Chancery Court Hotel,
London WC1V 7EN

Proposed External Lighting and Visualisation Study

Revision A – 02/04/13

Issue Register

A	April ‘13	Revised to incorporate mock-up comments	KL	XF	DW
n/s	Sept ’12	Original Issue	AK / XF	XF	DW
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Contents

Introduction

The exterior lighting concept aims to provide articulation of the building by structuring the exterior building facades and features to provide a heightened appeal of the building and to help carry the brand values. In order to minimize impact on the heritage relevant parts of the building and to reduce cost, the design is largely based on the existing exterior lighting infrastructure. existing power infrastructure and fixture locations will be re-used as much as possible. The mainly incandescent halogen and metal halide based fixtures will be replaced by mostly dimmable LED based fixtures to allow for more nuanced lighting effects and to reduce maintenance and undesired visibility of lighting equipment.

An architectural lighting control system will be introduced to provide the facility of dimming most lighting circuits in order to achieve the correct balance between the various lighting treatments on the facade.

It is also important to note the new scheme will also remove the roof mounted projectors. These projectors, mounted atop the bookend plant rooms / stairwells, illuminate the sides of the central tower. This current design provides a high level of obtrusive light in the Holborn rooftop nightscape.

The following document provides an analysis of the existing installation, outlines a proposed external lighting design, provides an obtrusive lighting analysis of the proposed scheme, and summarises the mock-up.

This revised output (revision A) updates the drawings, visualisations, and provides a review of the mockup.

To summarise recent changes to the external lighting scheme since the initial visualisation study in September 2012, please see the following points:

High Holborn Front Elevation:

• Removal of high level balustrade globes (comments from initial planning review)

• Addition of 4no uplights to square pilasters by bookends and centre for more complete lighting (comments from planning review meeting at Town Hall)

• Removal of dome fascia lighting (following mock-up trials)

• Removal of illuminated signage at bookends and centre (general design development)

For further design notes on the mockup, please see pages 42 to 45.

EXISTING INSTALLATION

Existing Installation

AECOM and Arc Light have undertaken a visual, non-invasive survey of the external lighting installation to ascertain the current condition, mounting details, and installation precedence.

On the High Holborn facade, the existing installation comprises of metal halide uplights on the first floor ledge to accent columns and provide a soft highlight onto the entablature. The tower ends are accentuated at at low-level with surface mounted sconces and also with uplighting at high level. The central projecting tower is defined by oversized lanterns on either side of the archway entrance, metal halide uplights to the facade columns, and at high-level metal halide spotlights illuminating the arch above the entablature with higher level spotlights accenting the tower form. Additional metal halide uplights accent to the tower is provided by high wattage metal halide projectors mounted atop the roof platforms on the east and west ends of the building. There is also metal halide uplights concealed within planters at raised ground level to uplift the base of the building (though not operating), and lanterns at balustrade to provide a sense of scale and historical/period detailing.

In the walkway through to the courtyard, an oversized suspended central lantern provides ambient lighting supported by inground uplights accenting entrances and architectural detailing. The courtyard lighting mimics the High Holborn facade treatments, though a more subtle approach is taken. At ground level, inground uplights are incorporated into marble plinth details and provide uplight to define entrances and the corners. At high level, spotlights accent facade details such as arches, projecting bay windows on the central tower, selective columns, and vertical bands between windows to the newer extension building. On the glass canopy, small low voltage halogen downlights provide supplemental lighting to define the entrance.

It is clear the design intention included the following characteristics:

- use of small-scale compact metal halide uplights for minimal visual intrusion
- position control gear enclosure, junction/splice boxes out of view
- clip cabling to building (concealed out of view)
- cabling and electrical gear enclosures were provided in a neutral tone finish to blend with stone colour, though the black finished fixtures are unsympathetic and highly visible.

Existing Lighting Controls

The existing lighting control is a basic architectural hardwired system with the facility to switch all exterior feature lighting circuits. The system provides astronomic time clock to switch on the external lighting at dusk and turn off at dawn (or a any designated hour during the night).

All luminaires in the existing installation are non-dimmable.

Existing Luminaires

The following images summarises the existing luminaire palette. For the most part, the lamp types used are non-dimmable compact metal halide in both tubular capsule and parabolic reflector formats, however, there is also low voltage halogen and compact fluorescent lamps used.

High Holborn Facade Lighting:

Left to right: Pedestal mounted globes, front entrance lanterns, facade uplight, low-level up/down light at base of towers

High Holborn Entrance Underpass:

Left to right: Oversized lantern, inground uplighters.

Courtyard:

Left to right: Glass canopy downlights, perimeter uplights, facade spotlights, spotlights on projected tower.

Left to right: Uplights onto facade arches, high-level facade spotlight, loading bay/exit drive wall sconce.

Roof Lighting:

Left to right: Spotlights onto tower, floodlights onto tower, tower uplights

Existing Facade Mounting Details

The existing installation is in general sensitive to the heritage of the building. Cabling and electrical enclosures are positioned to be out of view. While the fixing details of all luminaires is minimally invasive. Luminaires are either fixed to a lead plate spot welding to lead flashing, or mounted directly to the stonework via small scale anchor bolt screw fixings. The following installation images provides a visual inspection of the typical installed scenarios.

Typical installation image, i.e. cable clipped to flashing, luminaire and gear box mounted onto lead plate

Spotlights anchor-bolt mounted onto stonework with gear boxes tucked out of view

Compact spotlights onto High Holborn elevation aide visual intrusive in termsof size and scale, however, the black finish makes them visually apparent.

Decorative lanterns and sconces either have rear-entry power feed or top entry with cabling tucked in the grooves of the stonework

Existing Record Information

The record drawings and luminaire schedule are provided as an addendum to this report. The visual survey verifies the drawings and schedule are accurate accounts of the existing installation.

Lamp Palette and Life Expectancy

The following table summarises the lamp life expectancy (after 50% lamp survival failure rate).

Lamp Type	Lamp Specification	Typical Life (hrs)
Compact Metal Halide - reflector	35W CDM-R PAR20 10° / 830	9,000
Compact Metal Halide - reflector	35W CDM-R PAR20 30° / 830	9,000
Compact Metal Halide - reflector	70W CDM-R PAR30 30° / 830	9,000
Compact Metal Halide - Tubular	35W CDM-T / 830 / G12	10,000
Compact Metal Halide - Tubular	150W CDM-T / 942 / G12	6,000
Metal Halide – Tubular	250W HIT / 942 / E40	6,000
Compact Fluorescent	11W TC / 827 / G23 2-pin	8,000
Compact Fluorescent	26W TC-D / 830 / G24q-3	8,000
Compact Fluorescent	55W 2D / 830 / GR10q 4-pin	8,000
LV Halogen	20W QRCBC51/10° / GU5.3	3,000
LV Halogen	50W QRCBC51/12° / GU5.3	3,000
LV Halogen	50W QRCBC51/24° / GU5.3	3,000
LV Halogen	50W QRCBC51/38° / GU5.3	3,000
Incandescent (Entrance Lantern)	4x 100W clear tungsten halogen	2,000

Summary

The lighting design installed during 2000/01 as part of the upgrade of the building reflects good design practice, regulatory requirements, and the technology available of that time. However, based upon the visual inspections performed, the installation clearly needs to be re-addressed to provide a more balanced and nuanced design, to ease maintenance and update the technology for a more sustainable and energy-efficient installation. A rejuvenation of the facade will also revitalise the building, signalling to passer-bys and customers the high quality and sophistication of the establishment and demonstrate an appreciation for the heritage of the building.

Disclaimer
This report presents the findings of visual non-invasive surveys and inspections of as built documentation. Much of the installations are concealed from view. The conclusions are presented in good faith and represent the general impression is it possible to gather in these circumstances regarding the condition of the installations.

The installations were almost 10 years old at the time of inspection. Regardless of visual appearance or maintenance regimes, equipment or system failures can occur without warning.

It should be noted that the availability of spares and replacements becomes increasingly difficult with the age of the equipment. We can report several luminaires are already no longer in production. It is impossible to assess the future availability of spares, only to make the obvious general observation that servicing such items becomes increasingly difficult the older the equipment is.

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Night Photos of Existing Scheme