

ON POINT LUXURY

The \$250M Four Points by Sheraton Redevelopment features a 26-level office and hotel tower cantilevered over the Western Distributor. Accommodating convention and meeting spaces along with 892 hotel rooms, the unique pillar-less design perfectly frames Sydney's spectacular harbour views.

DEVELOPER : M&L Hospitality
MAIN CONSTRUCTION COMPANY : Brookfield Multiplex
ARCHITECT : Cox Richardson Architects & Planners
STRUCTURAL ENGINEER: Aurecon
PROJECT VALUE : \$250 million

The ethos of M&L Hospitality is the ability to recognise and unlock potential in its assets and create a clear project vision. The company exemplified this in boosting Sydney's high quality event, convention and meeting spaces with the redevelopment of 161 Sussex Street, Sydney – Australia's largest hotel.

As an international real estate investment platform with offices in Singapore, Sydney and Amsterdam, M&L Hospitality specialises in hotel investment, particularly across the Asia-Pacific and Europe.

The Sussex Street project added a new tower and 222 new hotel rooms to the existing hotel bringing the total to 892 rooms. Significantly 3,450m² of new event space was also created, including two ballrooms each with capacity for 1,000+ delegates, spanning the north and southbound carriageways of the Western Distributor Freeway – that's right over a major feeder road from the CBD to the Sydney Harbour Bridge. That's where this project gets interesting.

"M&L Hospitality identified very early in the concept stage that the project presented significant construction challenges including building almost entirely in the air over an operating freeway and in a live hotel environment," said Jenny Watt, M&L Hospitality's Project Manager.

"In order to de-risk the design and construction process, we engaged Brookfield Multiplex in an Early Contractor Involvement (ECI) contract arrangement to work with M&L and the design team to optimise the design, identify the risks and develop construction methodologies in conjunction with key stakeholders including RMS, SHFA and City of Sydney."

The works were undertaken with minimal disruption to the 80,000 vehicles using the

Western Distributor daily or to the 600-700 hotel guests who stayed in the hotel each night, that's 87% capacity. As well, there were four buildings of State heritage significance on the site.

"The two-year project's success is a testament to the extensive design and planning initiatives that were implemented. This was a complex project driven by an overarching stakeholder management plan," said Neil Maxwell, Chief Executive Officer of M&L Hospitality.

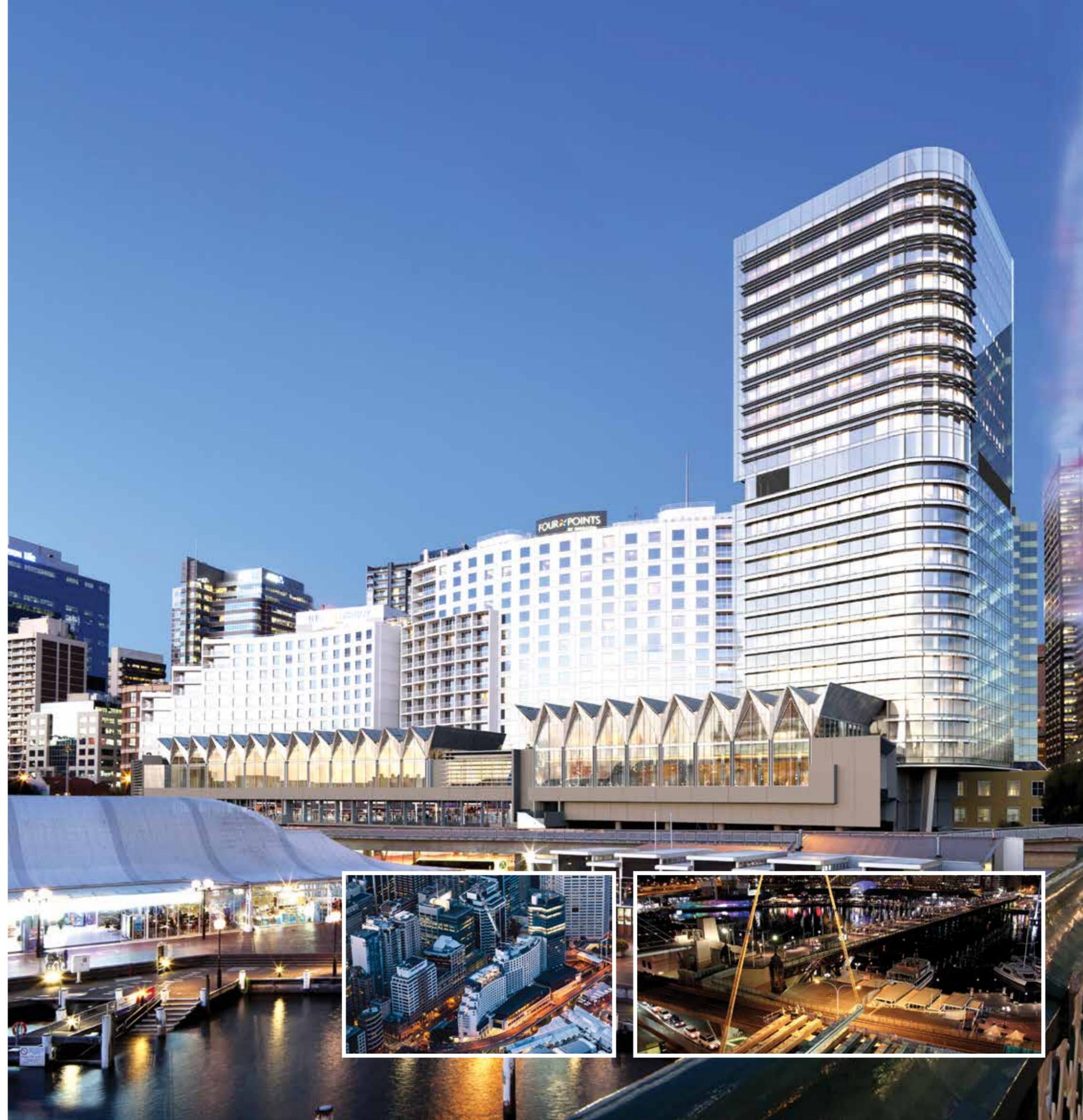
Before work started, acoustic engineers did a raft of tests measuring vibration and airborne noise impacts with jack hammers throughout the building. Their measurements and analysis allowed pinpointing of noise heard floor-by-floor within the hotel.

While the hotel rooms had been refurbished 18 months before the redevelopment work started, the hotel's front-of-house areas were still the original 1980s design. The project needed to upgrade and integrate those areas with the convention centre and hotel arrival areas.

"This involved chopping holes through the building to provide that visual connectivity. We removed ten very large concrete beams 2m deep and 4-5m wide. So you can imagine the jack hammering that was happening during very specific hours we discussed and agreed with the hotel," said Jenny.

How the team managed this was through weekly Disruption Shutdown Advice (DSA) meetings between M&L Hospitality, Brookfield Multiplex and key hotel staff.

"It was a very detailed and interactive process with the hotel, but they were aware every step of the way the works that were being undertaken at any time in the hotel and usually several weeks in advance. They managed room allocations to quarantine rooms that would be significantly impacted," said Jenny.





The hotel only closed for four nights during a quiet period in January 2015 to do the major demolition work.

“The demolition happened almost around the clock for those nights and they were limited in what they could demolish by floor loading. This had to be carefully calculated by the engineers to make sure the floors were capable of handling both the load of the excavating equipment and the load of the debris that was coming down,” said Jenny.

To build the new convention centre’s foundation, 78 concrete elements weighing up to 30 tonnes were needed. The challenge was that the beams were suspended over the busy Western Distributor Freeway. Mobile cranes wouldn’t work as there was just a 4-5 hour window for each road closure with much time lost in set up and pack up.

More than 150 lineal metres of off site prefabricated precast beams had to be installed over four months. Each precast plank was between 12m to 25m long and weighed up to 26 tonnes. They were designed to meet stringent RMS bridge code as no code for constructing building structures over RMS assets existed.

There were a number of road closures that needed to be arranged that required RMS approval, to assist construction works. These occurred over 250 nights and included 207 full lane closures on the north-bound Western Distributor, 111 full lane closures and 139 partial lane closures on the south-bound Western Distributor.

Safety screens were placed on the road boundary to allow works to happen without impacting road users.

Brookfield Multiplex staged plank delivery to the tight RMS permit schedule, negotiated to ensure night works were over before the Western Distributor became operational in the morning. The planks were fabricated in the Hunter Valley, stored at a Port Botany holding yard, then called in as needed and lifted directly off semitrailers for installation.

Men from Marr’s were hired to install two of the world’s largest tower cranes, an M860D and M1280D, to work on the limited space on the CBD hotel rooftop. The first crane went on a steel grillage structure on one of the building’s lift cores and was used to erect the larger crane onto the adjacent lift core.

The two most southerly precast planks were actually over the lifting capacity of the single tower crane. Practice runs using both tower cranes installed over the existing hotel lift cores beforehand with the site team helped fine tune this.

Crane work means working with height issues. These challenges were managed through workshops with structural steel and roofing subcontractors. The convention centre’s saw tooth roof had large structural steel truss members and a layered roof system to meet the high acoustic rating of the function rooms below. The longest truss was over 23m and weighed 16.5 tonnes. The solution was to install trusses on a mezzanine slab using a steel jig that fitted

all the trusses. The roofer then could access the truss on the slab instead of 8m up in the air. As well, a certified temporary handrail system was installed around the roof truss perimeter before they were raised, so future work there won’t need harnesses.

The total volume of concrete poured for the project was just over 11,500m³, some 635 tonnes of steel was used, the tower’s façade comprises 1,388 panels, plus during construction, 132 precast planks were placed over the road.

According to Brookfield Multiplex, 3,712 people were inducted onto the site. At the project’s peak, there were 539 workers on site, and on average 212 people worked on the site per day.

M&L Hospitality recently won the Urban Taskforce Development Award for Best Hospitality Development. The Urban Taskforce Awards acknowledge development projects that achieve the best outcomes in terms of client requirements, environment, business and community considerations, as well as time, cost and quality.

“The project was an enormous leap of faith for M&L Hospitality to take it on. It was quite visionary... a gutsy move and it paid off for them,” said Jenny.

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