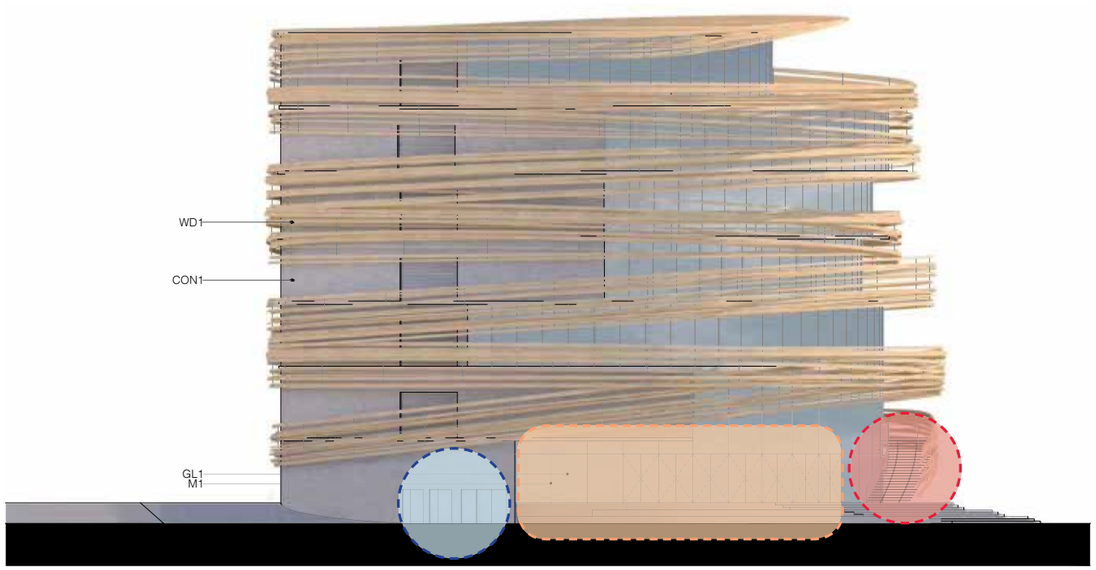
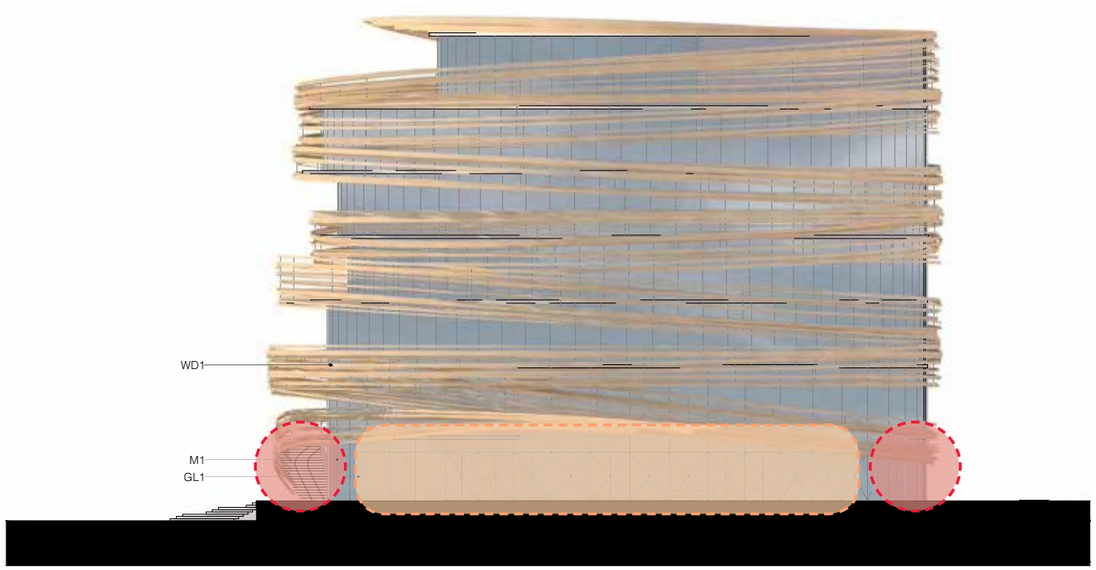


North Elevation



South Elevation

BUILDING AMENITY

8

8.1 TRAFFIC, OPERATIONS AND LOADING

Traffic, Access & Loading

The Darling Exchange does not have direct access from the local road network therefore, vehicular access must be sensitively achieved from the public domain surrounding the site.

Proposed vehicular access to the site is as follows and is further detailed in the TTM Traffic and Transport Report:

- Harbour Street layby opposite Factory Street - Refer Figure 8.1.1 Loading A

Secondary to the primary loading Location C; Loading A functions as a layby when the pedestrian areas around The Darling Exchange are closed to vehicles. This area supports all vehicle types and will be signposted to prevent long term parking.

- North East Plot loading dock (waste collection) - Refer Figure 8.1.1 Loading B

Primary waste collection will occur in the North East Plot (Area B) loading dock (access from Harbour Street). Loading C will be used as a secondary waste collection area only.

- Little Pier Street - Refer Figure 8.1.1 Loading C

Loading C is proposed as the primary loading location to support The Darling Exchange. Vehicular access at the west end of Little Pier Street is currently blocked by bollards. It is proposed to replace some of these bollards with bollards that can be lowered to allow access, or another openable barrier system. This will give access to the loading area between Little Pier Street and The Darling Exchange. It will also allow refuse collection vehicles to continue through to Theatre Access Lane as a secondary waste management option.

- The Boulevard via Hay Street - Refer Figure 8.1.1 Loading D

The Boulevard loading area is for special events within The Square. It allows for a minimum of 12 Medium Rigid Vehicles and even more if Small Rigid Vehicles are employed. While in use for loading, the vehicles would park towards the east of The Boulevard allowing other vehicles to pass by. In addition a 2m corridor will remain on the western edge of The Boulevard for pedestrian access.

- Theatre Access Lane - Refer Figure 8.1.1 Loading E

Theatre Access Lane is open to all traffic and is suitable for loading in its current proposed layout.

- Special Event Access to The Square - Refer Figure 8.1.1 Loading F

Typically for special events, light or medium commercial vehicles will be required to access The Square in order to set up and/or remove facilities needed for the event.

For Loading Area B any refuse collection arrangements established with a commercial collector will need to ensure that the collection system allows for limited height clearance vehicles (4m clearance). This will not allow for standard overhead collection of industrial refuse bins and will more likely be limited to rear load refuse collection. These constraints are consistent with the typical rear-loading refuse collection vehicle shown in Appendix C of the Council of the City of Sydney Policy for Waste Minimisation in New Developments.

Waste Collection

Waste collection for the Darling Exchange will be primarily via Loading B within the NE Plot loading dock which is accessed from Harbour Street (refer Figure 8.1.1). A secondary waste collection area can be facilitated in Loading Area C.

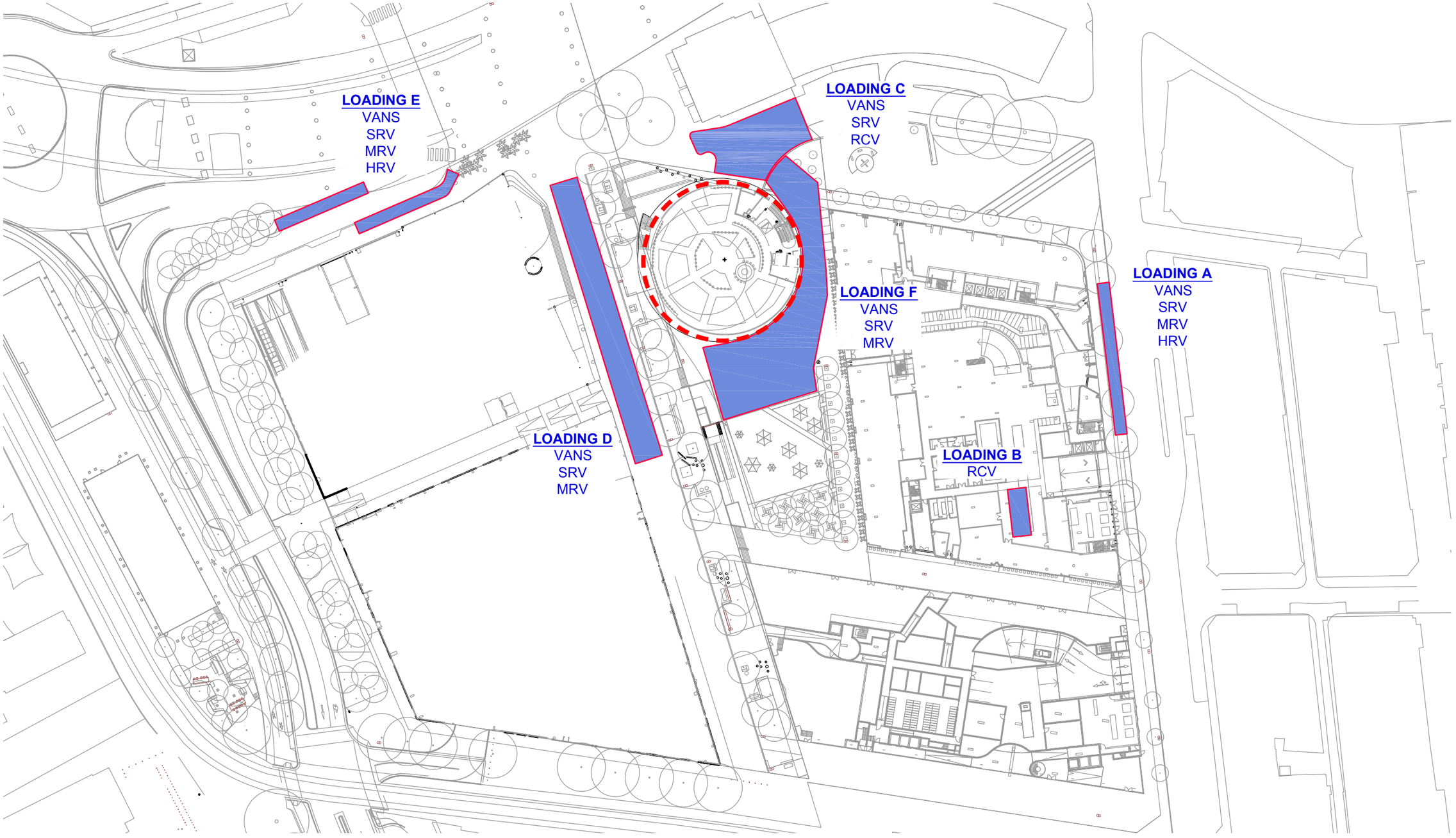


Figure 8.1.1_Darling Square Loading Areas. Refer TTM Traffic Management Report

8.2 SIGNAGE

Building signage should be appropriate in size, location, colour and materiality so as to retain the design integrity of the architecture. The exterior signage should be limited to two systems: one is to be applied on the surface of glazing panel with fixed locations above the transom/ door, or on a designated glazing panels as shown in Figure 8.2.3. The other is a directory signage plate, thin and/or transparent plates that are free standing and installed in the paving consistent with the precinct signage strategy. These signs should be at limited locations along the entrance to the main Market Hall alley, elevator lobby to the upper levels and at the exterior stair to the mezzanine. The interior signage for each tenant at the Market is to be integrated with the design of the pods to maintain consistency in size, location, base material and lighting system.

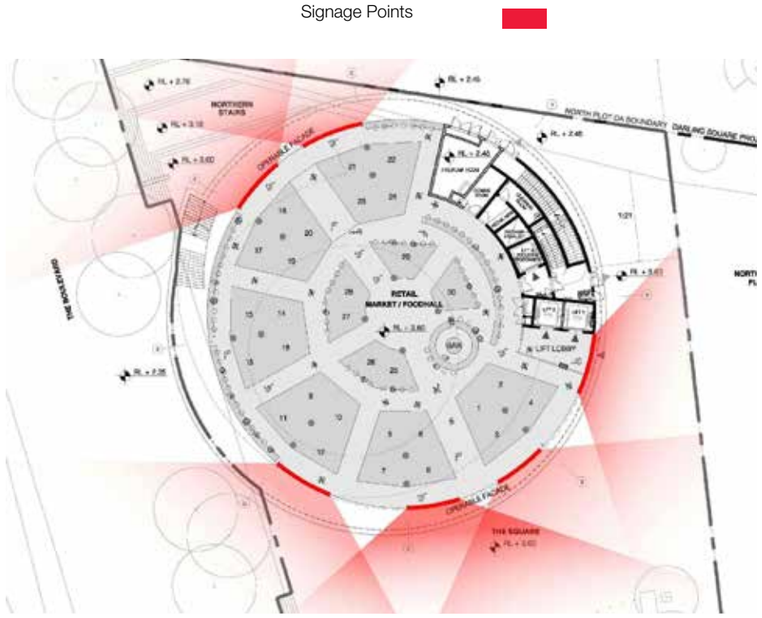


Figure 8.2.1_Signage on The Ground Plane

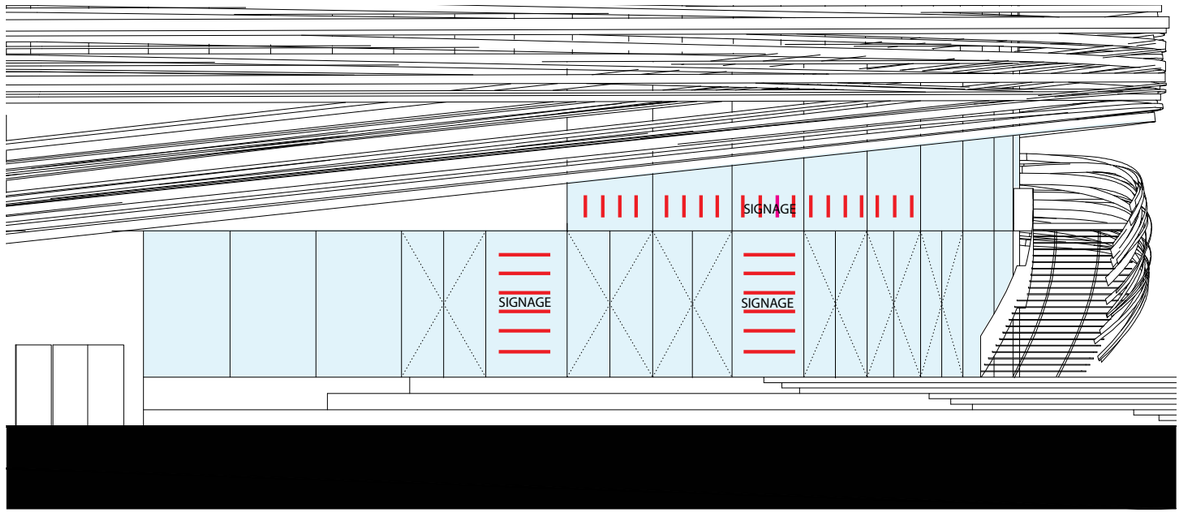
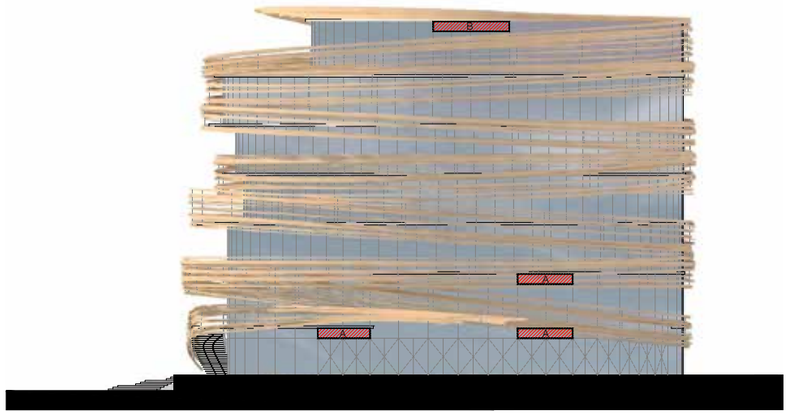


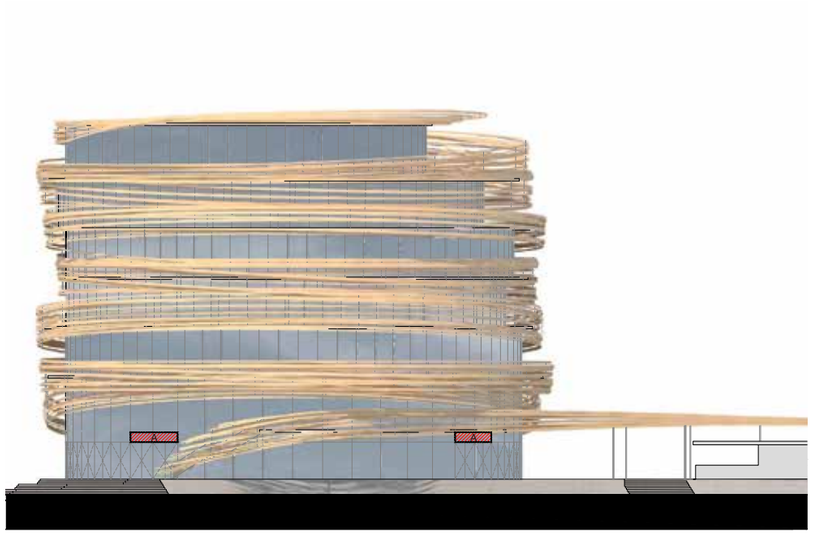
Figure 8.2.2_Signage on Glass

North Elevation



South Elevation

East Elevation



West Elevation

Figure 8.2.3_Signage Location Diagram Elevations

Indicative Signage Location [Type A] A

Indicative Signage Location [Type B] B

Figure 8.2.4_Signage References

8.3 LIGHTING

The Darling Exchange lighting design has been developed to provide visual interest and contrast, highlighting the unique nature of the building's design within the surrounding urban context. The design has been developed with due consideration of its location in a mixed use precinct.

The lighting will be subtle and will enhance the key distinct character of the building, being the architectural lines of the timber façade. By day The Darling Exchange makes a striking statement of place and form, and by night the lighting proposal builds upon this form to establish itself as a glowing lantern for the district, with a soft integral glow, and lighting integrated into the timber façade highlighting the layering and detail of this architectural element.

Design intent

The lighting scheme consists of two subtle and contrasting light sources which have been designed to provide:

- Base building lighting which will ensure the building has a subtle warmth and glow, acting as a lantern and drawing people to the precinct and building. This includes ground plane lighting fixed to the wall which will provide pedestrian safe movement and security around the perimeter of the building; and
- Façade Lighting integrated into the timber façade which will accentuate the detail of this architectural element, creating a point of interest and reinforcing the unique contrast between The Darling Exchange building form and the surrounding street edge built form within the precinct and the surrounding urban fabric of Chinatown and Haymarket.

Base Building Lighting

The internal lighting system will operate during the day and night, with the night-time base building lighting providing a soft lantern effect in contrast to the surrounding residential and commercial buildings and in doing so, creating a point of difference for the building.

The internal base building lighting shall be a 3000 degree Kelvin light source with a high colour rendering index (CRI). The internal lights shall operate to suit the individual trading requirements and will switch off at different times. Refer to table below setting out the proposed building operating hours:

Figure 8.3.1_Lighting Reference

Level	Proposed Use	Weekday Operating Hours	Weekend Operating Hours
Ground and mezzanine	Market	7:00am – 11:00pm	7:00am – 11:00pm
First & second	21st Century Library and IQ Hub	7:00am – 11:00pm	7:00am – 11:00pm
Third & fourth	Child care centre	7:00am – 7:00pm	-
Fifth floor	Restaurant and Bar	7:00am – 12 midnight	7:00am – 12 midnight

Figure 8.3.2_Akakusa Culture and Tourist Center by Kengo Kuma & Associates

Facade Lighting

The proposed layered lighting scheme within the façade shall add intrigue, depth and contrast when viewing the building from both the outside in and from the inside out. The proposed lighting comprises a continuous LED concealed strip located at each level to provide illumination through the timber slats giving a light and shade effect and depth to the timber. A warmer colour temperature 2700 degree Kelvin shall provide definition and contrast to the base building lighting.

The LED will be placed discreetly so that the light source is hidden and will emphasise the texture and the circulating shape as it extends up through the building from the ground level to the top floor restaurant and bar helping to signal the building from key view lines into the precinct. The light source and placement will extend from the building to the adjoining canopy to the south reinforcing the visual connection and consistency between these two elements. The façade lighting will operate from dusk and turn off in alignment with the building operating hours.

Switching

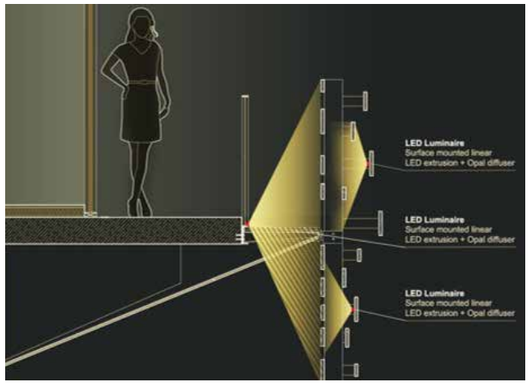
Each of the external lighting solutions are individually switched and controlled. The building automation system will activate via a photo electric cell and be turned off by a time function to correspond with the associated building uses and the building operating hours.

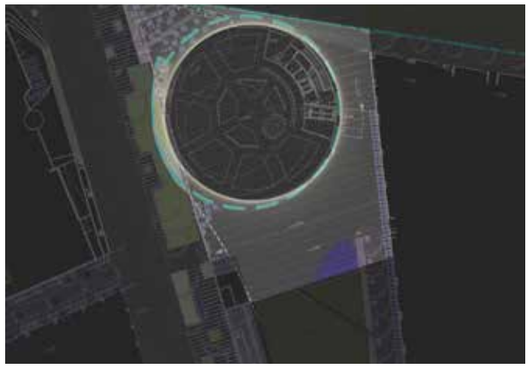
Compliance

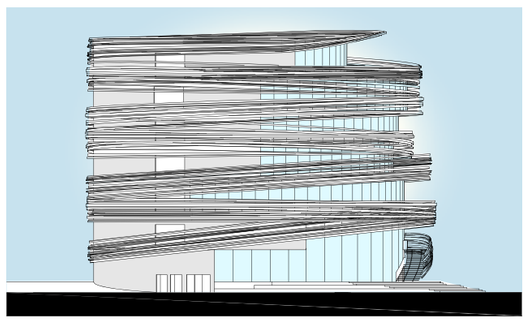
AS/NZS4282-1997 provides design recommendations for the potential impact of lighting installation adjacent to residential and mixed use developments in terms of illuminance (amount of luminous flux arriving at a site boundary/residential window), luminous intensity (the perceived brightness of a light source) and threshold increment (the potential glare that may affect a nearby transport system), all during night time.

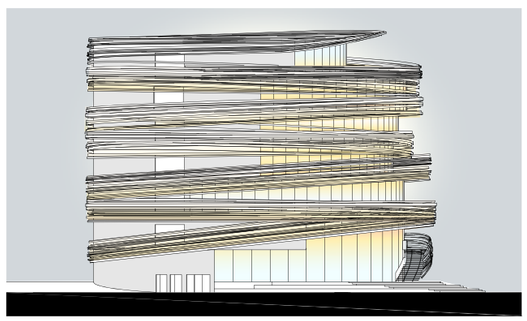
AS/NZS4282-1997 recommends design benchmarks based on the surrounding environment in which a building element is located.

The lighting system will comply with the requirements of AS4282 (Control of the obtrusive effects of outdoor lighting) and will be considerate of ‘light trespass’ onto adjacent properties.









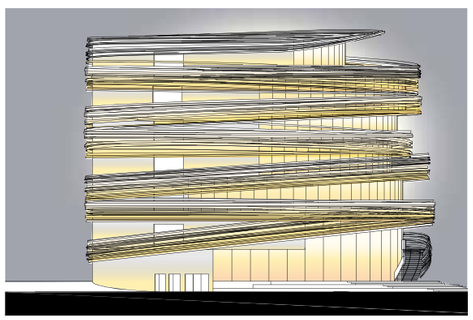


Figure 8.3.3_Sequence Diagram of Daytime to Nighttime Lighting Design Principles

8.4 SUSTAINABILITY

The Darling Exchange aims to deliver a project which produces a reduced operational energy consumption, reduced potable water use, is innovative, provides ready access to a number of transport options, minimises waste to landfill and employs appropriately selected materials. The Darling Exchange will target a high level of indoor environmental quality through appropriate services design, façade configuration and materials selection.

The Darling Exchange will be targeting a 5 star Green Star rating. Initiatives targeted within the Green Star tool will ensure sustainability principles will be incorporated into the design, appropriate management practices are applied through the construction period and facilities and resources are provided to ensure the delivery and operation of the building to achieve the sustainability objectives.

The building massing and form of The Darling Exchange has been developed to balance the iconic nature of the building form and the requirements of the range of uses accommodated within the building with the need to minimise the overshadowing of The Square and adjacent public domain areas.

This led to a design response which employs an innovative shifting of floor plates throughout the building along with the positioning of a large terrace on the uppermost floor at the southern edge of the building. This has resulted in a high level of solar access to the key active areas within The Square including The Market Square, The Green and The Grove.

The Darling Exchange design ensures solar access to key areas of The Square on the March equinox from 12 noon through to 3pm, on 21 June from 12 noon to 1:30pm, on the September Equinox from 11am to 2pm and on 21 December from 10:30am to 4:30pm.

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APPENDICES

9

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A. ARCHITECTURAL DRAWING PACKAGE

B. INSW URBAN DESIGN GUIDELINES COMPLIANCE

C. STAGE 1 CONCEPT DESIGN GUIDELINES COMPLIANCE

D. SHADOW DIAGRAMS AND ANALYSIS

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E. RETAIL REPORT

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