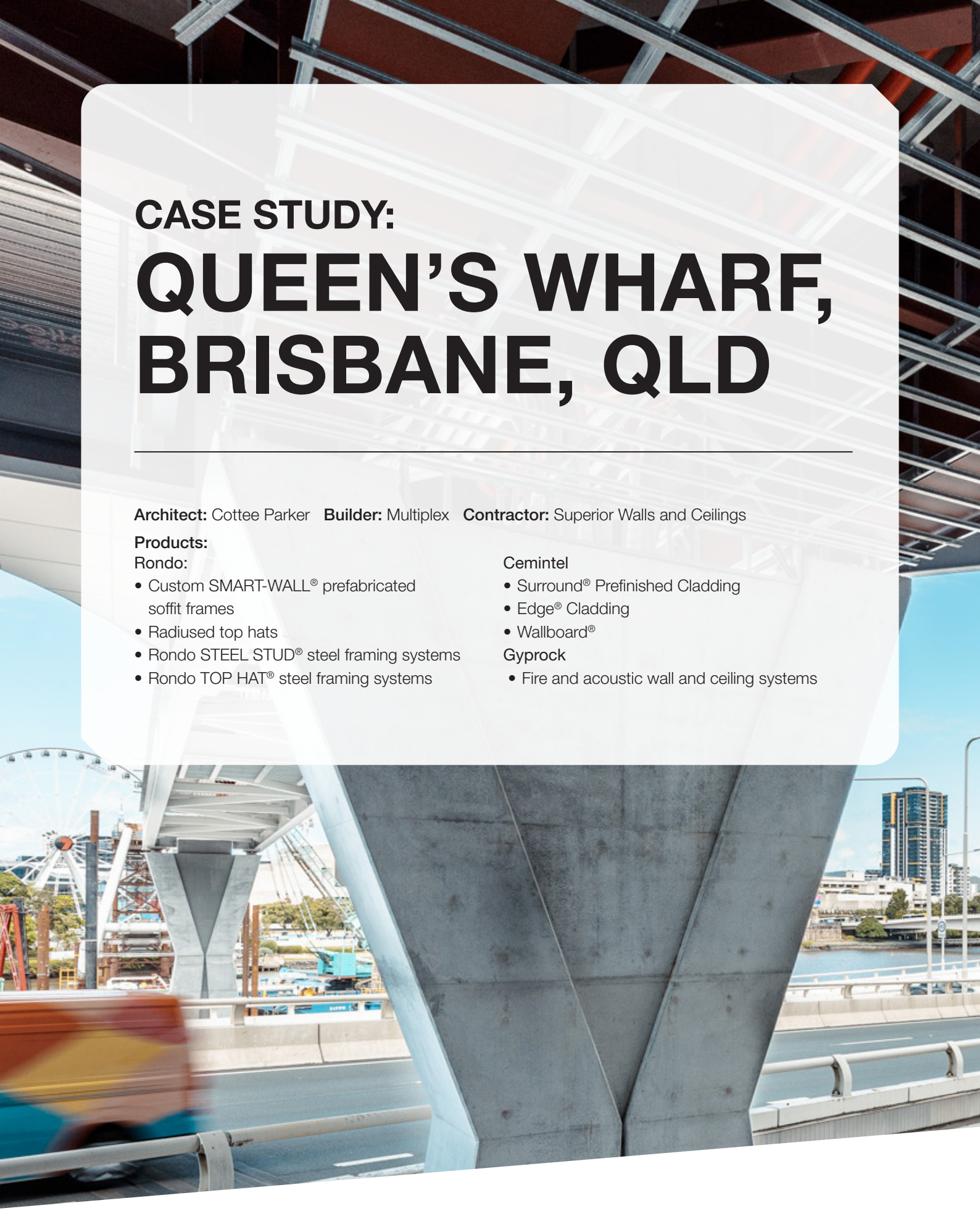


CASE STUDY:
QUEEN'S WHARF, BRISBANE, QLD

Architect: Cottee Parker **Builder:** Multiplex **Contractor:** Superior Walls and Ceilings

Products:

Rondo:

- Custom SMART-WALL® prefabricated soffit frames
- Radiused top hats
- Rondo STEEL STUD® steel framing systems
- Rondo TOP HAT® steel framing systems

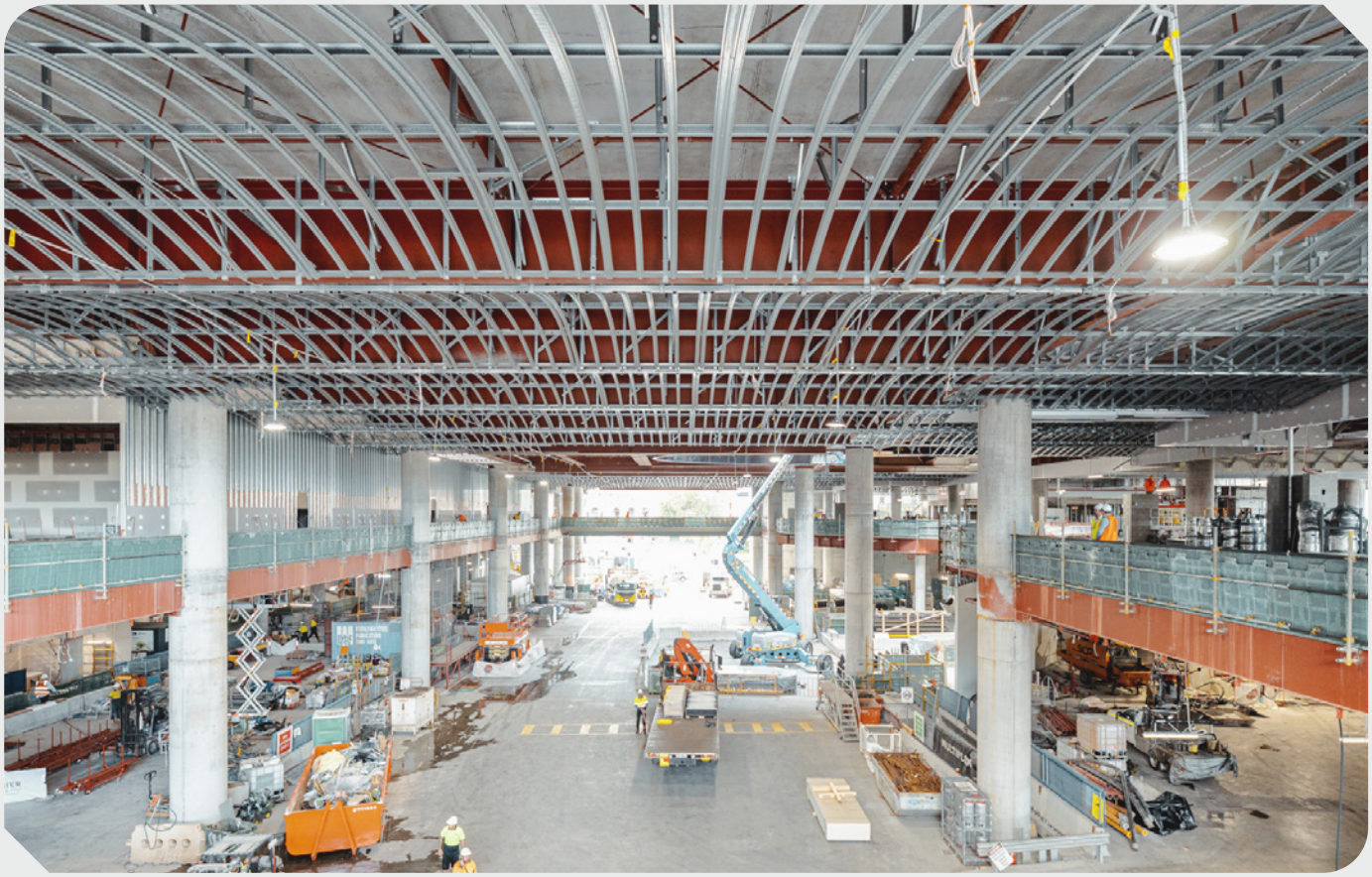
Cemintel

- Surround® Prefinished Cladding
- Edge® Cladding
- Wallboard®

Gyprock

- Fire and acoustic wall and ceiling systems

RONDO® GYPROCK® CSR



Background

Brisbane's skyline is undergoing a dramatic transformation with the rise of Queen's Wharf, a $3.6 billion integrated resort development set to redefine the city's architectural landscape and boost its global appeal.

This ambitious project is more than just a collection of buildings – it is a meticulously planned precinct designed to foster community and connection. Encompassing residential apartments, luxury hotels, a world-class casino, diverse retail offerings, and expansive public spaces, Queen's Wharf aims to capture the essence of Brisbane's vibrant spirit. The project's architectural centrepiece, a striking curved structure designed by Cottee Parker Architects, is a testament to the development's innovative design and engineering – and an optimistic expression of the city's bright future.

Challenge

The architectural vision for Queen's Wharf presented a series of intricate design and engineering challenges, particularly when it came down to structural steel framing. One of the key hurdles involved designing a robust system to support the sweeping curves of the podium's vaulted soffits. The system needed to withstand high wind pressures, meet stringent seismic requirements, and seamlessly integrate with the architectural design. The project also demanded innovative solutions for the extensive external soffit framing, bulkheads, and external wall framing.

Additionally, the "wings" attached to the underside of the elevated walkways posed a unique challenge due to their location in an area subject to significant wind loads. As a result, the framing solution had to be lightweight, yet structurally sound – all the while maintaining the architectural vision for this pivotal development.

Solution

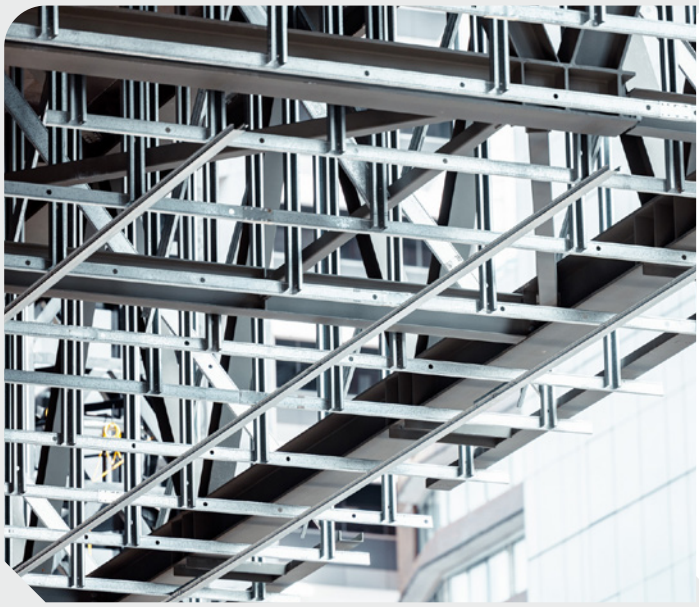
Rondo, a leader in steel framing solutions, was tasked with addressing these complexities to ensure the project's structural integrity and aesthetic appeal, and their team of engineers and designers rose to the occasion, delivering a series of bespoke solutions that exemplified their collaborative ethos and expertise in steel framing.

To overcome the challenges associated with the vaulted soffits, Rondo devised an innovative braced rail system using an astounding 16 km of radiused TOP HAT® steel. This system provided the necessary support and flexibility to accommodate the soffit's unique shape, while ensuring its ability to withstand wind pressures and meet seismic requirements. In addition to the braced rail system, Rondo also custom-designed and prefabricated SMART-WALL® soffit frames at their local Yatala facility. These prefabricated frames not only ensured precise installation but also significantly expedited construction timelines, a crucial factor in a project of this scale.

To address the challenges of the wings, Rondo engineered lightweight framing panels that were easy to install while meeting the stringent wind load requirements. The panels provided the required structural support, while contributing to the overall aesthetic of the design. Rondo's innovative movement joint panels were also incorporated to prevent cracking at the connection points between the wings and the main podium structures.

Rondo's contribution extended beyond steel framing. In collaboration with Superior Walls and Ceilings, they provided 35,000m² of Cemintel fibre cement products, including Surround®, Edge® Cladding, and a custom-edged 9mm Wallboard®. These durable, weather-resistant, and fire-resistant materials were used for external wall cladding, soffit panels, and balcony balustrades, ensuring the project's longevity and safety. This commitment to resilience also extended to the interior spaces. Gyprock fire and acoustic wall and ceiling systems were installed throughout the casino towers and the residential tower, ensuring fire protection and acoustic comfort for occupants.

The Queen's Wharf project stands as a testament to Rondo's ability to navigate complex design challenges and deliver innovative and customised solutions that enhance both the functionality and beauty of complex high-profile architectural projects. At the same time, it exemplifies the transformative power of collaboration in construction – Rondo's expertise in steel framing, coupled with the versatility of Cemintel and Gyprock products, ensured a successful outcome for this ambitious undertaking. The project not only showcases the capabilities of individual brands but also highlights CSR's position as a leading construction products company, delivering trusted and reliable solutions for Australia's most exciting developments.



Rondo's expertise in steel framing, coupled with the versatility of Cemintel and Gyprock products, ensured a successful outcome for this ambitious undertaking.

RONDO

GYPROCK | CSR