

Intended for
Reading Borough Council

Document type
Discipline Input Plan

Date
October 2021

READING GYPSY & TRAVELLER TRANSIT SITE – LAND SOUTH OF ISLAND ROAD, READING DISCIPLINE INPUT PLAN LIGHTING

READING GYPSY & TRAVELLER TRANSIT SITE – LAND SOUTH OF ISLAND ROAD, READING DISCIPLINE INPUT PLAN LIGHTING

Project name Reading Traveller Site
Project no. 162000974
Document type Discipline Input Plan
Report No. 1620009874-RAM-ZZ-ZZ-RP-EX-00001
Version 1.2
Date 2021-12-02
Prepared by MMULL
Checked by DAHOL
Approved by MARKD
Description Discipline Input Plan – Lighting

Ramboll
2nd Floor, The Exchange
St. John Street
Chester
CH1 1DA
United Kingdom

T +44 1244 311855
<https://uk.ramboll.com>

This report is produced by Ramboll at the request of the client for the purposes detailed herein. This report and accompanying documents are intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party and shall not be liable for any loss, damage or expense of whatsoever nature which is caused by their reliance on the information contained in this report.

CONTENTS

1.	INTRODUCTION	1
1.0	Purpose and Objective	1
1.1	Project Overview	1
2.	THE SITE	2
3.	Design Output	3
4.	DESIGN METHODOLOGY	3
4.0	Design Standards	3
4.1	Lighting Levels	4
4.2	Lighting Equipment	4
4.3	Power Requirements	4
5.	ECOLOGY	4
6.	PROPOSED CONSULTATION	5
7.	DEPARTURES/RELAXATIONS	6

1. INTRODUCTION

1.0 Purpose and Objective

The purpose of this Discipline Input Plan is to state the assumptions, sources of information and approach taken when carrying out the street lighting design for the Reading Gypsy & Traveller Transit Site.

1.1 Project Overview

The Application Proposal is for a gypsy and traveller transit site. A transit site is “A site intended for short-term use while in transit. The site is usually permanent and authorised, but there is a limit on the length of time residents can stay.” (Glossary: Gypsy and Traveller, Travelling Show people and Houseboat Dweller Accommodation Assessment, arc4 for Reading Borough Council (June 2017)). It will comprise 7 pitches, bin store, outdoor seating area, play area, and a new access onto Island Road. Each pitch comprises a kitchen/toilet block and space for two caravans and two cars.

The development works will involve lighting a currently unlit site as can be seen in the site location Figure 1 below

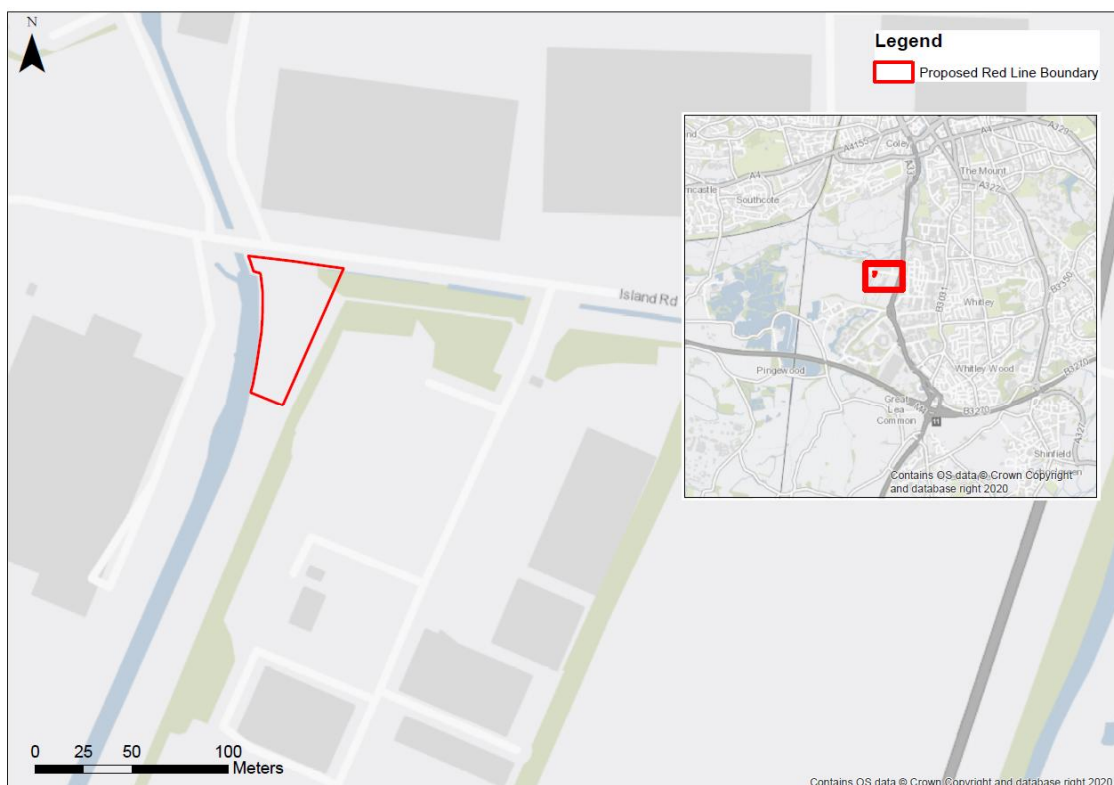


Figure 1.1: Site Location

There is an amount of external lighting associated with the nearby roads and developed areas, however the wider landscape is relatively dark.

2. THE SITE

The Application Site is overgrown scrubland. It is enclosed by mature, dense tree belts to the east and west which will be retained. To the north is Island Road which leads to the A33; to the east is car parking serving the Reading Sewage Treatment Works; to the south the scrub land narrows and continues; to the west is a watercourse beyond which the Reading Waste Management Park located within a large warehouse building.



Figure 2.1. Revised proposed site layout with site office removed and pitch layout amended

3. DESIGN OUTPUT

The design output will comprise:

- Indicative Lighting Layout at a scale of 1:200

4. DESIGN METHODOLOGY

4.0 Design Standards

Road lighting shall be designed in accordance with the standards and guidance listed below:

- International Commission on Illumination (CIE).
- CIE 115 - Recommendations for the lighting of roads for motor and pedestrian traffic Second Edition (2010)
- BS 5489-1:2020 Design of road lighting. Lighting of roads and public amenity areas. Code of practice
- BS EN 13201-2:2015 Road lighting. Performance requirements
- BS EN 12464-2:2014 – Light and Lighting. Lighting of Workplaces Part 2: Outdoor Workplaces
- BS 5266-1:2016 – Emergency Lighting – Code of practice for the emergency lighting of premises
- BS 1838: 2013 – Lighting applications. Emergency lighting
- LG12:2015 Emergency lighting (CIBSE)
- Society of Light and Lighting (SLL) – Code of Lighting
- Society of Light and Lighting – Lighting Guides
- Society of Light and Lighting – Fact Files
- ILP GN 01:2021 - (Institution of Lighting Professionals) Document: Guidance for the Reduction of Obtrusive Light
- Bat Conservation Trust Guidance Note 08/18: Bats and artificial lighting in the UK
- Designing Gypsy & Traveller Sites, Good Practice Guide – Communities and Local Government

The above is not an exhaustive list of technical documents, guidance and recommendations for street-lighting that shall be referred to during the design process.

The lighting layout shall be designed so as to provide visual guidance and assist with tasks that are to be carried out during the hours of darkness.

It is not intended that the lighting shall be fully switched on 24/7, rather that it shall be dimmed/switched off in alignment with Reading County Council street lighting operations regime.

Emergency lighting does not form part of the scope of this document.

The installed luminaires are to conform to the Luminous Intensity class G4 to G6 (full cut-off) to minimise glare as described in BS EN 13201-2:2015 Table A.1.

Installing the road lighting luminaires at zero degree inclination to the horizontal plain shall ensure that there will be no upward light emitted for that element of the installation, thus meeting the recommendations in ILP GN 01.

4.1 Lighting Levels

Lighting design levels shall be determined according to BS 12464-2:2014 Table 5.14 and in agreement with Reading Borough Council.

Provisional lighting levels are as follows:

For the Access Road

Minimum average illuminance: $E_{av} = 5 \text{ Lux}$

Minimum Uniformity: $U_o = 0.25$

For the Play park/muster area – Minimum absolute illuminance: 1.0lux

For the 7 No. caravan pitches – no dedicated lighting is proposed for these areas and the street lighting is to be directed so as to avoid light nuisance into van windows as much as is reasonably practicable.

4.2 Lighting Equipment

Immediate Entrance onto Island Road - Street lighting post-top mounted on 6.0m height column, planted root.

An additional 2No street lighting columns are proposed to be installed in a single sided arrangement on the access road at a height of 5.0m.

Play Area/Muster Point – the Entrance street-light shall also provide back light to a minimum level of 1.0lux on the Muster Area.

Under the original layout design there was a Site office, which was to have an additional bulk-head fitted to the external wall at a height of 2.0m, to provide a level of illumination in the bin/refuse area. Under the current layout the site office has been removed. The bulkheads can be fitted to the shower block to provide some illumination for the bins area. Please see Fig 2.1 above.

The street lighting arrangements should be planned to minimise the risk of damage through vandalism and avoid problems of light pollution to the homes on the site through light shining directly into caravans. It should be planned to properly illuminate access roads and immediate access to residential pitches.

4.3 Power Requirements

For detailed design, an assessment of power requirements and services would need to be undertaken to determine power availability for the new lighting scheme in consultation with the building services team.

5. ECOLOGY

The ecology survey did not identify any obvious potential roost features for bats at ground level, or as a foraging corridor for various species of bats.

Overall, the site is considered to offer habitat of low to moderate quality as a foraging and commuting resource for bats. However, it is only a small part of a much wider area of higher quality habitat further afield. It is therefore likely to be well used by small numbers of bats on an opportunistic basis but is unlikely to be a significant foraging resource.

To limit any potential adverse impact on bat movements, the lighting installation should be such that upward light is controlled and warm white light source (CCT of 3000K or less) utilised to limit the attraction of bats to the luminaires.

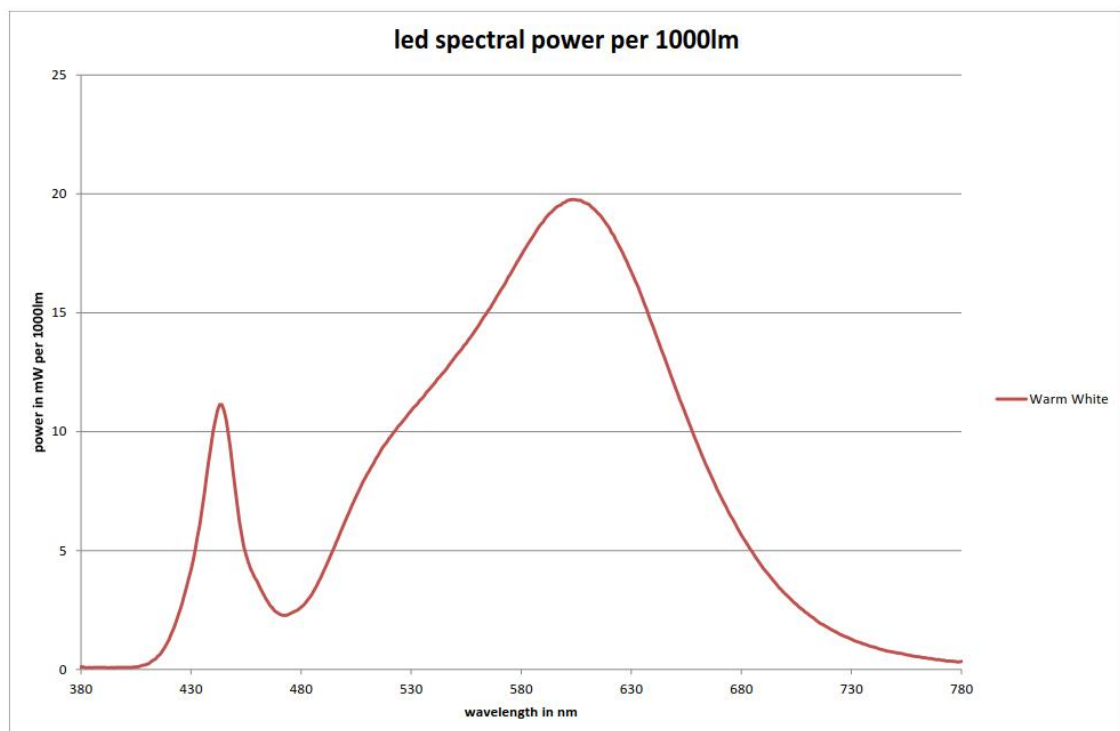


Figure 5.1: Spectral Power Distribution Curve for 3000K LED lamps (Source Signify)

Mitigation Measures for Ecological Impact:

- Using a warm white light source (3000K CCT) with the peak light output higher than 550nm (refer to typical spectral power output graph in Figure 5.1 above)
- Light sources that emit minimal UV light
- Reduced light content at the blue short wavelength
- Applying Constant Light Output (CLO) function to maintain minimum required levels through the luminaire design life

It is considered that dormice are not likely to be present at the site.

6. PROPOSED CONSULTATION

The outline lighting design shall be submitted to Reading Borough Council for comment.

7. DEPARTURES/RELAXATIONS

Departures and relaxations are yet to be determined in relation to the lighting. These will be determined during the detailed design and submitted in a departures report.



General Notes

1. This drawing is © copyright Hampshire County Council 2020. No unauthorised reproduction of any kind is permitted.
2. No dimensions to be scaled from this drawing. Verify all dimensions prior to construction. Immediately report any discrepancies on the document to the Architect/Contract Administrator. This document shall be read in conjunction with associated models, specifications and related consultant's documents.
3. Drawing to be read with all relevant Architectural, Interiors, Structural, M&E, Drainage/Public Health, Landscape, Civils and Interiors drawings and specifications.
4. This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown Copyright & may lead to prosecution or civil proceedings (1/2019/60) 2020.

Hampshire County Council

- KEY**
- Site Boundary
 - RBC Ownership Boundary Outside Site
 - Street lighting luminaire, post-top mounted at 6.0m height, warm white LED light source, zero degree inclination
 - Street lighting luminaire, post-top mounted at 5.0m height, warm white LED light source, zero degree inclination
 - Emergency lighting bulkheads at 2.0m height, mounted above building access doorways
 - Additional emergency lighting bulkhead at 2.0m height, mounted on building wall to assist with illumination on bins area
 - Lighting column ID

Waste Management Park (re3)

Reading Sewage Treatment Works

P1	SO INITIAL STATUS	2021-12-13	XXX	XXX

Rev Description Date By Chkd

HCC Property Services,
Three Ministers House,
76 High Street, Winchester SO23 8UL
tel: (01962) 847801

Property Services

PROJECT NAME
RBC Gypsy & Traveller Transit Site

SHEET NAME
INDICATIVE LIGHTING LAYOUT

SCALE
1:500 @ A3

DRAWN TH
CHKD XXX
APRV XXX

DRAWING No.
project code - originator - volume - level - type - role - number version

RAM-ZZ-ZZ-SK-EX-60001 P1 101

SUITABILITY
code description

SO INITIAL STATUS



Scale 1:500

0m 10m 20m