

THE RIGHT REMEDY

CLIENT : Calvary Health Care
DEVELOPER : Commercial & General
MAIN CONSTRUCTION COMPANY : John Holland
ARCHITECT : Silver Thomas Hanley
STRUCTURAL ENGINEER : Mott MacDonald
CONSTRUCTION VALUE : \$345 million



The \$345M Calvary Adelaide Hospital is a state-of-the-art healthcare facility comprising 344 beds, 16 operating theatres, a 24 hour emergency department, rehabilitation wing with hydrotherapy pool and mobility garden, a custom designed Hybrid Theatre. The new hospital offers the most comprehensive range of services ever delivered by a private healthcare facility in Adelaide including orthopaedic, cardiac, neurosurgical, and rehabilitation specialties.

The new \$345 million Calvary Adelaide Hospital is the largest private hospital in South Australia and will provide services previously supplied by Calvary Wakefield and Calvary Rehabilitation hospitals including orthopaedic, cardiac and neurosurgical specialties.

Calvary Adelaide Hospital enhances the modern patient experience by providing a 'hotel' feeling. There are 344 beds in single patient rooms with ensuite bathrooms and the interior design shows how far modern health care has evolved away from harsh, clinical aesthetics. A more comfortable look has been achieved with softer colours and interesting graphics that showcase Adelaide and its surrounds.

John Holland were awarded the D&C contract by developer Commercial & General in July 2016 and their inhouse team of five worked on the design development with Silver Thomas Hanley, structural, building services and specialist technical consultants.

"Involvement in the early stages of design allowed John Holland to achieve the best outcome for our customer, and for future patients," said Project Manager, Joanne Potts. "We were able to deal with structural and design issues before the design was finalised when changes were still possible."

The structure is a standard in situ concrete frame with a 3-level basement car park. The 5-level podium is clad with cream coloured precast concrete panels and Levels

6 to 12 have a unitised curtain wall with distinctive blue glass. The podium has a rectangular footprint with an impressive 2-storey entrance, a 24 hour emergency department, 16 operating theatres and four procedure rooms. There is also a medical imaging centre and a pathology laboratory as well as new consulting suites, staff and administration areas. From Level 6 upwards are patient rooms, the ICU and a rehabilitation wing complete with hydrotherapy pool and mobility garden.

With a three year build and a site area of 57,000m² in Adelaide's CBD, the construction process had the potential to have a huge impact on the area and some careful planning was required.

"A challenge of the build involved ensuring we minimised disruption at the busy city site," said Joanne. "In Adelaide the residential areas are quite close to the CBD so we ensured that materials deliveries and noisy construction procedures, such as piling, operated within permitted times and didn't exceed acceptable noise levels."

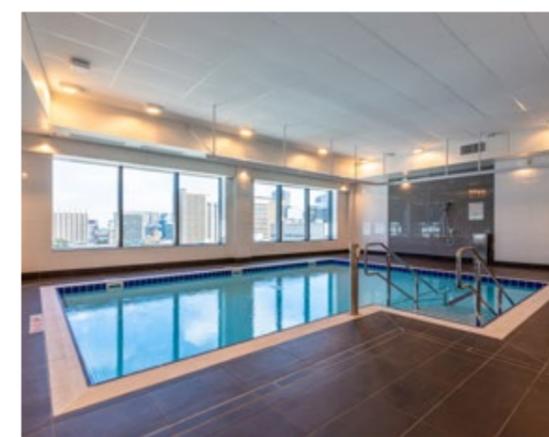
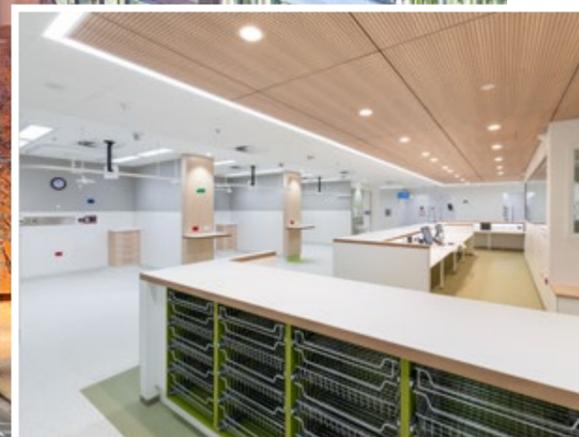
"The site has a number of schools nearby and is bounded by a road with major bus routes so the timing of materials and equipment deliveries was critical in order to keep the work progressing and maintain safety both onsite and for local businesses and the general public. We also had to be aware of impacting on the essential services near the site – the police and the fire brigade," said Joanne.

John Holland are a Tier One infrastructure, property and building company that distinguishes themselves from their competitors by having a vast network of resources that includes the skills and knowledge of their people, and support is always available from its highly experienced managers and supervisors.

John Holland's core construction projects have been within the infrastructure sector and they have a string of successfully completed tunnelling, road and rail projects including the Wentworth to Broken Hill pipeline, completed in 2018 and the Sydney Metro Northwest project, finished in 2019. Currently the company is continuing work on Melbourne's Metro Tunnel, due for completion at the end of 2025; and stage two of Sydney Metro.

John Holland has always been a builder, and is known for constructing iconic structures such as Australian Parliament House and the MCG Great Southern Stand. It has renewed its focus on its building business, which is completing large scale developments such as the Royal Hobart Hospital redevelopment, and Victorian Heart Hospital. The team recently completed the award-winning \$50 million library and plaza complex at Green Square in Sydney, and the iconic Mercedes-Benz lifestyle precinct in Brisbane.

For more information contact John Holland, website www.johnholland.com.au



Below Atelier JV took on the role as Façade Engineers to develop the architectural design of the façade of Calvary Adelaide Hospital.

Atelier JV specialise in structural and façade engineering designs for complex architectural projects. As part of the team on Calvary Adelaide Hospital, Atelier JV were engaged by John Holland to provide Façade Engineering services to develop the architectural design of the façade to a level that could be tendered on and shop drawn by their façade subcontractor. Atelier JV continued in the role of Façade Engineer through the construction process in order to assist John Holland in maintaining the quality of the façade construction.

The first 5-levels of the hospital have punch windows in precast panels with a challenging overlapping arrangement. Level-6 and upwards has high performance unitised façade panels.

Atelier JV designed and specified the façade then worked with the façade subcontractor, Synergy Facades (now Sky Facades) as they developed it to their system. "It's the first time we've worked with Synergy Facades and it was a successful collaboration," said Project Engineer, Dan Buckley. They also carried out value engineering with thermal modelling in order to optimise the façade performance and glass selection for the building. The final selections culminating in the construction, by Synergy Facades of a 2-storey visual mockup prototype of the façade for the client and consultants to view at their factory in Foshan, China.

"For the double level atrium entry to the Hospital, we engineered a structurally glazed full height façade and designed slim 8m tall mullions. The mullions were designed to be as elegant as possible by the addition of significant internal stiffening. Synergy Facades developed this concept to adapt it to their preferred section profiles. The atrium was one of the last pieces of façade to be completed and it now looks really good, it is a feature of the entryway for the Hospital."

There were four visits to China for quality assurance inspections to ensure the end result was a high grade product. "We visited the aluminium, glass and fabrication assembly factories to ensure the quality and appearance of the product was consistent," said Director, Simon Jewell. "This is an important part of the process of ensuring a quality product."

Established in 2012, Atelier JV employs a team of 10 including engineers, designers

and CAD technicians. Based in Perth, they work across Western Australia and in South Australia over a range of sectors such as; commercial developments, mixed use and residential complexes, industrial, education and health facilities as well as entertainment and retail. Atelier JV also provided engineering design services for beautiful 'see-through' jagged metal sculptures of surfers at Perth and Bondi Sculpture by the Sea for artist April Pine.

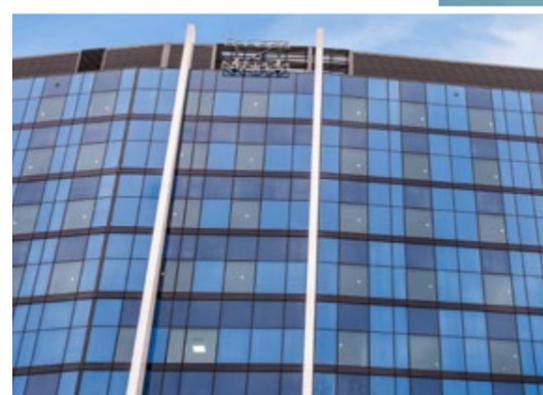
The company's façade engineering services include schematic design through to construction services. Their experience with façades covers all aspects of façade structural design in all materials and systems.

Atelier JV has an impressive portfolio of award-winning and significant buildings that have contributed to the development of both Perth and Adelaide. They are currently engaged for Façade Engineering on the second South Australian Health and Medical Research Institute (SAHMRI) in Adelaide. SAHMRI II is a \$320 million project, a high tech glass building sited next to SAHMRI I and Royal Adelaide Hospital.

In Perth, the new WA Museum is taking shape and the recently completed Forrest Chase are among the many projects that Atelier JV have been proud to be a part of.

"Atelier JV congratulates John Holland and Synergy Facades for a successful project in Calvary Adelaide Hospital and is looking forward to more exciting projects in Adelaide," said Simon.

For more information contact Atelier JV, 123 Aberdeen Street, Northbridge WA 6003, phone 08 9228 9120, email info@atelierjv.com.au, website www.atelierjv.com.au



Below ARA Manufacture supplied and installed all the fire doors and supplied acoustic doors, solid and foam cores, and also lead lined doors.

Below Armstrong Flooring Australia produced 40,000m² of flooring and wall vinyl in a variety of colours for Calvary Adelaide Hospital.



ARA Manufacture specialise in the fabrication, supply and installation of solid, fire and veneer doors as well as pressed metal frames for all commercial and industrial applications including the healthcare sector.

For Calvary Adelaide Hospital, the manufacture of pressed metal frames for doors and windows began in October 2017 at ARA's 16,000m² facility, manufacturing over 2,000 doors in January 2018.

As fabrication continued, eight workers installed fire and acoustic doors, solid and foam core doors, and doors with a variety of veneer finishes including in the laboratories and fire escapes.

"We manufactured, supplied and fit some specialty doors," said Project Manager, Justin Carr. "That included lead lined doors for X-ray and radiation rooms and doors with vision panels specially fitted to avoid collecting dust as well as doors for theatres with finishes that could be kept sterile."

Other specialty products offered by ARA Manufacture are Scaleck, for biocontainment; Monarch high quality doors, shutters and grilles; Cbros, high security doors and custom made door and

window solutions and Ravco, the continuous hinge for all high frequency openings.

ARA Manufacture designs and builds doors, windows and frames for the demanding conditions in factories and chemical plants. They manufacture and install high security doors and locomotive doors to give fire, noise and slam resistance to trains.

Established in 1995, ARA Manufacture employs 130 staff and is part of the ARA Group, a network of building and infrastructure services that operates across Australia. Successful projects include Royal Adelaide Hospital, St Andrews Hospital and the recently completed supply of doors to Ashford Hospital.

ARA Manufacture specialise in large scale commercial projects such as the elegant Salisbury Community Hub, a local government building in South Australia. They just finished work on UniLodge, supplying and fitting 800 entry doors to 800 apartments.

For more information contact ARA Manufacture, 19 Taminga Street, Regency Park SA 5010, phone 08 8243 7000, email info@aramanufacture.com.au, website www.manufacture.aragroup.com.au

Armstrong Flooring Australia is an expert in the manufacture of floor and wall vinyl for commercial and residential projects. They have installed their custom products throughout the interior of Calvary Adelaide Hospital.

State Sales Manager, Stephen Ross explained his work with project architect Silver Thomas Hanley and the Armstrong Flooring Australia design team in Melbourne. "The design called for specific colours, custom made for this project and we were able to create them utilising our custom colour product called Infinity."

The project features a large amount of colour changes in the flooring to highlight different areas of the building. Armstrong Flooring has the capability to manufacture these colours in Australia, reducing the complexities often experienced when using a product from overseas.

"We manufactured approximately 40,000m² of floor and wall vinyl using a combination of existing colour ranges. We also supplied both standard and non-slip finishes," said Stephen.

Headquartered in Pennsylvania, USA, Armstrong Flooring has been manufacturing in Australia since 1969 and currently employs over

110 in their manufacturing plant and warehouse based in Braeside, Victoria, with distributors across all states.

"Armstrong Flooring Australia produces durable high performance products for the Australian and export markets. This commitment is backed by ongoing global support from our parent company and thousands of others who work for our suppliers and partner companies worldwide," said Stephen.

"Our business focus is on developing long term mutually beneficial partnerships based on the provision of vinyl flooring and walling across a broad range of applications – from retail and education to health care, contract housing, commercial interiors and public spaces. For decades Armstrong Flooring has been a key supplier of vinyl flooring and walling products for major projects like Perth Children's, Lady Cilento, Northern Beaches and Melbourne's Royal Children's Hospitals as well as the upcoming Royal Hobart Hospital with John Holland," said Stephen.

For more information contact Armstrong Flooring Australia, 29-39 Mills Road, Braeside VIC 3195, phone 1800 632 624, email customer_services@armstrongflooring.com, website www.armstrongflooring.com.au