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1. General Considerations

(S278) works are to be carried out by the Authority. The Developer may sub-contract on site (S38) works.

Unless otherwise stated, the Highway Authority will require the developer to provide street lighting system for roads, verges, paths, cycle tracks, parking areas and all areas to be adopted as highway maintained at the public expense.

Thths

The Authority shall be notified when the installation is complete and ready for an adoption inspection. This inspection will attract a fee. This notification shall include a schedule confirming the technical details, equipment details, as built drawing, location details and electrical test certificates.

The inspector shall check that the work is been undertaken in accordance with the check list, method statements, designs and specifications in compliance with Good Industry Practice and the requirement of Surrey County Council.

Please see Annex 1(Check List)

The developer will remain liable for any defect or damage until the road has been adopted. Adoption of the lighting will incur the developer an accrual fee and a Commuted Sum maintenance payment.

Please see Annex 2 (Specified Equipment)

2. Design Requirements

The lighting scheme can, at the request of the developer, be carried out by Milestone Infrastructure for a design fee. For a fee Milestone Infrastructure will also manage the installation programme, inspect and certificate thus permit immediate adoption and transfer of responsibility and energy to the Authority.

All lighting designs shall be undertaken in line with the requirements of BS5489-1:2020 and BS EN13201:2015 unless by prior written arrangement with the county council
The developer may be required to present information regarding expected traffic flows for traffic routes affected by the development

The lighting layout shall be on an A1 plan to scale of not less than 1:500. This shall include all lighting locations old and new together with the surrounding area. The lighting layout shall also include a schedule of DNO connections, disconnections and transfer, together with details of any private cables and their feeds. Also included shall be a schedule of equipment, and parameters used in the design, including lighting class and maintenance factors. All designs submitted for approval shall be accompanied by a computer aided design calculations indicating the surround ratio, maximum, average and minimum levels of luminance or illuminance as appropriate, along with the achieved uniformity factor. The calculations shall utilise Lighting Reality software or other approved software. The calculations shall clearly demonstrate compliance with the required lighting levels. Isometric diagrams containing contour containing contour lines are also required.

All designs must consider passive safety requirements as necessary and dictated by Passive Safety Risk Assessment.

All Passive Safety electrical disconnection equipment specified must be above ground. The use of equipment mounted below ground level shall be prohibited.

All designs shall use manufacturers certified photometry for Surrey County Council Street Lighting PFI.

The developer will also be required to demonstrate that the proposed design minimises whole life costs of the complete installation.

Calculation shall be based on a maintenance factor determined by an appropriate pollution factor and the manufactures lumen output specification. Choice of light source shall be Light Emitting Diode (LED).

In addition a full risk assessment for the proposed design shall be submitted including Health and Safety hazards in installation, maintenance and demolition risks. The risk assessment shall also indicate mitigation measures undertaken as part of the design process, and residual risks, together with measures to be undertaken by others to further manage the risks.

All design equipment specification and installation work shall comply with the standards indicated below:

- a) European and British Standards for road lighting using the classes set out in this Annex 1:
 - BS EN 13201-2: 2015 Road Lighting Part 2: Performance requirements
 - BS EN 13201-3: 2015 Road Lighting Part 3: Calculation of Performance
 - BS EN 13201-4: 2015 Road Lighting Part 4: Methods of measuring lighting performance
 - BS 5489-1:2020

- d) For luminaires:
 - BS EN 60598-1: 2021 Part 1

Failure Fraction $F(x)$ where x is the percentage of failures at $L(x)$ should be less than 10% based on testing of the Luminaire up to 6000 hours

