

## STREET LIGHTING – DESIGN TO IMPLEMENTATION

<http://birmingham.gov.uk/highwaylighting>

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### Introduction

When licensed to work in the public highway the developer or contractor is responsible for all work required in the removal, replacement and relocation (replacement) of any existing lighting equipment made necessary by the street works, whether or not such work is detailed within the original lighting submission drawings and specification. This is likely to involve the removal of units from site and/or the replacement of units within the general area affected by the works. Existing lighting shall not be switched off, dismantled or removed without prior highway authority approval.

The specifications document sets out the performance requirements, equipment specification and control procedures that apply to the design of road lighting, illuminated traffic signs, associated cable networks and control systems for any street lighting system or illuminated traffic signs being placed in the highway that are intended:

1. To be maintained at the public expense by the Authority and;
2. To be included in the scope of the Birmingham Highways Management and Maintenance PFI contract through the "Standard Specification for Street Lighting Works" route.

### Additional Fees – Recovery of costs associated with checking the design of street lighting

The costs associated with reviewing developer designs for street lighting through agreements such as Section 38 (road adoption) or Section 278 (highway improvement) will be recovered through the highway agreement process in addition to the 10.25 % or minimum £10,280 (2016/2017) agreement administration and inspection fee.

## Lighting Class / Inventory Information

Amey, the Birmingham Highways PFI Service Provider, will define the appropriate **road and footway hierarchy** and the **lighting class** for all lighting designs on both the existing public highway and new developments are defined in the Development Specification, once the road category is known.

If you require information about the existing lighting and the lighting design categories the enquiry should be referred to Amey, the PFI Birmingham Highways Maintenance and Management Service Provider.

Go to our webpage: [Service Specific Enquiry - Highways](#)

**It is important to be concise with the enquiry.** Please provide information about:

- The reason for the enquiry, e.g. s38 or s278 agreement works (Private Development Section, PDS);
- The council team to which the enquiry is directed, e.g. PDS for s38 or s278;
- The council's file reference for the scheme if known, e.g. DSP 1234.

Given below is an illustrative list of lighting inventory data you may wish to request but your request may differ to this example:

- Location (e.g. Northings, Eastings) – to be verified by site survey;
- Column Number;
- Lantern Type & Setting;
- Bracket Projection;
- Lamp & Wattage;
- Mounting / Column Height;
- Incoming Supply type.

**PLEASE NOTE** – The Council takes no responsibility for the correctness or accuracy of the information provided by Amey. Also, designers shall as part of the design undertake a site survey to ensure that:-

- Designer risk assessments can be prepared
- any proposals are compatible with the existing equipment in adjoining areas
- the design takes account of all environmental constraints

## Technical Approval of a Lighting Design

### Requirement of Designers

All lighting and electrical designs should be carried out by competent designers who meet the requirements of the Institution of Lighting Engineers Competency Requirements for Lighting Design Staff Highway Design Implementation.

**Designers shall as part of the design undertake a site survey to ensure that:**

- Designer risk assessments can be prepared;
- Any proposals are compatible with the existing equipment in adjoining areas;
- The design takes account of all environmental constraints.

All street lighting shall be designed in accordance with the current edition of BS5489 and BSEN13201 using the correct lighting level applicable to the road and the spacing between columns and/or the proposed locations of units shall be calculated using the Reality design package. **It is important to note that the BHMMS PFI Contract defines the lighting levels for the highway in the city. See section - Lighting Class / Inventory Information**

All new lighting and amendments to existing lighting systems must be approved at the design stage, before construction, to ensure they are suitable for adoption. Unless specifically agreed otherwise, the council will grant the lighting scheme design approval.

Any alterations to the highway scheme layout, lighting column position or cable routes that have in any way affected the approved lighting scheme design shall be re-submitted for approval prior to construction. The council reserves the right not to issue retrospective design approval.

Every street has a unique design that takes into account things such as the type of road and the items around the street including trees. The height and spacing is designed to provide the best quality lighting levels. Therefore moving one light a few metres means that lighting levels don't meet British standards.

The Birmingham Highways Maintenance and Management (BHMMS) PFI contract obliges the Service Provider, Amey, to carry out a review of the design under the Maintenance Accessibility Service of the PFI contract and provide a report back to the authority detailing any parts of the design that require amending to allow accrual into the PFI project.

## Lighting Design Submission

The street lighting proposals shall include a drawing that indicates the positions of lighting units, types and specification of columns, types and specification of lanterns, types of electricity supply, specification and location of any private cable networks required including electrical apparatus.

The designer / developer shall provide the following information to the council: -

- Document / drawing issue record sheet
- Electronic copy of the scheme proposals in AutoCAD 2012 or compatible format
- 2 paper copies of the design proposals
- Designer Risk Assessments
- An electronic copy of the lighting design calculations using Lighting Reality software
- Sign schedule sheet
- Private cable Network design information (where applicable)
- Column and bracket details

## Design Variation

If there are circumstances in which the applicant is unable to comply with the requirements of the council's Development Specification for Streetlighting Works there is a **design variation** application procedure which needs to be followed in a number of instances. An example being, a new lighting columns cannot be sited at the rear of a verge or footway as it is physically impossible to do so. Should the need arise further advice on a departure from our standards can be provided.

**For example please note the guidance on column setback as any variation is an example of the need for design variation procedure to be initiated to seek approval for the changes.** Columns shall be sited at the rear of the footpath or grass verge as detailed in BS 5489-1:2013 except in locations where this is impractical. Where Columns cannot be sited at the rear of a verge or footway the designer shall seek approval from the Authority / Service Provider for any alternative locations.

## Colour of Columns for Lighting and Illuminated Traffic Signs

The paint colour shall be confirmed by BCC unless otherwise directed by the Service Provider. Lighting Columns shall be chosen from one of the following approved colours and will be consistent with lighting columns already installed in the area: grey (to BS 18B25); black; light green (to BS 12C39); dark green (to BS381C Ref 227); dark blue (to BS 20C40); and red (to BS 04D45).

All Illuminated Traffic Sign posts shall be black.

## **Energy Supply for Lighting Apparatus**

The Developer shall effectively manage, for its own works, the connection, disconnection, or transfer of the Apparatus to the electricity distribution network operated by the district network operator (DNO) including all necessary service diversions and reinstatements.

The work required to provide a typical electricity connection can be split into two areas, contestable and non-contestable work.

For the avoidance of doubt the connection of contestable works (live) to the distribution system by an ICP applies to low voltage (LV) works only. The DNO (Western Power Distribution, WPD) shall undertake connections of contestable works to the distribution system at high voltage (HV) and extra high voltage (EHV).

Non-contestable work consists of elements of the work that can only be completed by WPD.

Further information regarding how the competition in connection process works is available in the document **Guidance on Unmetered Electricity Connections** on this page and by referring to the WPD leaflet using the link on the following web page,

<http://www.westernpower.co.uk/Connections/Competition-in-Connections.aspx>

The developer will be responsible for all charges or costs relating to the maintenance or energy of the lighting equipment installed under a developer agreement (s38 or s278, Highways Act 1980) until partial or full adoption are confirmed by BCC. The developer will liaise with the DNO to ensure all energy charges are covered and paid for until the adoption has been completed and an asset has been transferred to BCC.

### **Adoption and Accrual into the BHMMS PFI Inventory**

Inspections and subsequent adoption of new street lighting apparatus will be judged against the latest council approved scheme drawings. The council will not be responsible for the equipment prior to formal adoption except for the council's duties under legislation.

Prior to adoption, the council will check that the lighting provided by the developer has been supplied and installed in accordance with the approved design. Upon satisfying itself that the authority's requirements have been met, the equipment will be added to the street lighting inventory information at the earliest opportunity, and it becomes the property of the council as the Highway Authority.

The developer / designer shall provide the following information to enable the apparatus to be considered for adoption by the council and accrual into the council's street lighting inventory records:

- As-built drawings (Both electronically in AutoCAD format and 2 paper copies)
- Electrical inspection and testing certificates
- Manufacturer's data sheets

### **Commuted Maintenance Payments for Enhanced Lighting Apparatus**

A commuted maintenance payment will be required where a developer chooses to use materials or lighting installations which, in the opinion of BCC, will require premature or more costly replacement or incur additional maintenance costs.