

Our Ref: EVO20011211-SL-001-D

Your Ref: 5015560

Peter Drury
Horton Heath
Technical Manager
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Eastleigh Borough Council
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13/06/2024

Dear Peter Drury,

Lower Acre – Parcel 1.2 (Adoptable Roads) – One Horton Heath

Thank you for your scheme enquiry for the Lower Acre, Parcel 1.2 adoptable roads at One Horton Heath.

We have undertaken a lighting design for the area using Axia 3.1 lanterns on 6 metre post top columns. Lighting has been designed in accordance with BS5489-01:2020, and a lighting class of P4 was applied.

Following the completed design work if there are changes to the road layouts which require design revisions these may incur further charges.

Yours sincerely,



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Design Commentary - Parcel 1.2 (Adoptable Roads) – One Horton Heath

1. Introduction

- 1.1. Enerveo has been commissioned by Eastleigh Borough Council to develop a detailed lighting design for the adoptable roads as part of Lower Acre Parcel 1.2, at One Horton Heath.
- 1.2. The purpose of this document is to provide commentary on the lighting design methodology adopted for the proposed works including decisions for design constraints and deviations from design standards.

2. Drawings

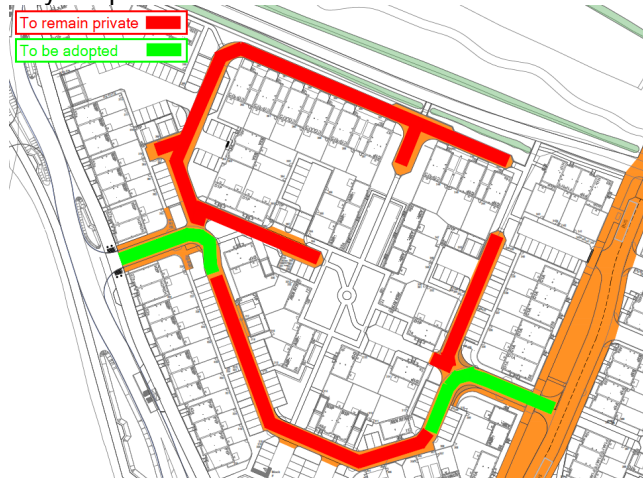
- 2.1. Drawing at 1:250 scale.

3. Standards

- 3.1. The proposed lighting design has been carried out using the following non-exhaustive list of standards and documents:
 - BS 5489-1:2020, *Code of practice for the design of road lighting - Part 1: Lighting of roads and public amenity areas.*
 - BS EN 13201-2:2015, *Road lighting — Part 2: Performance requirements*
 - ILP Professional Lighting Guide 02, PLG02, *The Application of Conflict Areas on the Highway.*
 - ILP Guidance Note, GN01:2020, *Guidance Notes for the Reduction of Obtrusive Light.*
 - ILP Technical Report, TR23 1998, *Lighting of Cycle Tracks.*

4. General Layout

- 4.1. The location of the proposed works is Horton Heath northwest of Burnetts Lane.
- 4.2. The works consist of adoptable street lighting for section 38 roads.
- 4.3. Due to the proposed road layout only, a limited portion can be lit to adoptable standards, as much of the proposed development has no footways or verges in which to place lighting columns.
- 4.4. Enerveo has liaised with Hampshire Council (HCC) Street Lighting Team to establish what areas in which the development can be lit with lighting that meets the requirements of HCC (TG13 v3.0) and the requirements of the PFI contract.
- 4.5. The green areas on the map below shows where street lighting can be designed to fully adoptable standards and areas that will need to remain private in red.



5. Street Lighting Class

5.1. The lighting design has been carried out in accordance with the requirements of BS5489-01:2020, Table A.5.

Adoptable Roads	
Reference Table	A.5
Environmental Zone	E3, moderate ambient brightness
Traffic flow	Normal
Traffic composition	Mixed
Road Speed	30 mph
Other Considerations	Unrestricted parking road geometry dictates slow speeds
Lighting Class	P4

Lighting Class	Average Illuminance, Eave (Lux)	Average Illuminance Maximum, Eave (Lux)	Average Illuminance, Eave (Lux)
P4	5.00	7.50	1.00

6. Lighting Design Notes

- 6.1. The adoptable lighting has been limited to two short sections as it was not possible to place columns in line with the requirements of HCC TG13 v3 for much of Parcel 1.2.
- 6.2. Rear louvres have been proposed on the lanterns in Parcel 1.2 to ensure light intrusion is below HCCs 2 lux preferred level as per TG12 v3 3.4.3.
- 6.3. Light intrusion has been kept below HCCs desired levels for all plots adjacent to sections of road that can be lit to adoptable standards. This has been achieved using rear louvres on all lanterns and careful positioning of columns.

7. Environmental

- 7.1. The designer has been notified by the client about site-specific Environmental Impact Assessments, mitigations, or other designations of nature conservation (including but not limited to SSSI, SAC, SPA).
- 7.2. Bats are present on the site, therefore 3000K Warm White LEDs have been used in line with HCC TG13 v3.0 3.29.1.

8. Maintenance factor

- 8.1. Environmental maintenance factor assuming a 48-month clean is 0.94.
- 8.2. Luminaire maintenance is 0.9 (this considers lumen depreciation and LED failures, L90B10).
- 8.3. Giving overall maintenance factors of 0.85 (as per HCC TG13).

9. Column Locations

10. Columns are to be installed rear of footway, unless stated on the drawing.

11. Column Type

- 11.1. Columns to be 6 metre galvanized tubular steel straight shaft (no outreach bracket), painted (factory finished), colour BS4800 00E53 black.

12. Lantern Type

- 12.1. Urbis Axia 3.1 with DALI dimming ballast fitted with Mayflower six pin NEMA socket, post-top mounted, tilt 0 degree.
- 12.2. Lanterns to be finished in BS4800 00E53 black.
- 12.3. Every lighting scheme is required to install one Mayflower Complete Lighting Control DALI Sub-master unit to control Nodes and link to Central Management System.

13. Rev B Changes

- 13.1. Column & lantern colour changed to BS4800 00E53 black.

14. Rev C Changes

- 14.1. Layout updated.
- 14.2. Column 1 Road 2 relocated to suit new alignment.

15. Rev D Changes

- 15.1. Isolux contours shown on layout drawing in line with GN08/23.
- 15.2. Column positions from separate designs for Lower Acre shown for information only.