

VSI

SA WATER'S NEW HEADQUARTERS

HANSEN YUNCKEN

VICTORIA SQUARE SA





BUILDING VALUE

True to the company motto of “building value”, leading construction company Hansen Yuncken recognises the economic, social and environmental benefits of developments which meet sustainability criteria. Hansen Yuncken are rising to the challenge and demonstrating leadership in Environmentally Sustainable Design and Construction through a sound knowledge base and award winning practical applications.

Hansen Yuncken has long been acknowledged as having the flexibility and expertise to offer a variety of project delivery methods, and work comprehensively with the client to select and tailor individualised solutions.

Since its inception in Melbourne in 1918, Hansen Yuncken has completed over 4000 projects nationally. The company is recognised as a significant contributor to the built environment of numerous Australian cities and regional centres.

In the past decade, Hansen Yuncken has broadened its expertise to encompass Environmentally Sustainable Design (ESD) and Construction. Clients and commercial tenants are seeing the benefits to the environment, their staff and their own bottom line, of going green. Additionally, legislative changes are being made to introduce sustainability measures in new construction, such as office buildings. As Design and Construction Manager for the 6 Star Green Star rated VS1 building, Hansen Yuncken are assisting the South Australian Government move toward its targets of greenhouse gas minimisation and reduced water consumption for the state.

While the initial costs of building ESD can be marginally higher, ongoing running costs are lower and staff productivity is improved due to better health, less absenteeism and longer retention of staff.

Hansen Yuncken has developed a reputation

of capability on 5 and 6 Green star rated projects such as the 60L Green Building, the Lyell McEwin Hospital Redevelopment Stages A & B, and through involvement in projects such as K2 Sustainable Housing and Council House 2.

Hansen Yuncken was thrilled to be invited to work with the Catholic Archdiocese of Adelaide on the landmark VS1 building. When it reaches expected completion in September this year, the VS1 project will achieve a 6 Star Green Star rating which is recognized by the Green Building Council of Australia as world leadership in ESD. The project has been awarded a 6 star design rating from Green Building Council of Australia (GBCA), and is committed to an equivalent as built rating along with a 5 star Australian Building Greenhouse Rating (ABGR) outcome.

As Design and Construction Manager for the project, Hansen Yuncken has tailored a

Design & Construct/ GMP Delivery System for the client, with a 10 month Design and 2 year Construction phase. At Completion, the project will have a value of \$85 million.

VS1 is situated at number 1, Victoria Square, in the Adelaide CBD. Adjacent to St Francis Xavier Cathedral, the VS1 is being constructed as part of a precinct development.

The building itself will be landmark CBD building of 10 stories comprising a 25,000 m² office space, two floors of specialised laboratories, a major central atrium and extensive public plaza and an undercroft carpark. The top two floors will be developed for commercial leasing. SA Water has entered into arrangements with the Catholic Archdiocese of Adelaide to occupy part of the Ground Floor and levels 1-7. This will allow for co-location of SA Water's activities into the Adelaide CBD.

VS1 has been designed in response to a SA Water request for accommodation request and includes features to moderate glare and heat, such as a fritted veil on the western façade, to

lower the energy requirements of the HVAC systems. A tri-generation plant will provide peak load reduction of the building's power requirements. Solar hot water and extensive water collection and recycling are other outstanding green features of the building.

Hansen Yuncken has embraced the sustainability agenda set by the Major tenant, by incorporating many environmental initiatives during the construction process. The site extensively separates and recycles waste, includes waterless site amenities, movement sensors on lighting withing lunchrooms, and an ‘environmental management’ team. Hansen Yuncken is also an active participant on the KESAB Clean site program.

Hansen Yuncken is also working with SA Water on a Design and Construct/GMP for the fit out of the 16,667m² of corporate offices and specialised laboratories for the department's laboratory division, the Australian Water Quality Centre.

The fit out will be valued at \$34 million at completion. It will be a world class facility

that supports the health of its users through features such as 100% outside air displacement floor ventilation and access to natural light. Building materials, from plumbing through to joinery and furnishings, have been selected for minimal product off gassing. Highly water efficient fittings in wet areas continue the building's commitment to demonstrating exceptional management of water, which is central to the client's requirements.

A member of the GBCA, Hansen Yuncken is committed to supporting the shift toward sustainable development in the Australian property industry. As Design and Construction Manager of the VS1 project, Hansen Yuncken secured an opportunity to implement sustainable design and construction, while delivering the trademark Hansen Yuncken value for the customer.

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FERTILE TIME FOR GREEN BUILDING

HASSELL is among Australia’s largest and most esteemed design practices. The organisation prides itself on innovative design solutions and excellence in project delivery.

HASSELL has been in business since 1938 and has collaborated with clients on a diverse range of projects across Australia, Asia and around the globe.

The design and planning expertise of HASSELL encompasses the disciplines of architecture, interior design, landscape architecture, and urban design and planning. With the tools of art and technology, HASSELL demonstrates the aims and objectives of its clients, which often surpasses expectations. When specialists from across the firm applied their expertise to the building design and fit out of SA Water’s new headquarters, the result is nothing short of spectacular.

The 10-storey, 35,350 square metre building received the Design 6 Star Green Star rating from the Green Building Council of Australia in October last year. It is only the third building in Australia to achieve that status, while becoming the nation’s first and largest commercially developed building to achieve the 6 star rating. The fit out is also registered with the Green Building Council and is pursuing a strong sustainability agenda.

VS1 will enable co-location of SA Water’s three metropolitan operations, including laboratory facilities for the South Australian Water Quality Centre. VS1 will showcase the future of responsible water management through rainwater collection and storage, treatment and reuse of office greywater and water efficient fittings.

6 Star Energy efficiency has been achieved using design systems which allow access to sunlight without the associated heat and glare. Design solutions include an atrium, a vertical glass veil to shade the west façade,



sun shades and automated blinds. All electrical and mechanical systems have been chosen for their modest energy usage. An on site gas fired cogeneration plant will decrease peak electricity and energy demand on hot summer days, with waste heat used by the building’s air-conditioning system (tri generation) via an absorption chiller.

Design initiatives which promote a healthy environment includes 100% fresh outside air for air-conditioning under most seasonal conditions and good access to natural daylight through external double glazed windows and an atrium. Building materials and products that emit very few harmful toxins are some of the ways in which HASSELL has designed a healthy workplace.

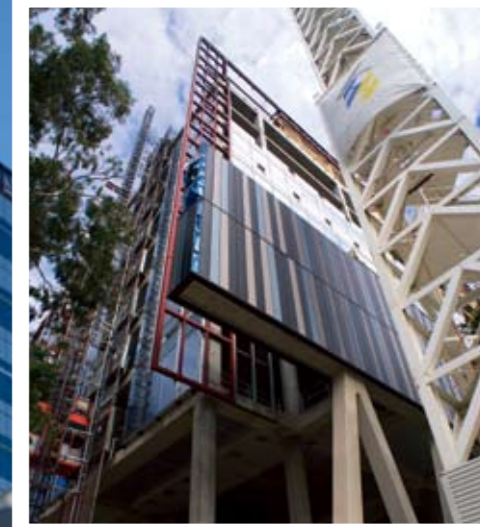
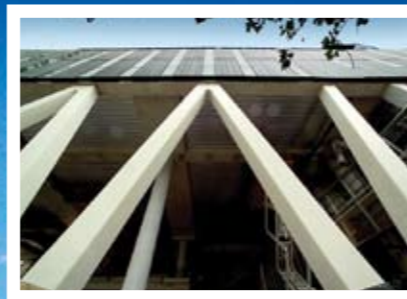
HASSELL has always integrated principles of Ecological Sustainable Development (ESD) into their designs. However, increased demand for buildings with high environmental performance has seen ESD become a primary focus in design practice. With dedicated sustainability groups within the firm, and a strong exchange of ideas through workshops and conferences, HASSELL is at the forefront of the global shift toward sustainable built environments.

HASSELL believes in the fundamental importance of collaboration among the project team. Extensive and dynamic communication among the project team members was critical in the early design stages of the VS1 development to ensure the outcomes, including those required for the 6 star rating, were met. For VS1, the success of the design process is demonstrated not just in the reward of an optimum rating, but is evident in the way the building resonates with life and purpose.

The VS1 development has been described as a ‘milestone’ by the South Australian Government. It has set a new benchmark for sustainable buildings in Australia, and demonstrates leadership to the world.

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SUSTAINABLE SOLUTIONS

Where people, design, environment and technology are successfully integrated, an exceptional building is born. Through Cundall's impressive project history, we see how sustainable outcomes and commercial success can both be achieved on building project.

Using collaborative and holistic approaches, Cundall finds broad benefit solutions.

Cundall's services include mechanical, electrical, hydraulic, fire and vertical transportation engineering. With extensive building simulation capability and international expertise, Cundall work to secure the best options for building systems.

At the forefront of Ecological Sustainable Development design (ESD), Cundall are the ESD design consultants for Adelaide's VS1 building, working closely with the project team comprising Hansen Yunken (Design and Construct contractor), Hassell (architects), Bestec (building services), Wallbridge and Gilbert (structural), Barry Phillis & Associates (project management) and Rider Hunt (QS).

In October last year, the building achieved a 6 Star (Green Star – Office Design) rating,

demonstrating world leadership. However, as Cundall Director David Clark reflects, the 6 Star design rating is only a small part of the process.

“Design ratings are all about good intentions,” Mr Clark said. “The real challenge is to deliver measurable outcomes, both at practical completion, and in actual operation in terms of energy, water and occupant satisfaction.”

On VS1, Cundall's solutions included innovative design, researching and procuring optimum materials and systems. For example, there was the challenge of achieving a high standard of energy efficiency and quality of internal environment in the face of a large western façade. Cundall's design initiatives include the placement of a fritted glass veil in front of the west facade to reduce solar loads, horizontal shading and vertical fins. Materials sourced for their superior abilities to handle heat and glare include building skin and high performance double glazing, Spandrel panels, as well as an automated blind system.

In many instances, Cundall worked with the project team to facilitate the building achieving good results from simple technologies, rather than using new or untried technologies. The

building features an impressive array of ESD systems, with a strong focus on water conservation and energy reduction. Wet areas use water efficient fittings, and the building can harvest and recycle much of its own water. Solar panels are used to preheat domestic hot water, and a Gas Combined Heat and Power unit will reduce peak electrical energy demand. HVAC and lighting systems have been chosen for their energy efficiency as well as general performance.

The building features a range of practical and innovative solutions to achieve SA Water's stringent ESD performance requirements, while delivering a building at a market rental. Cundall are committed to extensive monitoring of the building's performance to ensure continuity and hence sustainability, well into the future.

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THE FUTURE IS CLEAR

Over the past 30 years, Kingswood Aluminium has established a reputation in South Australia as the market leader in commercial window and façade fabrication.

Throughout Adelaide's CBD and beyond, many impressive facades by Kingswood Aluminium are on display. The company has designed and constructed façade systems for high profile buildings such as Adelaide Airport, the Santos building, Bianco Offices and Warehouse, QEH Hospital and Adelaide Convention Centre.

The last few years has seen a growing trend toward increased energy efficiency and sustainability features in new buildings. This has resulted in renewed interest world wide in the use of curtail wall systems for building facades. By eliminating glare and extremes of light and heat, curtain wall systems can reduce a building's energy consumption.

Kingswood Aluminium is at the forefront of providing curtain wall façades for the construction industry in South Australia. Through a strong in-house design team,

Kingswood has developed its own curtain wall system, KWall.

KWall is a system of panels, which are prefabricated in Kingswood Aluminium's new factory in Melrose Park. The fully glazed panels are transported to the building site where they are lifted and attached to the building enclosing each floor in a sequential pattern.

The benefits of Kingswood Aluminium's own system include quick and simple installation, versatility (KWall is as suitable for small projects as it is for very large ones), and occupational health and safety, as there is minimal manhandling involved in any part of the fabrication and none in the installation processes.

As a major component of the VS1 building contract, Kingswood Aluminium has designed, fabricated and installed a 10 story high, Unitised curtain wall. Although predominantly glass, the system also incorporates composite panel, louvre inserts and sunshades, which adds to its versatility.

Kingswood Aluminium researched and sourced the glass with the best rating for the right price. The vision glass is high performance, Low E double glazed units offering superior thermal and acoustic properties. The fine, slim lines used in the aluminium façade gives the building a sleek and streamlined look, and is already attracting much positive feedback on its aesthetic contribution to the Adelaide skyline. Additionally, Kingswood Aluminium has designed a protruding glass veil for the western facade to further contribute to energy efficiency through glare and heat reduction. The company is also installing tall toughened glass assemblies at the building's entranceway. The effect will be a spectacular introduction to a landmark building project.

Kingswood Aluminium Pty Ltd.

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ALL PART OF THE SERVICE

Area Construction Labour Services (ACLS) are a specialist business providing skilled and trained personnel to the construction industry. Over the last 15 years, ACLS has made a valuable contribution to numerous developments in Adelaide and beyond.

For the VS1 building project, ACLS were called upon to provide Personnel and Material Hoist Operators and Amenity services. A qualified Safety Officer was also allocated to manage some of the site procedures and ensure all requirements, including the project's ambitious on site recycling and waste minimisation targets, were met.

With a pool of over 50 workers with a diversity of industry experience, ACLS can supply labour for virtually any aspect of construction from safety officers, traffic management and first aid to trade assistants for painters, electricians and plumbers. ACLS also supply riggers, scaffolders, dogmen and forklift operators, and are happy to discuss any other labour requirements with the client.

Company Director Roberto Simmons attributes the company's success to the value

placed on relationships with individual workers, the emphasis on high quality training and exceptional customer service to the client.

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WATERSHED

Due to its innovative approach to water saving, the VS1 building required excellence and versatility from a plumbing service provider. South Australian Industry leaders Jordan Plumbing were the natural choice for the job. Jordan Plumbing has over 75 years of experience in the industry, and is continuously involved in key projects in Adelaide's building scene. The company has developed many excellent relationships with key builders and developers in South Australia.

Jordan Plumbing offers a full range of plumbing services for major industrial and

commercial projects, plumbing consultancy and design, as well as programmed maintenance and emergency services. Offering Quality Assurance, D.T.E.I Accreditation and membership to both the Master Builders Association and the Plumbing Industry Association, clients can be assured optimal performance from trusted professionals.

With SA Water as the anchor tenants, exemplifying a sustainable approach to water usage is central to the design of the VS1 building. VS1 will showcase the proactive, responsible and technical genius of SA Water

to ensure public health through its water supply and waste water systems. The Australian Water Quality Centre (SA Water's Laboratory Division) and an educational community Water Discovery Centre are two specific spaces within the building to demonstrate the future of responsible water management.

Jordan Plumbing has fitted out all wet areas in the building with water efficient taps and toilets including waterless urinals, which have an AAAA rating. For the provision of rainwater harvesting and reclamation of class A water, Jordan Plumbing has installed a rainwater/reclaimed water 100,000 L tank on the ground floor, with piping to a header tank on Level 10. The building has been double plumbed to allow, apart from rainwater, the future use of harvested/reclaimed water for toilet flushing, irrigation and cooling towers. There is also containment of an emergency water supply backed up with mains water, to ensure that the building will never run dry.

Plumbing services for the 5000 sqm laboratory space is involving extensive reticulation and drainage, and a trade waste treatment plant, situated in the basement, to process laboratory waste water.

Jordan Plumbing was also involved in fitting 50 solar hot water panels to the roof of VS1. The panels preheat water used for energy generation in the building's internal cogeneration plant. Installing to the requirements of the VS1 building necessitated a lot of forward planning, explains Jordan Plumbing Project Manager David Bury. It was, however, a perfect opportunity for the company to demonstrate its own competent and progressive approach to water management systems.



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RELOCATABLE OFFICES

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These high-quality, affordable relocatable offices are suitable for many applications as they can be constructed in a variety of formats - from a single unit office to large versions accomodating large numbers of staff.

Unassembled, the offices can be shipped flat-packed and constructed on-site to save on transportation costs. In addition, the size of four flat-packed offices is to the ISO standard, allowing convenient international shipping. Can be skid mounted, craned or forklifted onto truck.

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GETTING IT RIGHT

Frigrite Air Conditioning opened for business in 1945 and is now one of the leading air conditioning service providers in South Australia.

The company's three core divisions manage installations, light commercial and maintenance services.

Frigrite Air Conditioning begins its involvement in a project at the design stage, and through manufacture, installation and commissioning provides air conditioning solutions for large-scale projects. Frigrite also provides light commercial Air Conditioning installation solutions in the South Australian market.

The company's vast capabilities include extensive and long-run ductwork, air handling unit systems, recirculated water systems, chilled beam technology and complex central thermal plants.

In October last year, SA Water became only the third building to receive the Design 6 Star Green rating from the Green Building Council of Australia. In saying this, Frigrite has been engaged to provide all mechanical services on the VS1 building. Heating, ventilation and air conditioning systems have all been developed for optimum energy efficiency. A Cogeneration plant has been installed to reduce peak energy demands. Frigrite have created systems which will also enhance the quality of the building's interior environment.

Frigrite are installing under floor air conditioning in office levels 3-9. By supplying air conditioning through the floor, energy requirements are minimised and there are the benefits of allowing occupants greater control of their immediate environment. The air conditioning system, when run on economy cycle, will utilise 100% fresh outside air under most seasonal conditions. Ensuring thermal comfort and air quality in work spaces has been shown to enhance staff health, happiness and productivity.

Levels 1 & 2 of the VS1 building will house SA Water's state of the art Australian Water Quality Centre laboratories. The laboratories have their own requirements for ventilation and air quality control. Frigrite is fitting fume cupboards in these areas for use in laboratory testing.

Frigrite began its involvement with the VS1 project in March 2007, with the commissioning stage of the job scheduled to begin in May 2008.

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THE GRAZER SOFTWARE SOLUTION

Grazer is an Australian-owned specialised software company with its Head Office located in Adelaide and Branch Operations located in both Melbourne and Sydney.

The Grazer product has revolutionised exhaustive and inefficient documentation processes within the construction industry, while offering simple solutions for information management across most business sectors.

With intuitive graphically driven operation, Grazer enables quick and easy access to all information relating to a project including Drawings, Operation & Maintenance Manuals, Test Reports and Technical Data. With the Grazer system, information is stored electronically preventing it being misplaced or lost, and can be retrieved and updated simply. A maintenance scheduling module can also be added to manage the assets in the future.

The Grazer system is being utilised by Hansen Yuncken on it's VS1 project in order to ensure streamlined operations throughout the key phases of construction, with extensive potential future application.

During Construction of this landmark building, Grazer personnel are collecting and organising all documentation required from

the subcontractors, allowing Hansen Yuncken to utilise their resources and expertise in other core business areas. Simultaneously throughout construction, the VS1 Grazer project is being created. This method provides an audit capability to the builder and ensures that all data required for handover to the client will be presented at the required milestone stages throughout the project.

At Practical Completion, Grazer will be implemented and used by building owner, major tenant SA Water and Hansen Yuncken to better manage the Defects Liability Period. This provides a more efficient response by sub contractors as site visits to investigate equipment details are minimised.

The difference demonstrated by using Grazer in Post Construction is unique. Grazer provides the client with a far more efficient means to maintain and retrieve all drawings, manuals and any other data captured during the construction and commissioning process. With information electronically stored and managed, centralised access, off-site backup and information recovery features, commercial risks are greatly reduced. There is an audit ready means of retrieving documents and assets can also be managed with a maintenance scheduling module.

Grazer is currently developing a Building Users Guide to enhance and support the VS1 building's 6 star rated 'Green' features. By consulting the guide for information, a building user, such as a SA Water staff member, can access information regarding the building's design features. Other useful information such as public transport timetables, bicycle parking bays and recycling facilities will be provided electronically with direct access to web links to ensure up to date information is provided to the user.

Grazer-designed systems are inherently reliable. A simple solution with many applications makes it an outstanding product for use in any Major Project Development.



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