Design Statement

The mixed-use development tower at 100 Mount Street is designed to be a significant landmark for the city of Sydney and create a new standard for development in the North Sydney CBD. The tower has been designed as an efficient glass volume oriented toward the north and south with its core elements and structure expressed on the east and west. At the ground level the core has been offset to provide a large public plaza, increase visibility through the site, and activate the ground plane.

Working within the extremities of the approved envelope, the elegant tower form is born from a regular rectangular floor plate that features highly transparent glazing, subtly articulated by exposed structural elements. The appearance of the building throughout the day and night will be excellent and deserving of its prominent location. The 4.2m setback to the glazing line on Walker Street is maintained for the full height of the tower. The revised design sits predominantly within the approved setback and height envelope.

The design for the ground plane is intended to allow this new development to be an asset for the neighbourhood. By offsetting the core to western edge of the site a significant open public place is created. A continuous canopy and operable glazing at the perimeter of the plaza help limit the effects of wind and rain and allow the plaza to be utilized throughout the year. A band of retail storefront is maintained along Walker Street and street level activity continues around the corner of Mount Street and into the public plaza along a public through-block connection. At 11 metres tall the ceiling of the plaza is lifted to allow views and daylight through the site. By night the ceiling is illuminated to provide a welcoming presence. The ground plane is further enhanced by moving the vehicle entry for cars and service vehicles to Walker Street. This effectively removes more than 100 cars from the Spring Street lane network improving pedestrian amenity in the North Sydney core.

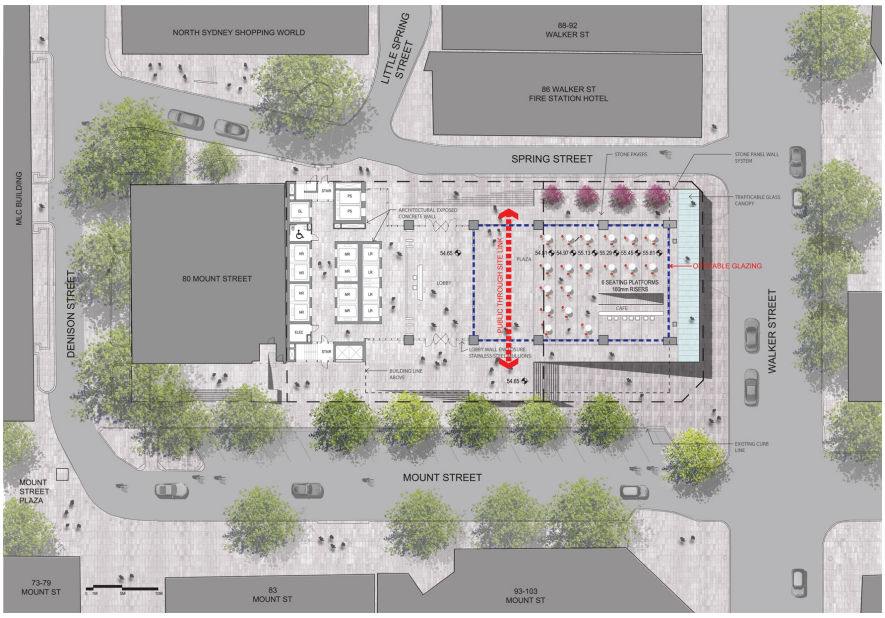

Figure 1: Ground Plane

The office floor plan maximizes the buildable area of the site, while allowing for a minimal footprint at grade. Digital analysis of climactic data and solar gains led to an exposed core on the western edge of the building mass. The western core blocks the harsh afternoon sun from entering the office floor plate, while allowing beneficial daylight to enter the office environment when it is more easily controlled. This reduces the amount of artificial light needed to adequately illuminate the office space, and decreases the demands for cooling on the building's mechanical system.

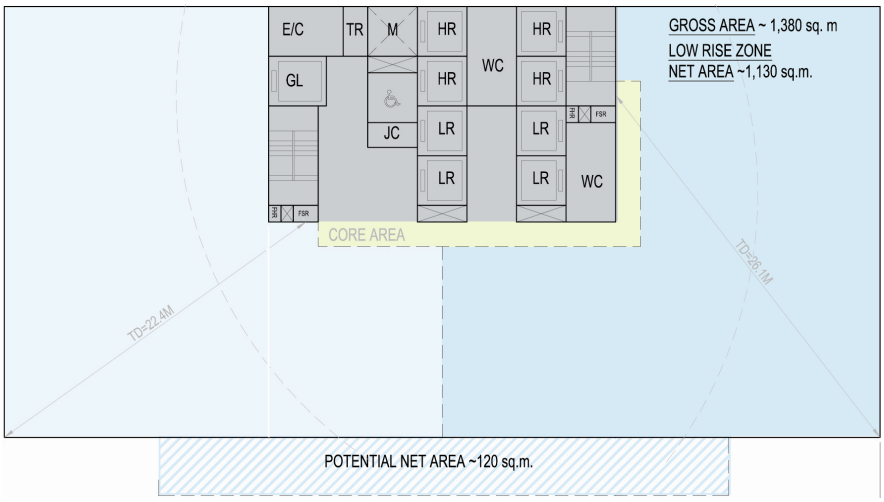

Figure 2: Core Location Option 1

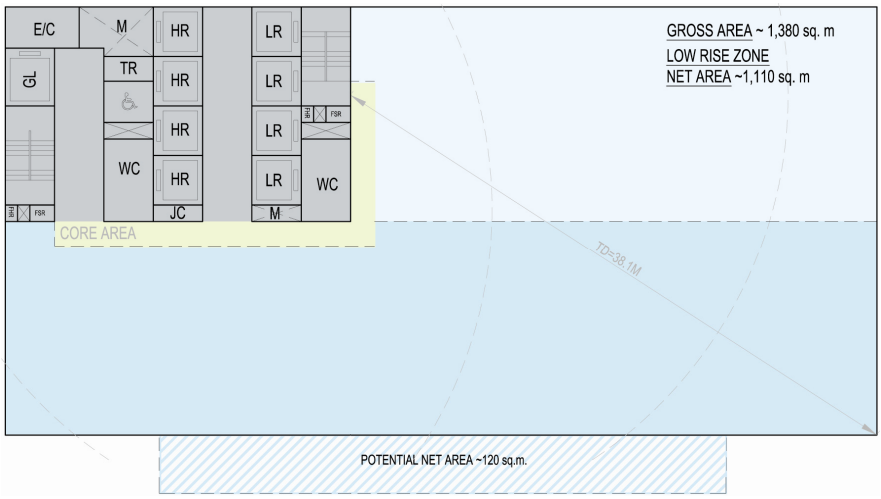

Figure 3: Core Location Option 2

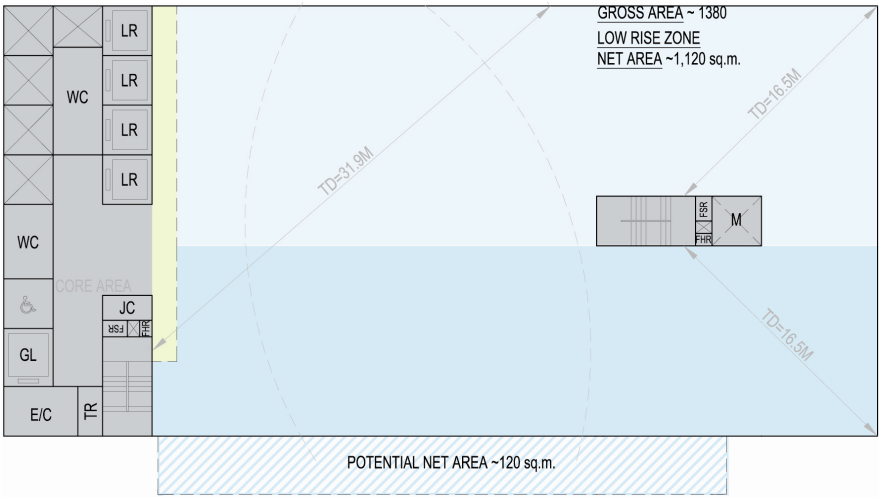

Figure 4: Core Location Option 3 (proposed)

Solar Gain

Figure 5: Solar Study 1

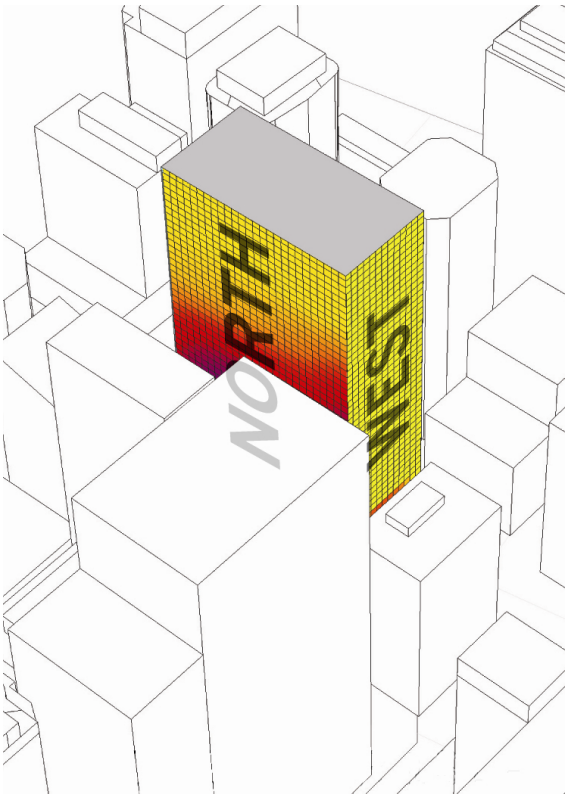

Figure 6: Solar Study 2

Core Location

The core location also optimizes efficiency and flexibility for future tenants, allowing for office space with an open floor design and minimal obstructions and accommodating a variety of layout opportunities. Columns spaced nine metres apart have been offset by six metres interior to the facade, which can be efficiently utilized for perimeter office layout, or as an open landscape office design. The ceiling slopes to a 3.1m height at the building perimeter, allowing for floor-to-ceiling glass that yields unobstructed views for the building's occupants.

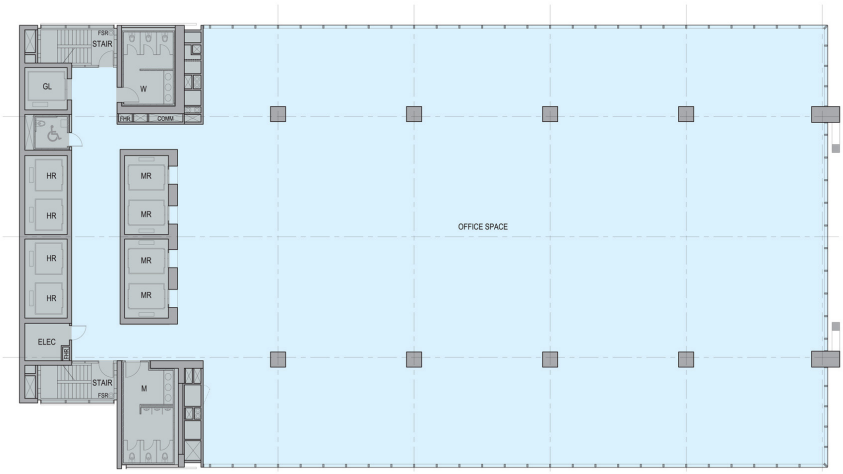

Figure 7: Typical floor layout showing minimal obstructions

The office space, services, and amenities of 100 Mount Street have been designed to the highest standards. External glass-enclosed stairs are revealed from the exposed western core and prefabricated restrooms are planned to produce a consistent high level of finish. Glazing the stairs helps activate the façade and limits the amount of artificial light required to use them. Elevators in three banks serve the tower and have been sized to provide a premium grade level of service. Five basement levels allow for over 100 parking spaces, as well as courier and motorcycle parking. Space has also been provided for approximately 270 bicycle parking spaces. Designed above the tower's lobby, an amenity level provides changing and exercise facilities to the building tenants, encouraging alternative means of commuting by the tower's occupants.

The tower is clad in a high performance double skin façade. Motorized venetian blinds within the cavity are controlled by computer to block direct sun. This allows for large areas of glass for light and view while minimizing heat gain. This also provides a façade that varies in appearance throughout the day as the blinds are automatically manipulated. By utilizing this very efficient façade the demands on the physical plant are limited reducing the cost of that system and the energy demanded to power it.

The brace on the eastern façade is designed to be both structurally efficient and elegantly proportioned. Weaving between two exposed concrete columns from pedestrian level in the plaza to the screen wall at the tower's roof, the exposed steel brace works with the concrete western core to stiffen the tower. This minimizes the structural impacts of columns in the office floor plate and reduces the amount of material necessary in the building's structure. In addition the brace gives the tower a unique identity in the North Sydney skyline.

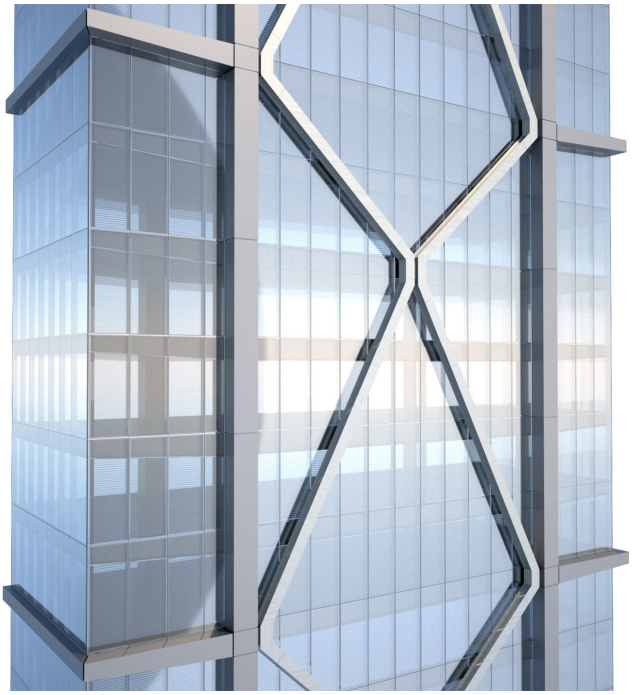

Figure 8: Structural Frame