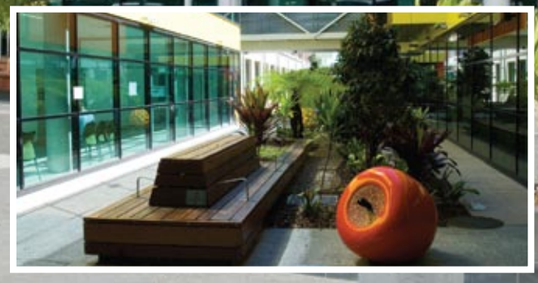
ROBINA HOSPITAL



MAIN CONSTRUCTION COMPANY : Baulderstone
CLIENT : Queensland Health
ARCHITECT : Bligh Voller Nield Pty Ltd
STRUCTURAL ENGINEER : Bonacci Group Pty Ltd
SURVEYOR : RLB
PROJECT END VALUE : $287 Million

MAJOR MEDICAL PROGRESS IN ROBINA

After three and a half years of construction efforts and the investment of over $270 million, Robina Hospital is now the sixth largest hospital complex in Queensland. Baulderstone (Queensland) have masterminded this transformation of a small regional hospital into a major healthcare landmark providing a range of general and specialist care, and also teaching the next generation of medicos with a new educational wing constructed in conjunction with Bond University.

The expansion project involved the construction of new Building H, new Building J, extensions to Building A and extensions to Building G. In total 162 new beds have been provided, bringing the total of available beds to 364 at the end of the project in mid 2012. Overall, the hospital's footprint has expanded by approximately 24,000m^2.

Specific elements of the new Robina Hospital include four new operating theatres, coronary care unit, clinical measurement unit, new outpatient services, new peri operative services, new CSD sterilising equipment, new environmental services and a new building engineering and maintenance unit. There has also been a major refurbishment of existing medical imaging, pharmacy, pathology and catering services.

In all, Baulderstone delivered approximately 32 stages or specific works packages. Works commenced on site in October 2008 for stage 1, which involved the construction of a new western car park on grade, and subsequent demolition of existing Building H. New construction works for the replacement Building H commenced in April 2009, with handover of Building H, the extension to Building A and J ground level handovers achieved in December 2010.

New operating theatres on Building J level 1 were completed for handover in April 2011, following which multiple stages of refurbishment were undertaken.

The single biggest challenge for Baulderstone and their team of subcontractors was ensuring existing hospital services could continue with minimal interruption, especially during the refurbishment phase, when works were being undertaken at close proximity to patients and staff.

For example, the extension of Building A required careful scheduling of works, so as to prevent noisy works from occurring during working hours for the operating theatre. The upgrade of the existing hospital main entry and car park had to be managed while maintaining access to the hospital at all times.

"All refurbishment stages were planned early with the user groups to enable the various departments to remain operational at all times. This has ensured the best outcome for the Hospital, but has been more complex to construct," commented Baulderstone Project Manager, David Tracey.

There were several amendments to the design. The facades were revised to Alpolic, to ensure a more durable facade system. The window system also incorporates infills of Alpolic panels, which can be revised to glazing should the internal layout be revised in future.

Baulderstone also constructed a multi-deck three level car park providing 480 parking spaces, issued as a client variation. Another variation involved fit-out of a completed shell space in the Building A extension, for additional desk space, and another the upgrade of existing on site Building D kitchen facilities.

To minimise changes in wall thickness in refurbishment areas, Powerscape/ Impact board was used throughout. This had an additional benefit of simplifying set-out and door frame procurement, is a more durable product and assists for installation of wall mounted fixtures.

Robina is also now a more sustainable hospital, with roof mounted photovoltaic units for solar power generation installed, generating free electricity for the site. Solar energy is also used to pre-heat the hot water to reduce the gas consumption.

High efficiency water cooled chillers have been used on the project, and rain water harvesting tanks installed under the southern car park. The harvested rain water will be used for the cooling towers.

At the peak of construction works for Buildings H, A and J, Baulderstone had a team of 21 staff on site. Over both new construction and refurbishment stages, 44 subcontractors have contributed to the project, with a peak daily workforce of 340.

Baulderstone has been making a highly significant contribution to a variety of infrastructure projects in Queensland. Other recently completed projects include the Southern Queensland Correctional Precinct at Gatton and the Townsville Wastewater Treatment Plant Upgrade.

The company is currently working on the Gold Coast Rapid Transit Early Works; Mains and Kessels Road Interchange; and have commenced works on the new Berth 11 at the Port of Brisbane.

BAULDERSTONE (QUEENSLAND)
Level 3, 44 Musk Avenue
Kelvin Grove QLD 4059
t. 07 3835 0555
f. 07 3832 0269
www.baulderstone.com.au

BAULDERSTONE - QUEENSLAND REGIONAL OFFICE, TOWNSVILLE
Unit 3, 17-19 Greg Jabs Court
Garbutt QLD 4814
t. 07 4727 3777
f. 07 4727 3700

LEADERS AT FORMWORK FOR CHALLENGING PROJECTS

ONEFORM GROUP PTY LTD
396 New Cleveland Road
Tingalpa QLD 4173
t. 07 3890 0249
f. 07 3890 0217
www.oneform.com.au

Oneform takes formwork to new heights of efficiency and effectiveness, as demonstrated at Robina Hospital for Baulderstone, where the company's in-house engineered and fabricated formwork systems were used for both concrete walls and floors.

The project's design called for class 2cx exposed concrete walls, and high propping floors. Oneform provided three acsr-1 self-climbing wall systems, to form a total of five cores seven levels high.

The systems are rapid to erect and fix - Oneform are able to set up the acsr-1 in a single day, from the time the formwork and the workforce arrive to site to the time the steel fixer commences. This allowed the concrete pour to begin within three days of initial set up. On this project, Oneform also engineered the system in such a way that two core systems could be removed, and with little change could be reset up on a new core in the same time and taken up. The efficiency of this allowed the formwork system to produce the required class 2cx finish in record time.

"Due to the very efficient way Oneform has engineered these self-climbing wall systems and very experienced staff, Oneform was able to save the head contractor time, costs and perform all works in a very safe, fully enclosed system, while giving a class 2cx finish," explained Oneform General Manager, Paul O'Sullivan.

"This system provided a safe, extremely quick set up, required no craneage, and moved all the cores off the critical path. Oneform was able to have two cores up, completed and down, reset, up and out of the way, before the head contractor had ground slabs completed."

Oneform also provided a panel slab system to assist in forming 5.5 m high floors in a safe manner, again using an in-house engineered and fabricated panel slab forming system. In all, Oneform had a crew of 60 men on site for around eight months, meeting every required milestone on time, and maintaining an impeccable safety record while doing so.

Oneform has been in business since 2003, servicing the upper echelon of major projects in Brisbane, the Gold Coast, the Sunshine Coast and surrounds. These have included commercial high rise developments, high rise residential projects, retail shopping centres, hospitals and education sector projects.

Their operation is an integrated outfit, with three in-house engineers and drafting personnel, five in-house steel fabricators, a team of qualified leading hand carpenters and trade-qualified carpenters, plus apprentices, formworkers including class 1/2c specialised crew, concreters, labourers, delivery, despatch and administration personnel. In all, there are 175 staff working in their office, fabrication workshop and precast yard, or out working on various projects around the South East Queensland region.

The Oneform steel fabrication workshop enables the company to fabricate a wide range of specialised formwork equipment, all engineered to the appropriate certifications and the highest standards of safety and quality.

The services and products which can be provided include formwork shutters, column forms, safety screens, self-climbing formwork systems, specialised form, precast panels, and steel fabrication and erection.

Oneform's approach to any project is to provide a quick safe set up, meet the program milestones, and maintain a safe and clean work site. Other major projects benefiting from the Oneform approach to concrete construction are the Gold Coast University Hospital Oral Health Building (a class 2cx job) and the Advanced Engineering Building at the University of Queensland, with off-form white class 2cx concrete. Also recently at DTAB Brisbane Airport, Oneform formed an 8.5 m span of off-form concrete over a working road way without stopping traffic or interfering with airport operations.

"We strive to maintain the very best customer service and believe through innovation, continual improvement and development of formwork systems and practices through our in-house engineering, and our 'never say die' attitude, we can provide our customers with the very best formwork solutions," said Paul.

"Our senior key personnel are all very experienced in large multi-level projects and projects that have varying degrees of difficulty. With a hands-on approach by senior management, Oneform has the experience and qualifications to provide a professional service, to ensure projects are completed in a timely manner, efficiently meeting budgets and deadlines."

EXPERIENCE FABRICATES EXCELLENCE

No steel project is too large or complicated for Toth Engineering, and Robina Hospital's structural steel work is proof. Toth Engineering designed, fabricated and installed steel work included columns, bridges, roof structures, walkways, sunshades, and facade structural steel including mullions and window heads. All in all, 450 tonnes of certified quality workmanship was supplied and installed over 18 months from shop drawing to final erection.

"The Robina Hospital was a good challenge, we are happy with how it went, and we kept ahead of program," said Toth Engineering Managing Director, Wally Toth. "There was an enormous amount of design revisions as the project evolved, which filtered down to our shop drawings. We undertook a lot of 3D designing.

"A lot of the steel involved a three coat paint system, and because elements such as the columns are visible, we had to be very careful in transport and erection not to damage the surfaces."

Some of the specific tasks included six bridges between 6m and 8m long which connect the existing and new buildings. Toth Engineering had a crew of between 6 and 12 on site for erection, including two boilermaker riggers, and a team of 15 in their workshop fabricating and finishing the steel work.

Toth Engineering has been in business for 21 years, and is a family owned and operated company specialising in structural and architectural steel work. Wally Toth is trade qualified as a fitter and turner, and is the fourth generation of his family in the steel business, along with his brother Joe Toth who is a boilermaker / rigger, his father before him also a fitter and turner and both his grandfather and great grandfather blacksmiths. The fifth generation, Wally's son, runs the workshop and is a qualified boilermaker. Wally Toth also holds a commercial builder's license, and has designed and project managed the new 3,200m^2 workshop for Toth Engineering, equipped with top class steel fabrication equipment and both overhead and mobile crane capabilities.

"The new workshop will allow us to work faster, on larger projects," said Wally.

Everything Toth Engineering does is certified Quality to AS/NZ ISO 9001:2008. Other recent major projects have included $3.5M of structural steel work for Abigroup's Amberley project and Salt at Kingscliff for Laing O'Rourke (previously Barclay Mowlem). The company also specialises in cantilever gates up to 20m wide driveways, recently supplying mines including Xstrata Oakey Creek, and AngloAmerican Grasstree and North Moranbah, and also secure facilities such as Gatton and Lotus Glen Mareeba Correctional Centre. Toth Engineering will fabricate steel for any project, anywhere in Queensland.

TOTH ENGINEERING PTY LTD
145 Cobalt Street
Carole Park QLD 4300
t. 07 3271 1099
f. 07 3271 2084
e. wally@toth.com.au
www.toth.com.au

Robina Hospital, QLD