centres of suburban locations. (ILP Guidance Notes for the Reduction of Obtrusive Light - GN01:2021)

3.3. Therefore, where lighting is installed, this should be done in a manner which is sensitive to bats and general wildlife through the following:

- *Low pressure sodium lighting will be used and light levels will be kept as low as possible (between 1 and 3 lux where possible).*
- *Lighting will be directed to where it is needed (away from surrounding hedgerows and woodland to the west) through the design of the luminaire and by using accessories such as cowls or hoods.*
- *The height of lighting columns will be kept as short as possible (ideally three metres or less).*

4.0 Lighting Strategy

4.1. This section defines the requirements for a lighting design to ensure it is fit for purpose and adheres to the sensitivity receptors attributed to the proposed development.

4.2. The Lighting Strategy has been prepared to ensure the lighting design associated with the development site is compliant with relevant British Standards, Local Authority Specification, ILP Lighting guidance.

4.3. Main area requiring lighting as follows:

- Proposed Primary Link Street between the Eastern Gateway roundabout and the Foundation Church Wokingham on the Waterloo Road, are to be built to an adoptable standard.

4.4. It is envisaged, that the street lighting system will remain within the client's control, until such time as the assets are transferred over to Wokingham Borough Council under a Section 38 Agreement in the future.

Link Road - Lighting Principles

	Description
Light Source	LED
Luminaire Type	Philips Luma Gen2 Micro 20 LED Micro
CCT of Light Source (Kelvin)	6600K
Luminaire Tilt	0 degree
Mounting Arrangement	Post top at 6m. (raise & lower columns for maintenance of lighting with accessibility issues)
Dimming regime	In accordance with ILP GN08/23 and WBC Requirements
Lighting Standard	BS 5489-1:2020 – Code of practice for the design of road lighting
Lighting Class	P4
Constraints/Restrictions	

4.5. A copy of the Street Lighting Layout for this application is contained within **Appendix 1**.

5.0 Conclusion

5.1. The Lighting Strategy outlines the criteria for the lighting design of the proposed development to ensure that the lighting is fit for purpose, whilst maintaining sensitivity towards the environment through compliance with relevant British Standards and Guidance.

5.2. The Site is not located within a sensitive landscape designated area. As noted, the Thames Basin Heaths Special Protection Area (SPA) lies approximately within 7 kilometres to the site.

5.3. In terms of closer views to the site, in order to ensure that the potential for obtrusive light is minimised, it is necessary to restrict the mounting heights of the luminaires, tilt angle, colour temperature and lumen output of exterior light sources to those specified in **Section 4**.

5.4. The exterior lighting outlined in the Lighting Strategy shall comply with the requirements for an E3 Environmental Zone as per BS 5489-1:2020.

5.5. Compliance with the Lighting Strategy will allow a safe and sensitive level of light for wayfinding and guidance at night, whilst limiting obtrusive light to a negligible level and in compliance with ILP GN01:2021 and GN08:2023, which seeks to limit light spill onto sensitive boundaries.

Appendices

Appendix 1 – Proposed Drawings

A389-LRDD-101 C01 General Arrangement

A389-LRDD-121 C01 Street Lighting Layout

Junction White Lining

NOTES
1. All lining to be in accordance with Traffic Signs and General Directions 2016 and any subsequent additions and/or amendments.

DIAG No.	MARKING TYPE	MARK	GAP	WIDTH	REMARKS
1003A	Transverse line Wey	600	300	200	
1004	Longitudinal Warning	4000	2000	100	6000 module
1009A	Edge of Carriageway	900	300	100	

GENERAL NOTES:
1. Do not scale.
2. Refer to all other Project Drawings and supporting notes.
3. The Contractor is to check and verify all buildings and site dimensions and levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
4. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
5. This drawing is to be read in conjunction with and checked against all other drawings, Engineering details, Specification and any structural, Geotechnical or other specialist document provided.
6. Any anomaly or contradiction between any of the above is to be reported to the Engineer.
7. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
8. Traffic management and safety measures shall comply in all respects to Chapter 8 of the Traffic Signs Manual published by HMSO. The Contractor shall submit his proposals for the approval of the Engineer and Local Highway Authority prior to commencing any work.
9. The Contractor shall contact all utilities companies prior to commencing and excavation. It is the Contractor's responsibility to locate the exact position of all underground and overhead services, cables, pipes etc prior to the excavations and to take all necessary protective measures.
10. The Contractor shall make good any damage caused to walls, fences, kerbing, surfacing, road signs etc at his own expense as instructed by the Highway Authority.
11. The Contractor shall indemnity the Client, Engineer and Local Authority against damage to any highway authority property, statutory undertakers plant and any costs associated with the disruption of services and the repair/replacement of the damaged plant. No work on site shall commence until written evidence of the above indemnity has been submitted to and accepted by the Engineer.
12. Highway Inspector to be present during inspections/CBR testing.
13. The Contractor shall maintain access to all properties affected by the works.
14. Appropriate shared pedestrian/cycle signage to be provided. For further details, see drawing A389-LR-1201

KEY

- Planning Application (240892) boundary
- Existing Tree Root Protection Area
- 43m Junction Visibility Splay (30mph, MfS)
- 43m Forward Sight Stopping Distance Visibility Splay (30mph, MfS)
- 17m Cyclist Visibility Splay (20kph, LTN 1/20)
- 43m Visibility Splay to Pedestrian Crossing Points on Link Road (30mph, MfS)
- 43m Visibility Splay to Pedestrian Crossing Points on Minor Arms (30mph, MfS)
- Tactile paving at dropped crossing
- Corduroy paving
- Proposed Tree Pit
- Proposed Rain Garden Tree Pit
- Proposed road gully
- Proposed Block Paving
- Proposed Carriageway - Tarmacadam
- Proposed Footway - Tarmacadam
- Proposed Footway - No-dig Tarmacadam
- Proposed Cycleway - Tarmacadam
- Proposed Cycleway - No-dig Tarmacadam
- Proposed Verge
- Proposed Street Lighting Column
- Existing Street Lighting Column
- Proposed Traffic Sign
- Temporary Traffic Sign

0 5 10 15 20 25m
Scale 1:500

Rev	Date	Description	Drawn	Checked
C01	05.25	CONSTRUCTION ISSUE FOLLOWING TECHNICAL APPROVAL BY WBC	RG	RF

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Client
MILLER HOMES
KIER VENTURES
KINGACRE ESTATES LTD.

Project
SOUTH WOKINGHAM SDL
R10-R14 LINK ROAD
DETAILED DESIGN

Title
GENERAL ARRANGEMENT

Status
FOR CONSTRUCTION

Scale	Date	Drawn	Checked
1:500 @ A0	MAY 2025	RG	RF

Drawing No. A389-LRDD-101
Revision C01

GENERAL NOTES:

1. Do not scale.
2. Refer to all other Project Drawings and supporting notes.
3. The Contractor is to check and verify all buildings and site dimensions and levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
4. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
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10. The Contractor shall make good any damage caused to walls, fences, kerbing, surfacing, road signs etc at his own expense as instructed by the Highway Authority.
11. The Contractor shall indemnity the Client, Engineer and Local Authority against damage to any highway authority property, statutory undertakers plant and any costs associated with the disruption of services and the repair/replacement of the damaged plant. No work on site shall commence until written evidence of the above indemnity has been submitted to and accepted by the Engineer.
12. Highway Inspector to be present during inspections/CBR testing.
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STREET LIGHTING KEY:

ADOPTABLE LIGHTING:

6m Philips Luma Gen2 Micro 20 LED
Micro_BGP702_DW50_36O0_20LED_5.25_CLO_L90_740.ies
Lamp(s): LED-HB 5.25 740
Lamp(s) per luminaire, 3600 initial lumens per lamp.
Maintenance Factor = 0.9.
Outreach (from mounting axis to photometric center)= 300 mm.
tilt angle= 0 deg.
Mounting height= 6m.
Number of luminaires= 18.

Existing street lighting column. TBC.
Modelled using above information.

LIGHTING LUX KEY:

0.4 Lux Contour

0.6 Lux Contour

1.0 Lux Contour

Adoptable areas lit to Lighting Class P4 in accordance with BS EN 13201:2015

LIGHTING NOTES:

1. Private lighting NOT controlled by WBC Telensa CMS System.
2. Control / Dimmer Unit to be Telensa 5-pin NEMA Telecell with integral Telensa Dimming Module (DALI standard) and GPS positioning
3. Cut-Out Type - Lucy MCD405LF with 6 amp H.R.C. fuse as standard (fuse size may be increased as appropriate where feeds to other units are required - fuse size to conform to IEE regulations).
4. Isolator - Charles Manufacturing LSI-02/SF or Lucy Trojan Mini isolation unit with 6 amp fuse (fuse size may be increased as appropriate where feeds to other units are required - fuse size to conform to IEE regulations).
5. Constant Light Output (CLO) to be disabled on the LED drivers to avoid clash with Telensa CMS System.

0 5 10 15 20 25m
Scale 1: 500

Rev	Date	Description	Drawn	Checked
C01	05.25	CONSTRUCTION ISSUE FOLLOWING TECHNICAL APPROVAL BY WBC	RG	RF

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Project
SOUTH WOKINGHAM SDL
R10-R14 LINK ROAD
DETAILED DESIGN

Title
STREET LIGHTING LUX LAYOUT

Status
FOR CONSTRUCTION

Scale	Date	Drawn	Checked
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