

HEALTHY LEARNING

DEVELOPER : University of South Australia
MAIN CONSTRUCTION COMPANY : Hansen Yuncken
ARCHITECT : BVN and Swanbury Penglase Architects
PROJECT VALUE : \$250 million



The \$250M University of SA Health Innovation Building houses a technically advanced health science facility including the Centre for Cancer Biology, School of Pharmacy and Medical Sciences, Innovation and Collaboration Centre and the Museum of Discovery.

Hansen Yuncken commenced as managing contractor on the University of South Australia's (UniSA) Health Innovation Building (HIB) project in July 2014, responsible for overseeing the construction from start to completion. Hansen Yuncken managed all subcontractors and worked collaboratively with all consultants including architects, engineers and suppliers.

The floors of the HIB were designed to ensure that there is a view from all areas of the occupied spaces within the building. The laboratories and work areas are situated around the external perimeters, while the support areas are located internally.

This development is one of the final pieces of the puzzle for Adelaide BioMed City. The location provides several new health research, teaching and community engagement opportunities. The Museum of Discovery (MOD), a place to be and be inspired, will be a scientific playground that will transform the public's perception of science, technology and innovation by offering immersive experiences within dynamic, changing exhibition programmes.

The building has over 780 exposed precast columns, with the main structural columns along the north façade capable of withstanding a 1500kN rail impact – an important specification due to the project's location alongside the rail corridor. Around the façade of the building there are 62 external precast columns per level, though only half are load bearing, the rest are architectural features.

The 58m structural steel mechanical riser extends from the ground floor to the roof and was prefabricated offsite, saving months of work onsite. The riser took six months to design, manufacture, fire rate the steel work, pressure test and fire wrap the ductwork. The riser was then delivered and installed onsite in 12 sections in just three days. AG O'Connors undertook these works with 3D precision modelling and construction.

The complexity of the service requirements involved careful cross disciplinary design and coordination. Contractors used 3D Building Information Modelling (BIM) that allowed

issues to be detected and resolved efficiently and reduced clashes experienced onsite.

The generator plant provided a unique challenge to the project team. The generator was located adjacent the Animal Facility which requires isolation from all noise, vibration and lighting variations to maintain a controlled environment. This led to the generator being placed on a floating slab and allowed the generator to be isolated from the rest of the building and absorb vibration.

Large thermal and acoustic walls were built to ensure the research facilities are regulated from temperature and sound. Technically its one of the most data rich buildings in the state with over 7,000 data points along with 500km of data cabling installed in the building, which is the highest number in any building in South Australia besides the recently completed Royal Adelaide Hospital.

The HIB showcases unique design features for this kind of educational building. The western lift lobby features timber ceiling, barestone cladding, exposed aggregated flooring, as well as antique brass door frames, thresholds and door finishes. The seven interior staircases located in the key atriums give the impression that they are floating within the space. Their design required each staircase to be installed in two sections, and to be lifted into the space by spider cranes, chain blocks and multiple tri-shores.

Hansen Yuncken managed over 2,500 changes and modifications throughout the building process. Including substantial building use alterations to increase the size of the Animal Facility and the introduction of the School of Pharmacy and Medical Sciences, all while maintaining completion by the original date.

Hansen Yuncken has a strong portfolio of education projects and are currently undertaking several developments across Australia including, University of Newcastle, University of Queensland, Monash University, University of Tasmania and Bendigo Kangan TAFE.

For more information contact Hansen Yuncken, Level 1, 191 Fullarton Road Dulwich SA 5065, phone 08 8229 7300, email adelaide@hansenyuncken.com.au, website www.hansenyuncken.com.au

YOUR FIRST CHOICE

SA Commercial Blinds specialise in the supply and installation of quality window furnishings for the commercial market. The company works closely with architects and builders to find the window covering solution they are after. For the Health Innovation Building, SA Commercial Blinds supplied both motorised and manually operated blinds and curtains.

One of the challenges of the job was finding a solution for the large eastern windows of Level 2. For this, SA Commercial Blinds came up with a Vertilux OneBlind system with a size of 5200mm wide and 7000mm drop, which motorised for ease of use. The blinds have a MicroCassette design which blends in smoothly with the trim, complementing the interior design.

Another challenge was supplying blinds to the Level 12 animal house with a fabric that can be easily cleaned. For this SA Commercial Blinds used Slidetrack blinds which are designed to be unobtrusive

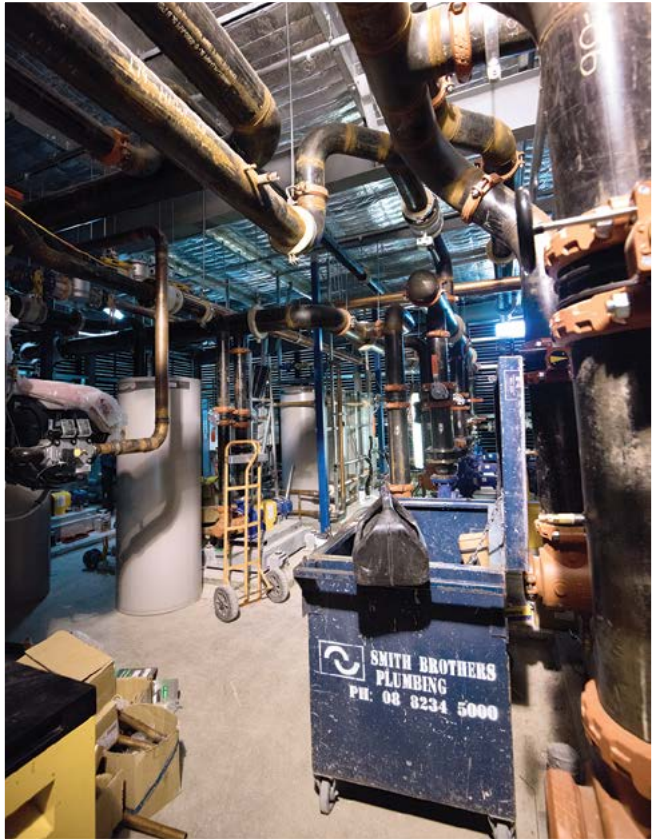
and present clean functional lines, as well as a unique fabric guide system that maintains tension. The Pilbarra Plus Block Out fabric which has antimicrobial properties, that reduces potential contamination and odours.

Chanell translucent fabric was used for the blinds throughout the rest of the development and is designed to meet strict standards for light, glare reduction and insulation from harmful UV rays. The fabric permits light to filter into the room where privacy is needed, without the need for complete block out. The heat and reflection qualities of the material helps regulate a rooms temperature and contributes to maintaining an energy efficient environment within the space.

SA Commercial Blinds had a peak of six employees for this task with installation beginning in July 2017 and completed in late 2017.

The company is based in South Australia and have been involved on a number of innovative projects including, the installation of roller blinds in Flinders Medical Centre. SA Commercial Blinds also have various other projects with Hansen Yuncken, Sarah Constructions, Mossop Construction + Interiors, Hindmarsh and many more.

For more information contact SA Commercial Blinds, phone 08 8347 8700, email sales@sacommercialblinds.com.au, website www.sacommercialblinds.com.au



THE TOTAL PACKAGE

Smith Brothers Group is one of the largest plumbing service maintenance businesses in South Australia. Their reliability along with their knowledge, expertise and extensive years of experience is why they were chosen for the considerable and complex amount of plumbing required for the University of SA Health Innovation Building.

Smith Brothers undertook numerous tasks divided into two parts. The first was an earlyworks inground package which consisted of a South Australia Water sewer mains extension, civil stormwater drainage, stormwater pump station, electrical inground conduits and pits, pH neutralising system and 12KL inground expansion tank, tradewaste arrestor units and drainage, inground diesel tank system, stormwater gross pollutant trap and baffle box.

The second was the main above ground package, which consisted of sewer drainage, tradewaste drainage, radioactive drainage system, quarantine drainage system, laboratory drainage system, stormwater drainage system, reverse osmosis reticulation system (including tanks and pumps), domestic hot and cold water reticulation, laboratory hot and cold water reticulation, gas reticulation, gas/solar hot water plants and a 30KL rainwater storage tank for irrigation use.

The company deployed a team of 37 skilled employees for this considerable task, starting in August 2015 and they will also be

undertaking the ongoing hydraulic service and programmed maintenance of the building.

Smith Brothers provide 24/7 service in South Australia, where they also contribute extensively to several charities, as well as support and involvement in schools, training programmes, and community and industry organisations.

For more information contact Smith Brothers Group, 386 South Road, Richmond SA 5033, phone 08 8234 5000, email sbpgroup@smithbrothers.com.au, website www.smithbrothers.com.au

UNIVERSAL GALLERY

Pro AV Solutions is one of Australia’s foremost specialists in audio-visual, collaboration and unified communications solutions, working to design and deliver award winning technological solutions, backed by over 30 years in the industry and over 200 staff including some of the brightest minds in the field.

The University of South Australia’s brand new Cancer Research Institute (formerly Health Innovation Building (HIB)) which is home to the Museum of Discovery (MOD) features content rich interactive spaces designed for immersive learning experiences. The centerpiece is the Universal Gallery which incorporates the Science On A Sphere interactive experience which is a product from NOAA, USA an is the first installation of its kind in Australia. It features a 360 degree



projection mapped 1.7m diameter suspended globe, capable of displaying unlimited libraries of sphere mapped ‘datasets’ – including planetary, climatic, meteorological and topographical displays.

Pro AV Solutions was engaged in the design and integration of the audio-visual systems for the whole of the University of South Australia’s new Cancer Research Institute including lecture theatre facilities, interactive teaching spaces, transparent LED displays, Universal Gallery, Science On A Sphere interactive display, Huddle Space meeting rooms and boardroom facilities.

Planar’s Clarity® Matrix® panels were selected to complement the Universal Gallery which incorporates the Science On A Sphere learning environment as the ideal solution to enable multi-point touch interactive learning for students and users. 23 x portrait mounted 55” Clarity® Matrix® LX55HDU displays were arranged to form a continuous 22m wall of context sensitive interactive content which draws from the World Wide Telescope matched to the Science On A Sphere datasets around the perimeter of the space. A further 10 Clarity® Matrix® displays form a similar interactive wall within the space’s entrance, specifically designed to welcome and entice users into the space.

Custom software and content was developed in order to enable multi-point touch learning for students and users to be displayed on a continuous wall of context sensitive interactive content, matched to the Science On A Sphere datasets around the perimeter of the Science On A Sphere space.

For more information contact Pro AV Solutions, 247 Greenhill Road, Dulwich SA 5065, phone 08 8124 7777, website www.proAVsolutions.com.au



DEVELOPER : University of South Australia
ARCHITECT : Swanbury Penglase Architects and BVN



SAFETY FIRST

As with any construction project, maintenance, protection and open accessibility are paramount in order to ensure that there is easy passage and safety of the construction team and all individuals who enter the building. This is where RISsafety comes in, a specialist supplier of personal protective and safety equipment requirements for high risk industries and activities.

Through the installation of an engineered system of rails, davit arms and anchor points, RISsafety were able to provide access to all internal and external sides of the building, windows and maintenance systems. The company also fabricated a large amount of walkways to provide maintenance access for internal management and air conditioning systems.

The suspended aluminium gantry, includes internal abseil rails and safe rails systems. RISsafety have engineered these gantries to provide a lightweight safety solution to large projects that offers flexible in their use to access areas.

With the high number of trade service contractors working onsite, locating the 60 different points and droppers for the gantry within the available ceiling space required acute designation. With only



7mm of construction tolerance, there also had to be a high degree of coordination of design modeling.

With around seven installers, RISsafety commenced work onsite in December 2016 and completed the work by the end of October 2017.

RISsafety’s main office is located in Sydney, with branches all over Australia. Current projects include the Air 7000 Maritime Patrol Aircraft replacement project, the Campbell barracks in Western Australia, the Royal Adelaide Hospital, as well as the Design and Construction of the exciting Adelaide oval roof climb adventure walk.

For more information contact RISsafety, 3 Bushells Place, Wetherill Park NSW 2164, phone 02 8781 2100, email sydney@rissafety.com, website www.rissafety.com