lawray architects

ARGENT (KINGS CROSS) LTD

GREAT NORTHERN HOTEL ARCADE

Design Statement
&
Listed Building Impact Assessment
Arcade Lighting

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Planning & Listed Building Consent – Current Position

In October 20008, Lawray wrote to Camden's Development Control officers regarding a number of detailed items associated with the Contractor's design development of the Great Northern Hotel Arcade scheme. Identified among these items, was a proposal to integrate lighting fittings (lightshelf) across the head of the pedestrian openings around the interior of the arcade.

It was put to the planning officers, on behalf of the applicant, that these additions did not constitute 'material' changes to the existing planning and listed building consents. After consideration, the general view adopted by the planning officers was that separate Listed Building Application would be required, though not a planning application. It is felt that this can still be dealt with as an amendment to the original consent and is not stand alone.

Drawing 452_06_707 (rev P1) submitted under consents 2006/3220/P & 2006/3222/L illustrate the 'approved' detailed arrangement for the head of the pedestrian openings (portals); detail 01 (Elevation) and detail 02 (Section) refer. In addition drawing 452_06_708 (rev P1) illustrates the 'approved' internal arcade elevations. Two different types of luminaire are shown along the interior arcade wall; referenced L01 & L02. (albeit the L02 fittings were noted on this drawing as being indicative).

The architectural CAD rendering titled Illustration 1 in the application drawings, shows the arrangement of the arcade portals and the limit of the associated lighting submitted previously.

The lightshelf elements have developed as one part of an overall interior lighting strategy for this space since that approval was given. We have, therefore, decided to broaden the scope of this application to re-address all aspects of the lighting and the luminaries proposed within the arcade, whether originally shown on the approved drawings or not. (For example, The L01 fittings shown on the approved drawing 452_06_708 have not altered in any significant way, herein after referred to as type XB).

Architectural Form and Setting of the Arcade

The new areas surrounding the Arcade are intended to be vibrant urban spaces incorporating a high quality public realm in combination with a new 21st Century transport interchange building - the Kings Cross Western Concourse structure. This is to be a very contemporary and overtly modern structure. The blend of adjacent new design and existing heritage building will create a new dynamic to the context of the Great Northern Hotel as a Listed Building.

The overall approach taken with the arcade has been to provide a contemporary 'take' on the traditional vaulted pedestrian arcade, thereby trying to articulate the blend between the concourse - the new, and the hotel – the old. In doing so, the treatment of the arcade structure and the selection of materials within it have been carefully considered and articulated.

With reference to the arcade as a traditional form, the space has been authored to give a sense and appearance of solidity to the enclosing structure. Even though, in reality, the ceiling vaulting is finished as a curved suspended ceiling (below a concealed concrete frame), the appearance is intended to give the impression of a series of load-bearing barrel vaults. Likewise the curved forms of the arcade wall, have been very deliberate. The suggestion is that the arcade space has been formed out of monolithic, solid, elements. Architecturally, these are closer to the 'DNA' of the surrounding historic fabric whilst appearing to be finished in a contemporary manner.

From an early point in development of the lighting scheme, an emphasis has been placed on adopting and utilising solutions that will help to increase the visual height and openness of the space. Having formed a series of vaults, the designers felt very strongly that these ought to remain uncluttered and

open, maximising the perception and legibility of the architecture created. This desire has certainly influenced the way in which interior lighting solutions within the arcade have been conceived.

Lighting Design Approach

The developer, Argent, recognises that the lighting scheme for the Great Northern Hotel Arcade will have a significant influence on the public's experience of the space, thereby contributing to its perceived ambience and the safety and security of its users, both during daylight hours as well as after dark. Argent appointed a firm of specialist lighting designers, Speirs & Major Associates, to review the arcade lighting, and this was carried out between April 2007 and October 2007. It was certainly Argent's view at the time that the solutions offered by SMA were within the parameters of the existing consents.

The approach adopted by SMA has been to minimise the visual impact of any lighting fittings within the arcade, whilst delivering a scheme of lighting which would create an appropriate lighting character, the correct quantity of light and a safe environment, whilst reducing energy consumption wherever possible. In order to mitigate the impact of the luminaires on the architectural space, the design solutions have sought, from an early stage, to integrate any luminaires into the architectural elements of the arcade.

General Lighting Design Criteria

The success of the proposed scheme of artificial lighting will depend upon achieving an appropriate balance between a number of lighting design criteria, namely:

- Ambience – to create an appropriate character at various times.
- Amenity – to provide the correct quantity and quality of light to see by.
- Heritage impact – to produce a scheme that is sensitive to the original fabric of the building.
- Legibility – to reveal the overall form of the arcade and public space in an intelligible manner.
- Image – to provide an appropriate and memorable experience.
- Accessibility – to consider users with special needs.
- Safety – to assist with maintaining a safe environment.
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- Cost – to ensure that targets for capital and running costs are met.
- Buildability – to ensure that the lighting can be successfully installed.
- Maintenance – to ensure that the lighting is cost effective and easy to run.
- Sustainability – to minimizie environmental impact.
- Environmental Impact – to minimizie energy consumption.

Arcade Lighting Concepts

The points set out below list the specific design concepts which were considered and developed by the designers and from which, the (artificial) lighting scheme for the Arcade advanced :

1. **Providing definition to the architectural form of the arcade:**

    - Uplight the vaulted ceiling bays uniformly.
    - Accentuate the rhythm of the curved wall bays.
    - Uplight the colonnade wall columns.

2. **Complimenting the architectural form through the physical appearance of the luminaires:**

    - Integrate the luminaires into the architectural design.
    - Avoid mounting luminaries indiscretely onto the curved wall and vaulted ceiling surfaces to keep their distinctive architectural forms ‘clean’.
    - Avoid mounting luminaires such that they block the view along the rhythm of arches along the arcade
    - Mount glowing decorative luminaires at the flat junctions between the curved wall bays to accentuate the rhythm of the arcade and help provide an attractive, warm glowing element at human scale.

3. **Highlighting thresholds to improve legibility and safety and define architectural openings:**

    - Provide direct downlighting to entrances / exits

4. **Alleviating of the potential for the arcade to be dark or gloomy:**

    - Uplight the soffit to accentuate its height and scale
    - Provide sufficient horizontal illumination through direct and indirect downlighting
    - Provide vertical illumination through indirect lighting, column uplighting, wash-lighting to the shutters and decorative glowing wall-lights

5. **Providing the ability to switch or dim luminaires to create various lighting moods:**

    - Enable each lighting element to be individually controlled.
    - Pre-set a series of lighting scenes that can be deployed at different times.

Final Lighting Scheme

Lighting Treatments

Having considered the priorities for the lighting concepts noted above, the lighting designers set about developing technical solutions which could be successfully applied as part of the final lighting scheme. The technical solutions were required to specifically solve the requirements for:

1. Uniform uplighting to vaulted ceiling bays
2. Uplighting to architectural columns
3. Direct downlighting to entrances/exits
4. Direct downlighting to arcade floor
5. Decorative glowing wall-light
6. Emergency lighting

Luminaire Design & Layout

Two further aims of the technical solution were to deploy the minimum quantity of luminaries needed to fulfil the necessary lighting levels and, wherever possible, to use proprietary stock item fittings. The overall lighting design scheme is indicated on drawing 3223/LA/001 Rev 03. This plan can also be read in conjunction with the CAD renderings titled Illustration 01 and Illustration 02. These renderings have been developed to illustrate the *de-minimus* impact of the lightshelf fittings whilst giving a detailed impression of the lighting quality that will be provided by them and the remaining fittings both during the day and at night.

Types XA1 and XA2 – Lightshelf Fittings, Portal Openings

The design of this fitting is indicated on drawing 3223/D/003 Rev 02.

A major repetitive architectural element of the arcade design is the portal openings containing the security shutter system. In the case of the lightshelf design, a number of standard fittings, each performing a different lighting function, have been assembled within one custom architectural housing, so as to minimise the potential for visual clutter. The aim of this is to avoid the lighting appearing to be 'bolted-on.

The custom lightshelf or tray into which these fittings are placed has been designed as an extension of the stainless steel shutter box housing, rather than introducing the fittings as separate luminaires mounted to the walls or suspended from the ceiling. Being repetitive, the portals are evenly spaced along the arcade and this will provide an ideal opportunity to deploy consistent light sources along the arcade.

Type XA1/XA2 is designed to provide the following lighting functions:

- Uniform uplighting to the vaulted ceiling bays (also provides indirect lighting to the arcade walls and floor. This is achieved using adjustable 35W metal halide gimbal fittings and their associated ballasts.
- Direct downlighting to the entrances/exits to the arcade. This is achieved with 35W metal halide downlights mounted in the soffit of the lightshelf with their associated ballasts. At night, when the security shutters are closed, these fittings will also provide wall-washing lighting to shutters.
- Emergency lighting. This is achieved with a T5 linear fluorescent tube with their associated emergency battery packs.

The design of XA1/XA2 provides the following architectural and lighting benefits:

- By concealing a number of luminaires/lighting functions within one architecturally-integrated housing, the potential visual clutter of lighting equipment is greatly minimised.
- Connection to the historic fabric is unnecessary.
- The impact of the housing is minimised when looking into the arcade and does not interrupt the view of the rhythm of arched soffits along the arcade.
- The uplighting to the ceiling is achieved by luminaires which are completely shielded, so do not pose any problems with glare that would otherwise by associated with uplighting treatments below eye level.
- The uplighting luminaires are positioned along the full width of the shutter (and hence, the full width of the target curved ceiling), allowing a uniform uplighting effect to be achieved.
- As the uplighters face towards the main back wall of the arcade, a soft wash of indirect light can be achieved on the wall, helping to draw people into the arcade from outside and improve perceptions of brightness.
- Direct downlighting to the thresholds is provided from the housing, aiding wayfinding and safety as well as providing definition to the architectural openings.
- Wash-lighting to the shutters is provided through the downlighting component, with the diffuse linear fluorescent downlighting reducing any strong scalloping.
- Emergency lighting is provided to the exits and to the arcade by the linear fluorescents concealed within the housing.

Type XB – Arcade Wall Lights

The design of this fitting is indicated on drawing 3223/D/001 Rev 02.

Type XB is designed to provide the following lighting functions:

- Decorative glowing wall light feature (upward component of fitting below)
- Downlighting to arcade floor plane using 70W metal halide downlights.

Again, two lighting functions are combined within one luminaire to minimise luminaries /mounting locations.

The design of XB provides the following architectural and lighting benefits:

- The downlighting component provides functional direct downlighting to the arcade and is focussed on the side of the arcade that benefits from least daylight penetration.
- The glowing decorative element provides a warm, pleasant ambience and a sense of human-scale to the space. The glowing rod has a high degree of transparency so that it does not become an intrusive, overpowering object that competes with the simple but distinctive architectural character of the space, but is light, crystalline and provides a warm glow and rhythm along the arcade.

Types XC1 and XC2 – Concealed, Arcade Column Uplights

The design of this fitting is indicated on drawing 3223/D/002 Rev 02.

Type XC is designed to provide the following lighting function:

- Uplighting to the architectural columns

Type XC is concealed along the top edge of the stainless steel column cladding and provides uplighting to the upper two thirds of the columns. This will define their form and accentuate their rhythm along the arcade perimeter. It also helps to provide vertical illumination to improve perceptions of brightness within the space. XC1 provides lighting to 50% of the column perimeter where the columns are situated against perimeter walls. XC2 fittings provide 100% perimeter uplighting where columns are free standing.

Type XD – Recessed Downlights, Flat Ceiling Soffit

Type XD is designed to provide the following lighting function:

- Downlighting to cross-corridors between arcades at the north and south end of the arcade.

Type XD is discreetly recessed into the flat ceiling portion between the vaulting in the corridor space to provide functional illumination to the ground plane. The fittings are directional so that unwanted spill lighting onto surrounding surfaces can be minimised.

Type XE – Recessed Downlights, Hotel Entrance Door Bulkhead

Type XE provides the following lighting function:

- Downlighting to hotel entrances

Type XE is discreetly recessed into the bulkhead above the entrances to the hotel itself to provide functional downlighting to the thresholds to aid legibility and safety.

Conclusion

SMA and the design team have considered the lighting of the arcade from first principles and have looked at the opportunities and constraints imposed by the existing approvals and existing building fabric. The aims of their design are well stated and carefully considered in the context of a Listed Building application.

The volume of the arcade is surprisingly large, requiring a more than a modest intervention in terms of artificial lighting. The design of the luminaries is well executed, to lessen the impact of the light sources, which, would otherwise be very obtrusive.

SMA have not aimed to mimic traditional arcade lighting styles and the solutions offered are wholly contemporary in approach and technology. In our view, this sits extremely well with the original aims for the arcade design and enhances the special architectural character and appearance of the new arcade intervention within the listed building as a whole.

Argent and their development partners, Network Rail, LCR and Exel, believe that Camden Council and its officers should have no hesitation in offering their combined support for the proposal.