WLC
LIGHTING DESIGN

# Lighting Strategy

## Land at Bridge Farm
## Twyford

# LIGHTING STRATEGY

## Document Issue Sheet

| Version | Project Number | Document Reference | Prepared By | Date | Verified | Date |
|---|---|---|---|---|---|---|
| R0 | WLC1233 | WLC1233-LSR-001 | [redacted] | 06/11/2024 | [redacted] | 07/11/2024 |
| | | | | | | |

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.

# Contents

1. Introduction ..... 3
2. Lighting Design ..... 4
3. Ecology ..... 8
4. Environmental Residual Effects ..... 9
5. Summary ..... 11

APPENDIX A: LIGHTING CALCULATION REPORTS
APPENDIX B: STREET LIGHTING PLANNING LAYOUTS

# 1. Introduction

1.1 This Lighting Strategy has been prepared by Williams Lighting Consultants Ltd. for and on behalf of Croudace Homes. The report describes the exterior lighting works to be provided at the proposed new development at Land at Bridge Farm, Twyford (the Proposed Development).

1.2 The strategy details the key principles, the exterior lighting design follows. 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 Accompanying this strategy, lighting calculations (Appendix A) and an indicative lighting design (Appendix B) have been prepared to demonstrate exterior lighting at the proposed development has a minimal impact on the surrounding environment.

1.4 Site Address: Land at Bridge Farm, Twyford.

1.5 Site Location Detail:

# 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 adoptable and private 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 | Local Authority Specifications |
| 3 | BS 5489-1:2020 Code of Practice for the design of road lighting |

## 2.2 Lighting Class Selection

2.2.1 The proposed lighting levels for the site are detailed below (table 2):

| Table 2: Proposed Lighting Levels | | | |
|---|---|---|---|
| **Area** | **Lighting Class** | **Minimum Average Illuminance (lux)** | **Minimum Illuminance (lux)** |
| Adoptable Roads - Spine | P4* | 5.00 | 1.00 |
| Adoptable Minor Roads and Private Drives | P5** | 3.00 | 0.60 |
| *Based on 30mph, E3 environmental zone, normal road usage<br>** Based on 30mph, E3 environmental zone, low road usage. Class reduction considering site geometry, ecology and reduced usage compared with spine roads. | | | |

## 2.3 Luminaire Selection and shielding

2.3.1 The following lighting fixtures were selected to form the proposals for this site. The fixtures have been compared against the lighting standards and applicable guidance notes.

| Table 3: Luminaire Specification and shielding examples | | | | |
|---|---|---|---|---|
| **Luminaire** | **Proposed Locations** | **Characteristics** | | **Image** |
| DW Windsor Lancaster LED | Adoptable and Private Highways | **Upward Light:** | 2% | |
| | | **Colour temperature:** | 3000K (Warm White) | |
| | | **Efficacy:** | Up to 140lm/W | |

2.3.2 Energy efficiency – the design has considered appropriate optic settings for the development layout, ensuring (as practicable as possible) light is only provided where required.

2.3.3 Dimming: All adoptable lighting to be controlled via Telensa Antenna nodes. This provides the authority with the flexibility to dim street lights in the future.

2.3.4 Light pollution (vertically and horizontally) has been minimized as much as possible through careful luminaire selection and shielding (luminaire mounted). The design follows the principles set out in the ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2021 and conforms 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** |
| | Pre-curfew | n/a | 2 lx | 5 lx | 10 lx | 25 lx |

| | | | | | | |
|---|---|---|---|---|---|---|
| Illuminance on the vertical plane ($E_v$) | Post-curfew | n/a | <0.1 lx | 1 lx | 2 lx | 5 lx |

2.3.5 The proposed site is considered under Environmental Zone E3 (medium district brightness). Refer to lux contour plans – WLC1233-1300-001. All street lights are to have a rear shield. Example shielding below:

2.3.6 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 |

2.3.7 The maximum permitted ULR is 5%. All units are mounted on the horizontal – 0-degree tilt and the max upward light specified is 2% - below the maximum recommended.

# 3. Ecology

3.1 It is anticipated that the site perimeter will be of an ecologically sensitive nature (hedgerows / tree line) and therefore the lighting design has been prepared following industry guidance on bats and artificial lighting. Key principles the design follows are listed below and should be further enhanced during the detailed design stage:

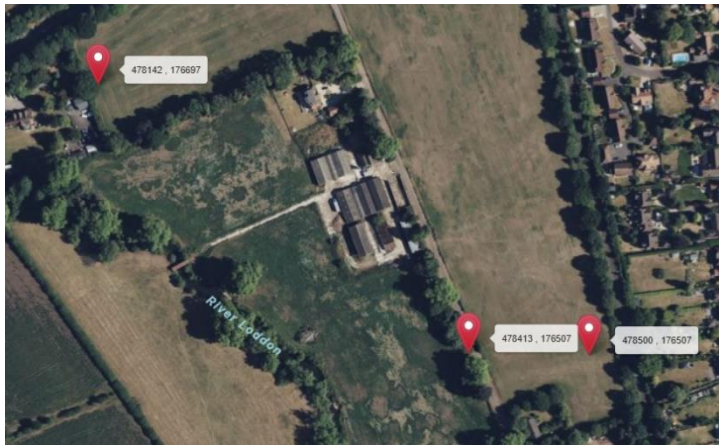
**Colour Temperature Selection:** A 3000K warm white colour temperature has been selected as per Local Authority guidance.

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

**Back Light Shields:** All proposed light units have a rear shield proposed to reduce unwanted light spill.

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

3.2 The River Loddon is near the site and has been considered an ecological sensitive feature – the below snapshot demonstrates lighting positions closest to the river – the closest light source is approx. 100m away and is not considered to impact this feature:



# 4. Environmental Residual Effects

4.1 The 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 There is a permanent impact on the visual scene. With the use of a design practice the impact can be minimized through good design – reducing the number of columns/lanterns required and their height. With the use of modern lanterns and shielding light is well controlled.

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:** None

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 proposals for the development at Land at Bridge Farm, Twyford.

5.2 These proposals are designed considering adoptable specifications and industry guidance, with a particular focus on mitigating light pollution and its potential impact on local wildlife, including bats. The site is situated within an Environmental Zone E3 and meets the maximum recommended levels as per ILP GN01/21 Guidance Notes for the Reduction of Obtrusive Light.

5.3 Adoptable and private highways are illuminated to the appropriate lighting levels, aligning with the lighting classes specified in BS5489-1:2020, which governs the lighting of roads and public amenity areas.

5.4 Furthermore, our ecological considerations encompass 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.

APPENDIX A: LIGHTING CALCULATION REPORTS

| | |
|---|---|
| **DATE:** | **7 November 2024** |
| **DESIGNER:** | **WLC** |
| **PROJECT No:** | **WLC1233** |
| **PROJECT NAME:** | **Land at Bridge Farm, Twyford** |

CALCULATION FOR PLANNING PURPOSES ONLY.

THE PROPOSALS HAVE BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE FOLLOWING TARGET LIGHTING CLASS(ES): P4 (SPINE ROAD) P5 (MINOR ROADS) IN ACCORDANCE WITH BS 5489:2020

LEVELS ACHIEVED:
REFER TO INDIVIDUAL GRID WITHIN REPORT.

# WLC1233-LC-AC-001 R0

**PREPARED BY:**

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# Layout Report

## General Data

Dimensions in Metres Angles in Degrees

## Calculation Grids

| ID | Grid Name | X | Y | X' Length | Y' Length | X' Spacing | Y' Spacing |
|---|---|---|---|---|---|---|---|
| 1 | Grid 1 | 478200.69 | 176688.91 | 240.00 | 102.00 | 1.50 | 1.50 |
| 2 | Grid 2 | 478300.43 | 176733.52 | 42.00 | 105.00 | 1.50 | 1.50 |
| 3 | Grid 3 | 478230.89 | 176710.44 | 45.00 | 117.00 | 1.50 | 1.50 |
| 4 | Grid 4 | 478289.59 | 176776.90 | 136.25 | 126.00 | 1.50 | 1.50 |
| 5 | Grid 5 | 478375.10 | 176535.01 | 132.00 | 160.00 | 1.50 | 1.50 |
| 6 | Grid 6 | 478410.95 | 176479.10 | 129.00 | 91.42 | 1.50 | 1.50 |
| 7 | Grid 7 | 478145.26 | 176650.12 | 102.00 | 87.00 | 1.50 | 1.50 |

## Luminaires

### Luminaire A Data

| | |
|---|---|
| Supplier | D W Windsor |
| Type | Lancaster Street-32LED-3k- C2 200mA UM SUG 42 0022 0000 100 |
| Lamp(s) | 32 x 3k LED |
| Lamp Flux (klm) | 2.51 |
| File Name | Lancaster Street-32LED-3k- C2_200mA UM SUG 42 0022 0000 100.ies |
| Maintenance Factor | 0.76 |
| Imax70,80,90(cd/klm) | 941.9, 124.4, 31.9 |
| No. in Project | 10 |

### Luminaire B Data

| | |
|---|---|
| Supplier | D W Windsor |
| Type | Lancaster Street-32LED-3k- C2 400mA UM SUG 42 0041 0000 100 |
| Lamp(s) | 32 x 3k LED |
| Lamp Flux (klm) | 4.78 |
| File Name | Lancaster Street-32LED-3k- C2_400mA UM SUG 42 0041 0000 100.ies |
| Maintenance Factor | 0.76 |
| Imax70,80,90(cd/klm) | 941.8, 124.4, 31.9 |
| No. in Project | 8 |

### Luminaire C Data

| | |
|---|---|
| Supplier | D W Windsor |
| Type | Lancaster 16LED 3k A2 500mA UMSUG 42 0022 0000 100 |
| Lamp(s) | 16x3k |
| Lamp Flux (klm) | 1.62 |
| File Name | Lancaster 16LED 3k A2_500mA UMSUG 4 2 0022 0000 100.ies |
| Maintenance Factor | 0.76 |
| Imax70,80,90(cd/klm) | 644.0, 113.7, 38.5 |
| No. in Project | 32 |

### Luminaire D Data

| | |
|---|---|
| Supplier | D W Windsor |
| Type | Lancaster 16LED 3k A2 400mA UMSUG 42 0017 0000 100 |
| Lamp(s) | 16x3k |
| Lamp Flux (klm) | 1.34 |
| File Name | Lancaster 16LED 3k A2_400mA UMSUG 4 2 0017 0000 100.ies |
| Maintenance Factor | 0.76 |
| Imax70,80,90(cd/klm) | 644.2, 113.8, 38.5 |
| No. in Project | 6 |

## Luminaires

### Luminaire E Data

| | |
|---|---|
| Supplier | D W Windsor |
| Type | Lancaster 16LED 3k A2 800mA UMSUG 42 0035 0000 100 |
| Lamp(s) | 16x3k |
| Lamp Flux (klm) | 2.36 |
| File Name | Lancaster 16LED 3k A2_800mA UMSUG 4 2 0035 0000 100.ies |
| Maintenance Factor | 0.76 |
| Imax70,80,90(cd/klm) | 644.1, 113.7, 38.5 |
| No. in Project | 3 |

## Layout

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 478322.43 | 176758.47 | 5.00 | 203.00 | 0.00 | 0.00 | 0.00 | | | |
| 2 | A | 478311.37 | 176784.44 | 5.00 | 203.00 | 0.00 | 0.00 | 0.00 | | | |
| 3 | A | 478288.26 | 176803.36 | 5.00 | 26.00 | 0.00 | 0.00 | 0.00 | | | |
| 4 | D | 478280.97 | 176827.59 | 5.00 | 298.00 | 0.00 | 0.00 | 0.00 | | | |
| 5 | D | 478262.43 | 176808.10 | 5.00 | 121.00 | 0.00 | 0.00 | 0.00 | | | |
| 6 | C | 478309.18 | 176833.70 | 5.00 | 125.00 | 0.00 | 0.00 | 0.00 | | | |
| 7 | D | 478246.77 | 176796.42 | 5.00 | 148.00 | 0.00 | 0.00 | 0.00 | | | |
| 8 | D | 478243.60 | 176776.96 | 5.00 | 203.00 | 0.00 | 0.00 | 0.00 | | | |
| 9 | D | 478252.89 | 176754.69 | 5.00 | 203.00 | 0.00 | 0.00 | 0.00 | | | |
| 10 | D | 478262.15 | 176732.83 | 5.00 | 203.00 | 0.00 | 0.00 | 0.00 | | | |
| 11 | C | 478331.36 | 176848.15 | 5.00 | 125.00 | 0.00 | 0.00 | 0.00 | | | |
| 12 | C | 478356.16 | 176863.95 | 5.00 | 124.00 | 0.00 | 0.00 | 0.00 | | | |
| 13 | C | 478372.56 | 176884.67 | 5.00 | 292.00 | 0.00 | 0.00 | 0.00 | | | |
| 14 | C | 478388.96 | 176865.13 | 5.00 | 27.00 | 0.00 | 0.00 | 0.00 | | | |
| 15 | C | 478400.54 | 176837.62 | 5.00 | 23.00 | 0.00 | 0.00 | 0.00 | | | |
| 16 | C | 478410.82 | 176811.60 | 5.00 | 22.00 | 0.00 | 0.00 | 0.00 | | | |
| 17 | A | 478413.21 | 176789.51 | 5.00 | 173.00 | 0.00 | 0.00 | 0.00 | | | |
| 18 | C | 478212.39 | 176685.00 | 5.00 | 116.00 | 0.00 | 0.00 | 0.00 | | | |
| 19 | C | 478179.89 | 176672.67 | 5.00 | 116.00 | 0.00 | 0.00 | 0.00 | | | |
| 20 | C | 478155.31 | 176668.79 | 5.00 | 68.00 | 0.00 | 0.00 | 0.00 | | | |
| 21 | C | 478142.14 | 176697.80 | 5.00 | 9.00 | 0.00 | 0.00 | 0.00 | | | |
| 22 | C | 478136.41 | 176720.52 | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 | | | |
| 23 | C | 478155.98 | 176736.75 | 5.00 | 296.00 | 0.00 | 0.00 | 0.00 | | | |
| 24 | C | 478440.08 | 176715.65 | 5.00 | 196.00 | 0.00 | 0.00 | 0.00 | | | |
| 25 | C | 478446.08 | 176692.31 | 5.00 | 198.00 | 0.00 | 0.00 | 0.00 | | | |
| 26 | C | 478446.49 | 176659.70 | 5.00 | 13.00 | 0.00 | 0.00 | 0.00 | | | |
| 27 | C | 478459.77 | 176638.62 | 5.00 | 195.00 | 0.00 | 0.00 | 0.00 | | | |
| 28 | C | 478466.74 | 176611.89 | 5.00 | 197.00 | 0.00 | 0.00 | 0.00 | | | |
| 29 | C | 478462.14 | 176586.88 | 5.00 | 327.00 | 0.00 | 0.00 | 0.00 | | | |
| 30 | E | 478411.86 | 176708.01 | 5.00 | 294.00 | 0.00 | 0.00 | 0.00 | | | |
| 31 | E | 478383.72 | 176696.16 | 5.00 | 294.00 | 0.00 | 0.00 | 0.00 | | | |
| 32 | E | 478356.77 | 176685.07 | 5.00 | 292.00 | 0.00 | 0.00 | 0.00 | | | |
| 33 | A | 478347.75 | 176664.44 | 5.00 | 1.00 | 0.00 | 0.00 | 0.00 | | | |
| 34 | A | 478359.01 | 176634.61 | 5.00 | 25.00 | 0.00 | 0.00 | 0.00 | | | |
| 35 | A | 478369.89 | 176608.38 | 5.00 | 20.00 | 0.00 | 0.00 | 0.00 | | | |
| 36 | A | 478386.16 | 176568.95 | 5.00 | 24.00 | 0.00 | 0.00 | 0.00 | | | |

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## Layout Continued

| ID | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | C | 478414.84 | 176555.58 | 5.00 | 111.00 | 0.00 | 0.00 | 0.00 | | | |
| 38 | C | 478447.44 | 176569.39 | 5.00 | 114.00 | 0.00 | 0.00 | 0.00 | | | |
| 39 | C | 478399.35 | 176538.77 | 5.00 | 21.00 | 0.00 | 0.00 | 0.00 | | | |
| 40 | C | 478414.09 | 176507.57 | 5.00 | 46.00 | 0.00 | 0.00 | 0.00 | | | |
| 41 | C | 478444.74 | 176514.63 | 5.00 | 292.00 | 0.00 | 0.00 | 0.00 | | | |
| 42 | C | 478473.19 | 176512.04 | 5.00 | 92.00 | 0.00 | 0.00 | 0.00 | | | |
| 43 | C | 478500.16 | 176507.65 | 5.00 | 72.00 | 0.00 | 0.00 | 0.00 | | | |
| 44 | C | 478480.33 | 176538.22 | 5.00 | 7.00 | 0.00 | 0.00 | 0.00 | | | |
| 45 | C | 478473.66 | 176564.40 | 5.00 | 16.00 | 0.00 | 0.00 | 0.00 | | | |
| 46 | B | 478403.55 | 176779.94 | 5.00 | 295.00 | 0.00 | 0.00 | 0.00 | | | |
| 47 | B | 478377.03 | 176768.53 | 5.00 | 291.00 | 0.00 | 0.00 | 0.00 | | | |
| 48 | B | 478354.85 | 176742.95 | 5.00 | 113.00 | 0.00 | 0.00 | 0.00 | | | |
| 49 | B | 478327.56 | 176731.62 | 5.00 | 109.00 | 0.00 | 0.00 | 0.00 | | | |
| 50 | B | 478294.95 | 176733.95 | 5.00 | 292.00 | 0.00 | 0.00 | 0.00 | | | |
| 51 | B | 478272.85 | 176708.38 | 5.00 | 114.00 | 0.00 | 0.00 | 0.00 | | | |
| 52 | B | 478245.69 | 176697.05 | 5.00 | 111.00 | 0.00 | 0.00 | 0.00 | | | |
| 53 | B | 478213.34 | 176704.43 | 5.00 | 33.00 | 0.00 | 0.00 | 0.00 | | | |
| 55 | C | 478424.12 | 176765.14 | 5.00 | 221.00 | 0.00 | 0.00 | 0.00 | | | |
| 56 | C | 478433.52 | 176741.19 | 5.00 | 195.00 | 0.00 | 0.00 | 0.00 | | | |
| 56 | A | 478377.56 | 176590.10 | 5.00 | 20.00 | 0.00 | 0.00 | 0.00 | | | |
| 57 | C | 478380.75 | 176829.64 | 5.00 | 294.00 | 0.00 | 0.00 | 0.00 | | | |
| 58 | A | 478359.67 | 176819.51 | 5.00 | 294.00 | 0.00 | 0.00 | 0.00 | | | |
| 59 | C | 478344.82 | 176806.95 | 5.00 | 294.00 | 0.00 | 0.00 | 0.00 | | | |

# Horizontal Illuminance (lux)

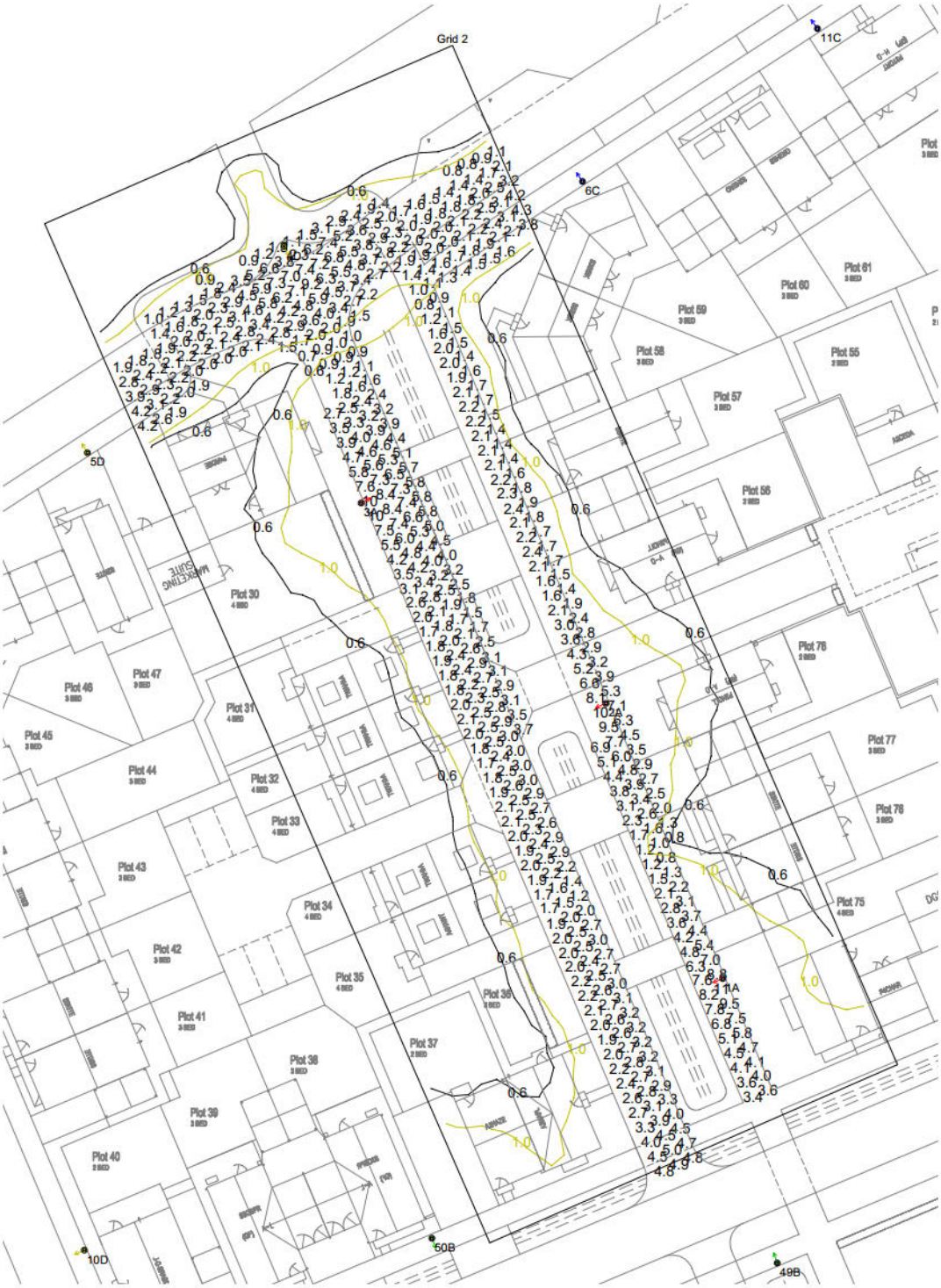
Grid 1

## Results

| | |
|---|---|
| Eav | 5.69 |
| Emin | 1.05 |
| Emax | 23.23 |
| Emin/Emax | 0.05 |
| Emin/Eav | 0.18 |
| | |

# Horizontal Illuminance (lux)

Grid 2

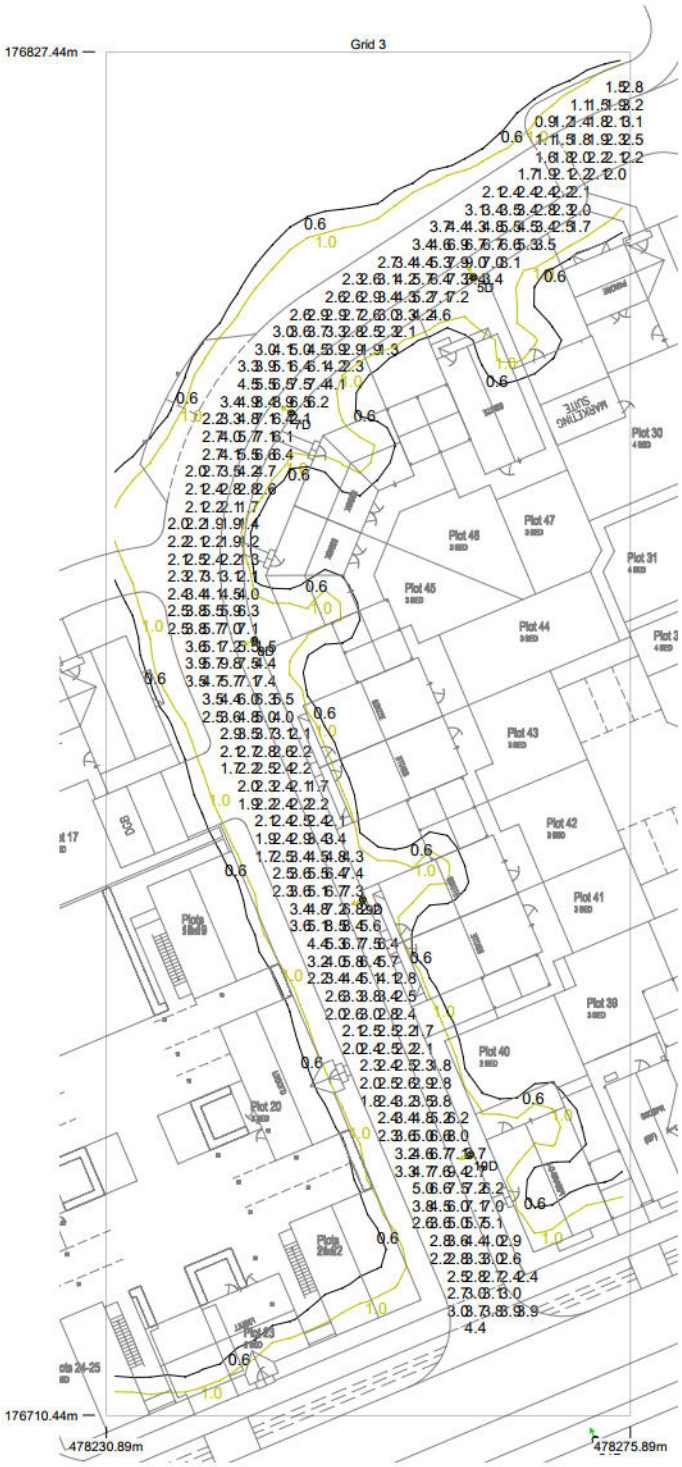



## Results

| | |
|---|---|
| Eav | 3.09 |
| Emin | 0.65 |
| Emax | 10.98 |
| Emin/Emax | 0.06 |
| Emin/Eav | 0.21 |
| | |

# Horizontal Illuminance (lux)

Grid 3




## Results

| | |
|---|---|
| Eav | 3.76 |
| Emin | 0.87 |
| Emax | 9.76 |
| Emin/Emax | 0.09 |
| Emin/Eav | 0.23 |
| | |

# Horizontal Illuminance (lux)

Grid 4

## Results

| | |
|---|---|
| Eav | 3.71 |
| Emin | 0.64 |
| Emax | 13.04 |
| Emin/Emax | 0.05 |
| Emin/Eav | 0.17 |
| | |

# Horizontal Illuminance (lux)

Grid 5

## Results

| | |
|---|---|
| Eav | 3.64 |
| Emin | 0.61 |
| Emax | 14.21 |
| Emin/Emax | 0.04 |
| Emin/Eav | 0.17 |
| | |

# Horizontal Illuminance (lux)

Grid 6

## Results

| | |
|---|---|
| Eav | 3.62 |
| Emin | 0.67 |
| Emax | 13.11 |
| Emin/Emax | 0.05 |
| Emin/Eav | 0.19 |
| | |

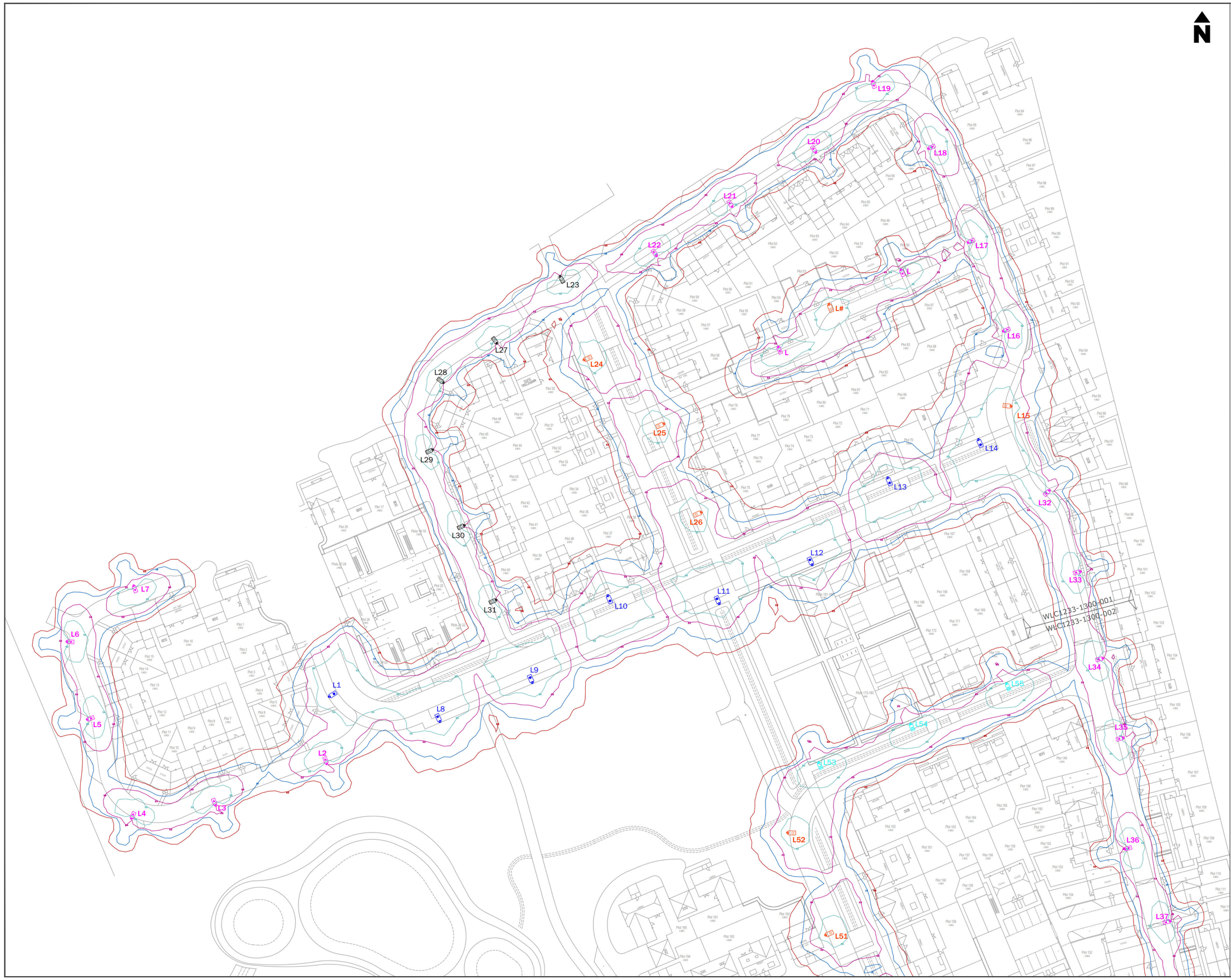
# Horizontal Illuminance (lux)

Grid 7

## Results

| | |
|---|---|
| Eav | 4.07 |
| Emin | 0.77 |
| Emax | 12.45 |
| Emin/Emax | 0.06 |
| Emin/Eav | 0.19 |
| | |

APPENDIX B: LIGHTING STRATEGY (PLAN)




## LIGHTING NOTES:

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS (REFERENCE SHALL ALSO BE MADE TO THE DESIGN RISK ASSESSMENT)

1. NOT FOR CONSTUCTION - FOR PLANNING PURPOSES ONLY.

**SYMBOL QUANTITY - #s REFER TO ALL PLANS**

L# 10

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 32 LED 200mA 3000K |
| FLUX: | 2.51klm |
| WATTAGE: | 22W |
| OPTIC: | C2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | ADOPTABLE: TELENSA ANTENNA<br>PRIVATE: MINIATURE PHOTOCELL |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 8

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 32 LED 200mA 3000K |
| FLUX: | 4.78klm |
| WATTAGE: | 41W |
| OPTIC: | C2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | ADOPTABLE: TELENSA ANTENNA<br>PRIVATE: MINIATURE PHOTOCELL |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 32

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 500mA 3000K |
| FLUX: | 1.62klm |
| WATTAGE: | 22W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | ADOPTABLE: TELENSA ANTENNA<br>PRIVATE: MINIATURE PHOTOCELL |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 3

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 800mA 3000K |
| FLUX: | 2.36klm |
| WATTAGE: | 35W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | ADOPTABLE: TELENSA ANTENNA<br>PRIVATE: MINIATURE PHOTOCELL |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 6

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 300mA 3000K |
| FLUX: | 1.34klm |
| WATTAGE: | 17W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | ADOPTABLE: TELENSA ANTENNA<br>PRIVATE: MINIATURE PHOTOCELL |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

**ALL LANTERNS ARE TO BE FITTED WITH REAR LIGHT SHIELD**

LIGHTING CALCULATION DETAILS:

THE PROPOSALS HAVE BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE FOLLOWING TARGET LIGHTING CLASS(ES): P4 (SPINE RD) & P5 (MINOR RD) IN ACCORDANCE WITH BS5489-1:2020.

LEVELS ACHIEVED:
REFER TO LIGHTING CALCULATION REPORTS.

LUX CONTOUR LINES:

| SYMBOL | DESCRIPTION |
|---|---|
| | 0.50 LUX CONTOUR LINE |
| | 1.00 LUX CONTOUR LINE |
| | 2.00 LUX CONTOUR LINE |
| | 5.00 LUX CONTOUR LINE |

NOTES:
1. NOT FOR CONSTRUCTION - PLANNING PURPOSES ONLY.

| REV: | DESCRIPTION: | BY: | DATE: |
|---|---|---|---|
| R0 | FIRST ISSUE | PW | 07.11.24 |

STATUS: **FOR PLANNING**

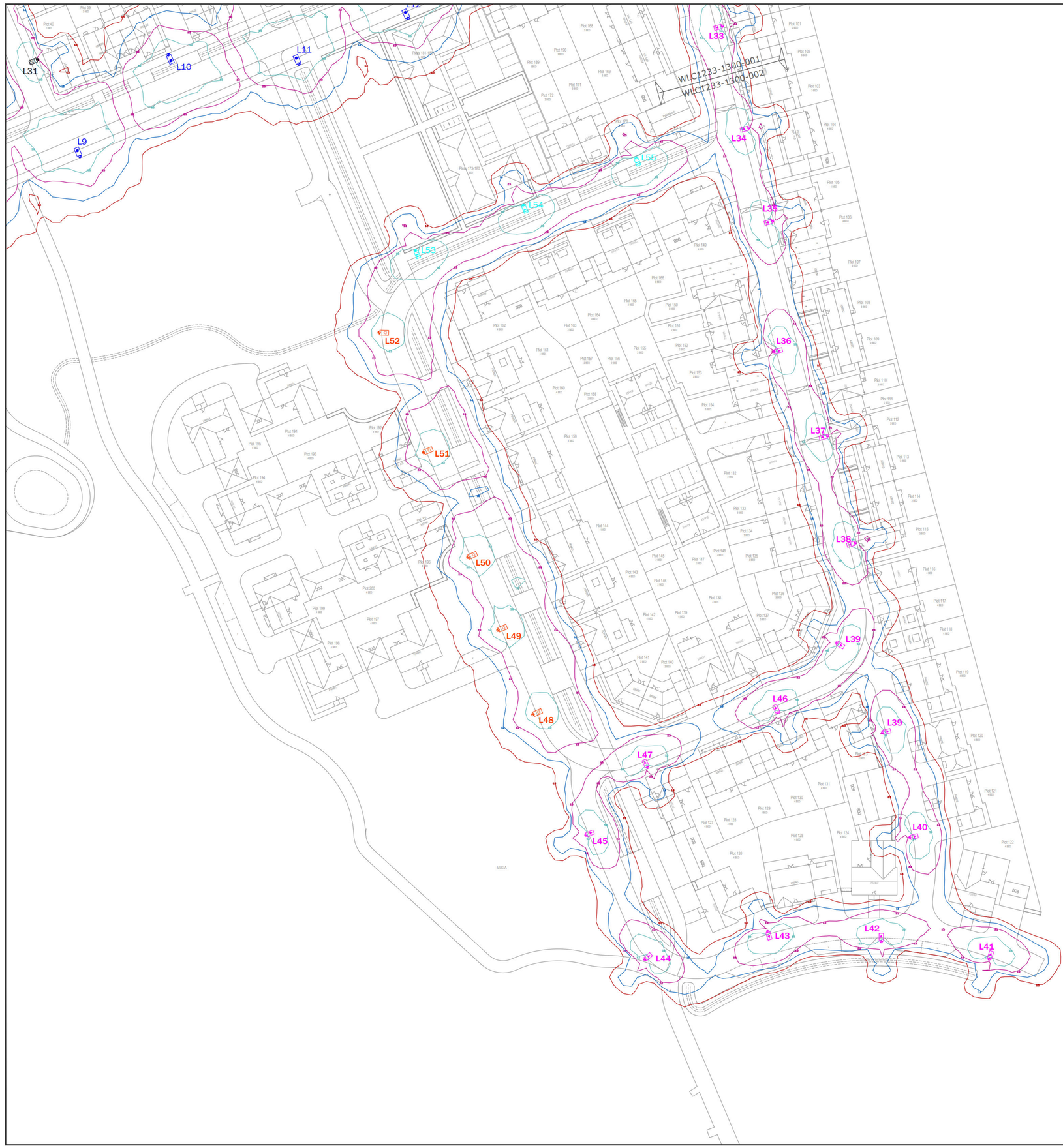

**Williams Lighting Consultants Ltd.**
WLC
info@wlclighting.co.uk
www.wlclighting.co.uk
01608 642530


SITE: **LAND AT BRIDGE FARM TWYFORD**

TITLE: **STREET LIGHTING LAYOUT RESERVED MATTERS 1 OF 2**

| SCALE AT A1: | DATE: | DRAWN: | CHECKED: |
|---|---|---|---|
| 1:500 | 07.11.24 | PW | LD |

| PROJECT NO: | DRAWING NO: | REVISION: |
|---|---|---|
| WLC1233 | WLC1233-1300-001 | R0 |




## LIGHTING NOTES:

**SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION**

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS (REFERENCE SHALL ALSO BE MADE TO THE DESIGN RISK ASSESSMENT)

1. NOT FOR CONSTUCTION - FOR PLANNING PURPOSES ONLY.

**SYMBOL QUANTITY - #s REFER TO ALL PLANS**

L# 33 — 10

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 32 LED 200mA 3000K |
| FLUX: | 2.51klm |
| WATTAGE: | 22W |
| OPTIC: | C2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | TELENSA ANTENNA |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 8

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 32 LED 200mA 3000K |
| FLUX: | 4.78klm |
| WATTAGE: | 41W |
| OPTIC: | C2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | TELENSA ANTENNA |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 32

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 500mA 3000K |
| FLUX: | 1.62klm |
| WATTAGE: | 22W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | TELENSA ANTENNA |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 3

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 800mA 3000K |
| FLUX: | 2.36klm |
| WATTAGE: | 35W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | TELENSA ANTENNA |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

L# 6

PROPOSED COLUMN AND LANTERN:

| | |
|---|---|
| COLUMN: | PROPOSED 5M DWI WINDSOR CARDIFF LIGHTING COLUMN - FACTORY FINISHED BLACK RAL9005. |
| LANTERN: | DW WINDSOR LANCASTER FACTORY FINISHED BLACK. |
| LIGHT SOURCE: | 16 LED 300mA 3000K |
| FLUX: | 1.34klm |
| WATTAGE: | 17W |
| OPTIC: | A2 |
| LANTERN MOUNTING: | POST TOP - 76MM |
| LANTERN INCLINATION: | 0° |
| CONTROL GEAR REF: | ELECTRONIC DALI ENABLED DIMMABLE DRIVER |
| ISOLATOR: | INSTALL LUCY TROJAN MIDI 32A LOCKABLE DOUBLE POLE ISOLATOR WITH 6A BS88 FUSE |
| SWITCHING: | TELENSA ANTENNA |
| SUPPLY: | TO BE CONFIRMED BY OTHERS |

**ALL LANTERNS ARE TO BE FITTED WITH REAR LIGHT SHIELD**

LIGHTING CALCULATION DETAILS:
THE PROPOSALS HAVE BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE FOLLOWING TARGET LIGHTING CLASS(ES): P4 (SPINE RD) & P5 (MINOR RD) IN ACCORDANCE WITH BS5489-1:2020.

LEVELS ACHIEVED:
REFER TO LIGHTING CALCULATION REPORTS.

LUX CONTOUR LINES:

| SYMBOL | DESCRIPTION |
|---|---|
| | 0.50 LUX CONTOUR LINE |
| | 1.00 LUX CONTOUR LINE |
| | 2.00 LUX CONTOUR LINE |
| | 5.00 LUX CONTOUR LINE |

NOTES:
1. NOT FOR CONSTRUCTION - PLANNING PURPOSES ONLY.

| REV: | DESCRIPTION: | BY: | DATE: |
|---|---|---|---|
| R0 | FIRST ISSUE | PW | 07.11.24 |

STATUS: **FOR PLANNING**


**Williams Lighting Consultants Ltd.**
WLC
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www.wlclighting.co.uk
01608 642530


SITE: **LAND AT BRIDGE FARM TWYFORD**

TITLE: **STREET LIGHTING LAYOUT RESERVED MATTERS 2 OF 2**

| SCALE AT A1: | DATE: | DRAWN: | CHECKED: |
|---|---|---|---|
| 1:500 | 07.11.24 | PW | LD |

| PROJECT NO: | DRAWING NO: | REVISION: |
|---|---|---|
| WLC1233 | WLC1233-1300-002 | R0 |