

Re: Paddington Green Police Station: Light Pollution Visual Impacts from Internal Lighting (Policy D9.1)

GIA have been instructed to comment upon the potential light pollution impacts from the proposed development, in accordance with Policy 9.1 of the London Plan 2021.

Policy Context

Policy D9 – Tall Buildings of the London Plan 2021 states that “(C) Development proposals should address the following impacts:

1) Visual Impacts [...] h) buildings should be designed to minimise light pollution from internal and external lighting”

Internal Lighting Impacts

Light pollution is defined as any light emitting from artificial sources into spaces where it is unwanted, such as spillage of light from office or commercial buildings onto residential accommodation, where this would cause nuisance to the occupants. The Institute of Lighting Professionals (ILP) Guidance Note 01/21: The Reduction of Obtrusive Light provides suggested lighting levels to ascertain the acceptability of light pollution, predominantly in relation to high powered external lighting.

Potential light pollution effects of a new development are typically assessed in relation to four specific criteria:

- Sky Glow is the brightening of the night sky over our towns, cities and countryside. It can be quantified by measuring the Upward Light Ratio (ULR), which is the maximum permitted percentage (%) of luminaire flux for the total installation that goes directly into the sky;
- Light Intrusion is the spilling of light beyond the boundary of a proposed development. It is assessed as vertical illuminance in lux (Ev) measured flat at the centre of the sensitive receptor;
- Luminaire Intensity is the uncomfortable brightness of a light source when viewed against a dark background. It is applied to each source visible from a sensitive receptor and is measured as source intensity (I) (kcd); and
- Building Luminance which can cause an increase in the brightness of a general area and is measured in cd per metre squared (L) as an average over the building facade caused only by external lighting.

GIA’s review focuses only on light pollution from internal light sources, therefore sky glow is not relevant as there would be no upward light emitted from internal luminaires; likewise, luminaire intensity and building luminance only apply to external lighting. Therefore, the below review is applicable to light intrusion only.

The Site is located within an urban, city centre location and is therefore considered to be environmental zone E4, with a high district brightness. As such, the relevant ILP light intrusion criteria would be 25lux pre-curfew and 5lux post-curfew (typically 11pm–6am).

Light intrusion from internal lighting occurs where large areas of glazed elevations are proposed in close proximity (generally within 20 metres) of neighbouring residential windows, for uses where high levels of internal illumination are required, such as offices. The facade design of the proposed development comprises a glazing ratio of circa 67% solid : 33% glazed, and glazing is set within deep window reveals, therefore the glazed areas are not be considered extensive enough to give rise to potential light intrusion effects and the deep window reveals obscure light sources

from view. Additionally, whilst the internal lighting design has not yet been developed, due to the residential nature of the proposed development, the levels of illumination would be low and rooms would be fitted with blinds or curtains that would likely be deployed when the internal lighting is in use during post-curfew hours. Based on professional judgement, it is considered that the low levels of internal illumination do not have the potential to exceed the ILP guidelines for light intrusion, particularly given the existing high district brightness of the area.

Therefore, based on the elevations comprising modest glazed areas and the residential uses of the proposed development having low illumination requirements, light intrusion from internal lighting is not considered to be relevant for further assessment and would not result in unacceptable visual impacts in terms of light pollution.

Yours sincerely,

For and on behalf of GIA

A handwritten signature in black ink that reads "K Stewart". The signature is written in a cursive, slightly slanted style.

Krystle Stewart
Senior Associate Partner
krystle.stewart@gia.uk.com