



Andy Barker – OneForm, Project Foreman.

CLEANING UP THE UNI

Solution Cleaning Services knows that attention to detail is one of the most important aspects of any job, and it was the company's focus on providing the best and most efficient cleaning solution that was instrumental in its work at the newly completed IHMRI building at Wollongong University.

With hundreds of thousands of dollars worth of scientific equipment and stringent cleaning policies, the contract was highly specialized but one for which Solution Cleaning Services was well equipped.

Solution Cleaning Services won the contract for the initial and final cleaning of the building. Not only was the company responsible for ensuring the high standard of cleaning, but also had to work around the heavy traffic during university class times and maintain an efficient flow of traffic – a task not usually associated with cleaning services.

Using innovative and acid-free cleaning products, Solution Cleaning Services is the first choice for builders' cleaning. With 50 employees the company covers NSW and the ACT and has completed more than a dozen major projects in the past six months, taking the total to more than 140 major projects.

Working closely with all site personnel is essential for success says Solution Cleaning Service's Andres Soldado.

"We liaise with the builder, architect, site manager and owners to deliver the best results," Mr Soldado said. "So clients can be assured that every employee of the company works safely and efficiently."

As well as providing high quality service, Solution Cleaning Services also has all OH&S documentation and insurances and before starting any job, Solution Cleaning staff carry out a stringent assessment of the site and report and rectify any areas which need cleaning. Work is monitored, checked and recorded daily to maintain its high quality control.

Solution Cleaning Services uses portable and truck mounted equipment to ensure efficient and effective cleaning and as it does with all its work, this equipment is fully inspected and logged before use, with Work Method Statements available on request. This system of cleaning ensures that the Solution Cleaning Service's hallmarks of reliability, efficiency and effectiveness are consistently delivered to all clients, and are backed by a 100 per cent satisfaction guarantee.

Solution Cleaning provides initial and final builder's cleaning to both new and refurbished buildings.

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 m. 0419 226 316
 e. info@solutioncleaningservices.com.au
www.solutioncleaningservices.com.au

Building a leading edge hospital on a site the size of around 28 football fields, with a peak workforce estimated at 2,300 workers means Bovis Lend Lease need superior safety solutions. The new \$1.55 billion, 750-bed tertiary Gold Coast University Hospital (GCUH), which commenced construction this year and is due for completion late 2012 is such a massive development, it will be serviced by its own entirely separate Central Energy Plant (CEP).

Being independent from the vicissitudes of main grid energy supplies is a crucial element of the GCUH achieving best practice, and matching aspirations of excellence in patient care with excellence in design and construction. The CEP facility will deliver all the energy requirements for the GCUH and house all the necessary plant and equipment for the task. To deliver the formwork elements of the CEP building, Bovis appointed Oneform to provide all works associated with the formwork package.

To meet the Head Contractor's stringent safety requirements, Oneform have had to ensure that their work method provides for no access onto the formwork surface if any gaps greater than 100mm exist. In order to resolve this issue, Oneform engaged Uni-span Formwork Solutions to provide design engineering and supply of formwork shoring and decking equipment to the slabs at the CEP.

Uni-Span engaged in close consultation with Oneform, and supplied a solution which would enable both high productivity and certifiable levels of safety – Uni-Span's proprietary aluminium shoring and decking system CC-4. "In order to install the deck safely we placed all formwork materials in from the bottom," said Andy Barker, site foreman. "The lightweight components and the ability of CC-4's grid to stand before dropping in the panels meant we were able to install using scissor lifts, quickly and safely."

"The high strength aluminium props also meant fewer props per square metre and gave us good access underneath the formwork. The CC-4

system's ability to turn thru' 90 degrees as well as incorporate plywood infill's and ribs sets it apart from its competitors."

Uni-span Formwork Solutions also provided the formwork design for the slabs at the CEP. Using their in-house engineering application software, Grafssystem, they provided designs, material lists and load calculations for various elements of the project.

"The engineering back up, on the products in particular, provided our client with the necessary comfort they needed to accept the formwork solution being offered; and the support to the site has been very good," said Daren King, engineer for Oneform.

Uni-span Formwork Solutions can meet the needs of all sectors of the construction industry. Their high level of commitment and expertise adds value to projects from design stage through to completion, with ISO9001 accredited products which meet all applicable Australian Standards and the Formwork Code of Practice 2006. Uni-Span's best practice principles provide complete quality assurance to every project team they partner with. Key products which can deliver safer, faster formwork include:

- CC-4: a horizontal formwork system characterized by fast assembly and disassembly. Lightweight and offering a high degree of workers' safety during the handling process, almost all the components of CC-4 are aluminium. A quick-stripping system facilitates the recovery of material, while an innovative drophead prevents any of the components falling to the ground, further increasing worker safety and impeding material deterioration.
- ULMA Construction Formwork Systems: Uni-Span is exclusive Australian distributor for this leading European manufacturer of innovative and safety-conscious formwork systems. The range includes ENKOFLEX decking systems, used with outstanding results on C.S Developments, Payne Street Apartment project.

UNI-SPAN GROUP PTY LTD
 28 Computer Road
 Yatala QLD 4207
 Phone: 1300 882 825
 Fax: 07 3807 0546
 Email: whughes@uni-span.com.au
www.uni-span.com.au





Above - Westfield Sydney CBD Redevelopment



Pictured Left - David Fuller Chairman and Founder, Right - Miles Fuller, CEO

NEPEAN GROUP LOOKS TO NEW WAVE OF GROWTH

A \$35 million capital investment last financial year - including \$10 million into its core engineering and Structural Steel business - has set the Nepean Group on a course for unprecedented growth.

According to Chief Executive Officer, Miles Fuller, the company has been 'lucky to have the balance sheet to keep investing while everyone else is retreating' - although anyone who has followed the Group's recent history would say luck has nothing to do with it.

Over the last decade, the south-west Sydney engineering company founded by David Fuller in 1975 has grown into Australia's leading privately owned, specialised engineering and industrial manufacturing group servicing the mining, aviation, transport, agriculture, manufacturing and construction sectors.

Today Nepean Group has a turnover in excess of \$400 million and 1,100 employees worldwide. Group companies, which include Nepean Engineering, Graham Group, Nepean Conveyors and Bliss-Fox, pride themselves on designing, manufacturing and delivering innovative, turn-key engineering solutions - or 'defying gravity', as Miles says.

A recent example is a robotic unit designed and manufactured from the ground up to precision polish aluminium wheels. Another is Nepean's vehicle testing equipment - a product Miles took to the United States some 12 years ago, where it has since defined and captured the market.

Alongside innovative products like these, the Group - through Nepean Engineering - has an enviable reputation for the design, manufacture and installation of structural steel for major projects for the likes of Bovis Lend Lease and Westfield Sydney, where Nepean Engineering are supplying the Structural Steel for their \$1.2bn CBD Sydney shopping centre re-development.

Miles says his goal as CEO is to continue to grow the market for Nepean's 'bread and butter' services and products while developing and maximising the value of the Group's intellectual property.

"At the moment about 15 to 20 per cent of our turnover comes from our proprietary products, but our aim is to grow that to 40 per cent," he says.

To realise this vision, the company is investing heavily in both capital equipment and people.

"Our internal capabilities, in terms of people, systems and processes, are one of our core strengths and we are expanding these as we look to future opportunities and acquisitions," Miles says.

For more information, go to www.nepeangroup.com or call +61 2 4646 1511

VISIONSTREAM – CONNECTING TOMORROW, TODAY

Visionstream works at the heart of network intelligence having proven capacity to build, operate and maintain systems in virtually all fields of intelligent network communications.

Specialising in the construction of telecommunication networks across Australia, Visionstream is committed to providing an innovative and cutting edge approach to its operations.

Visionstream has been involved in a number of high profile projects such as the Ipswich Motorway, Clem 7 Tunnel and Gateway Upgrade Projects in Brisbane, and the Monash City Link Upgrade in Melbourne.

Visionstream has a long history of building telecommunications nationwide networks systems and was responsible for installing the initial segments of Australia's National Broadband Network (NBN).

Given its technological capacities, Visionstream also worked closely alongside State and Federal Governments to reduce the number of 'black spot' mobile phone areas in regional Australia.

At the forefront of the Intelligent Transport Systems (ITS) industry Visionstream has deployed some of the nation's first ever speed limit systems. This has decreased congestion on main roads, delivering better freeway management solutions.

Renaye Peters, Visionstream's Northern Region Manager, said that working in an Alliance Project Agreement with Leighton Contractors has resulted in fantastic working relationships and better project outcomes.

"We have found that a team orientated approach really suits our business; for example on the Safelink Alliance with Leighton, BMD and Department of Transport and Main Roads, we worked as one team completing the project ahead of schedule and within budget. It has also meant we have been able to combine our leading technology with the existing infrastructure and produce never before seen results," she said.

Visionstream is committed to discovering and working with its clients to assist in connecting to their information future and in turn creating world class solutions, businesses, cities and regions.

For more details on Visionstream's capabilities contact Renaye Peters on 07 3340 7100 or visit our website www.visionstream.com.au



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As a fully certificated waste transport asbestos specialist, BD Harvest services have been in high demand on many high profile projects throughout the state including Mercy Hospital in Albury, 150 Clarendon Rd, East Melbourne, Bourke St, Myers and Bandiana in Wodonga.

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LOCKER GROUP KEEPS ENERGEN COOL



Brisbane's first Six Green Star rated commercial development, the new Energen HQ, gave Locker Group an opportunity to shine, on every level. Not only did they provide builder FKP Construction with a functional and aesthetic facade element which gleams with the reflected glow of the sun, they also demonstrated their ability to manage logistics and production timeframes synergistically to meet the radically tight project timeframes.

The distinctive screening was manufactured at Locker Group's Rocklea facility from Planar 441A, a 2mm dia wire made of 5005-H34 Aluminium, woven with an aperture of 2.8 x 20mm. The sheets measured 5400 x 1400mm, so special palletising was required for their transport to Locker Group's Sydney site for anodisation.

Despite their size, the individual sheets only weigh 14kg, making them easy and safe for manual labour to handle. Casa Engineering undertook the on-site installation of the screening once the anodised panels were transported back up North from Sydney to the site.

In actualising the design of Architect Cox Raynor, the woven wire is offset at both ends of the building by 3.0m, and 900mm in the middle, creating a subtle and unusual alteration of the structure's outlines. "The architect wanted a seamless screen across the building that did not appear faceted," said Locker Group Project Manager, Tim McGovern.

"Originally they had specified a product from an alternative supplier; however this was successfully replaced by Locker Group's Planner 441

mesh which was more cost effective. The meshes have a westerly exposure, and were anodised by Universal in 'Satin Doeskin', hence they produce an eye-catching glow in the afternoon sun, without being overly garish.

"Rocklea were especially helpful with production programmes updated weekly for clients and main contractor. Locker Group's Quality control and logistics teams were aware of the tight time frames and performed excellently; everyone is pleased with the result."

As a Six Green Star building, non-mechanical climate control measures such as the screening of the Western part of the facade are an important part of meeting the Green Star (Commercial) targets. Locker Group design and manufacture ideal products for reducing thermal loads from sunlight - their woven wire blocks glare and produces shade, without blocking out the view. Woven wire also allows for all-important airflow, preventing the creation of a heat pocket between the windows and the screens.

Being in busy Fortitude Valley, with roughly 90,000 vehicles a day passing the building, Locker Group's workmanship on the Energen HQ project will be widely noticed, for many years to come.

Locker Group
2 Cojo Place
Dandenong VIC 3175
t. 03 8791 1000
f. 03 8791 1092



SUPER-SKILLS WITH STEEL

Queensland construction projects can now call on Active Steel Pty Ltd to provide them with their reinforcement requirements opening a new 2,000m² facility in Crestmead in January 2009.

Active Steel is a privately owned Australian family business which commenced operations in Sydney NSW in 1995, specialising in the manufacture, supply and delivery of steel reinforcing product. The company is one of the most technologically advanced operations within the industry. Significant investment in the latest computer aided design and European manufacturing systems have given Active Steel the ability to produce to exacting tolerances with speed and efficiency.

Active Steel's Crestmead facility has also been fitted out with the latest technology for the cutting and bending of steel. "This represents a significant investment" explains the company's owner, Terry Stokes, "Everything is brand new and we have the most up to date equipment available from Europe"

Active Steel has experienced and quality personnel to be able to deliver on the most challenging of projects, combined with an open and innovative approach and advanced manufacturing facilities it is not surprising they are involved in some of the largest projects past and presently underway in NSW. The majority of their projects have been civil infrastructure – bridges, sewerage treatment plants, major commercial projects, hospital upgrades and large residential developments.

With experience and adaptability in providing the required product efficiently and within time and scheduling constraints, Active Steel also

communicates and coordinates with clients to establish the most effective solutions to challenges presented.

As the Queensland building boom continues its momentum, they are looking forward to providing superior service and product across the full spectrum of civil infrastructure, commercial, industrial and residential projects.

Active Steel's Crestmead operation will offer a full range of reinforcing products and services – Reinforcement Detailing Service, Square and Rectangular Mesh, Engineered Mesh, Pile Cages, Swimming Pool Steel, offsite prefabrication of columns and beams, Cutting and Bending of Bar and delivery of goods to site / store. A complete range of accessories will also be available for the tying and placement of reinforcement steel.

With full third party accreditation by ACRS (Australian Certification Authority for Reinforcing Steels) products are made to meet the Australian Standard (AS/NZ4671), Active Steel is also a member of the SRIA (Steel Reinforcement Institute of Australia).

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t. 07 3803 7304

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e. activesteel@pnc.com.au

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MAKING THE DREAM A BUILDABLE REALITY

As architects explore new ways of designing the built environment for a more sustainable future, Adams Consulting Engineers brings their expertise to the task of realizing these plans and ensuring they are buildable. They have over 20 years experience in the structural and civil engineering field, across all development sectors, and recently played a key role in the construction of 452 St Kilda Road, a challenging project with poor ground conditions and which required the integration of the old Airlie Mansion with a new luxury hotel comprising 18 levels of serviced apartments.

"By being flexible, understanding and adaptable and working closely with the architect and developer we help to develop a solution which achieves the desired design intent. It also helps if we are involved early on in the design process, preferably before plans are submitted for town planning," said Director David Marinucci.

"We have the attitude that we can save the client money and make anything work, but at the end of the day, it is a tradeoff between what the client is willing to spend to achieve the design intent. This usually comes down to buildability and this is where we use our experience to work closely with the builder to develop innovative ways to build the dream. We reflect this in our design. With multi storey buildings, cost and speed of construction is the key. More sophisticated software is allowing us to refine wall and columns sizes as well as slab sizes with packages such as RAM Concept and S Frame. The use of prefabrication off site and erecting on site (and associated new systems being developed to achieve this) is becoming more the norm to achieve milestones on usually tight programs. Detailing these systems to achieve structural integrity is our ongoing challenge."

Another benefit of early involvement is more efficient integration of services and the early identification of critical design or site issues. In the case of 452 St Kilda Road, the poor ground conditions had to be taken into consideration with the tower's detailed structural design as well as identifying early on slab thicknesses in particular the level 02 transfer slab depth which impacts the building overall height and floor heights.

By understanding how buildings work as a whole, Adams Consulting Engineers ensures a project achieves and often exceeds the requirements of applicable building codes. Other recent projects which demonstrate their expertise include 523 Burwood Road Hawthorn, 505 St Kilda Road, 111 and 100 Leicester Street Carlton, 4-10 Daly Street South Yarra and the East Burwood Plaza redevelopment. All three of the company's Directors are engaged in the initial stages of every project, and a high level of project team involvement ensures a fully integrated design solution. All of their designs also specify, where possible recycled steel and cement replacement, and sustainable timbers on our smaller residential projects as a contribution to meeting the future's needs.

Their 35 staff includes engineers with highly specialised expertise and experience in building structure design, documentation and detailing. Adams Consulting Engineers are members of the Institute of Engineers (Australia) and hold Building Practitioner Licenses for Victoria and Queensland.

ADAMS CONSULTING ENGINEERS PTY LTD

97 Camberwell Road

Hawthorn VIC 3122

t. 03 9813 3122

f. 03 9813 3822

www.adamseng.com.au

COST SOLUTIONS

Will construction costs rise or fall in 2010? This is just one of the critical topics addressed by Mitchell Brandtman in a recent update to clients and a strong indicator of the company's commitment to providing the industry with both quality services and informative accurate information.

A dynamic Quantity Surveying and Construction Costs Management company, Mitchell Brandtman provides comprehensive, hands on specialist services to your construction projects including Budgeting, Estimating, Contract Administration, Asset Services, Procurement and Finance Management as well as a comprehensive consultancy providing Construction Expert Opinion for legal cases should the need arise.

While celebrating 40 years in the business this year, Mitchell Brandtman have retained a youthful, innovative and vibrant attitude promoting proactive thinking and a collaborative environment which benefits all parties involved in the project.

This factor is greatly appreciated by Mitchell Brandtman's valued clients who reap the benefit of proper cost control generating real savings.

With offices in New South Wales, Queensland and Canberra and associated groups in other Australian states, Mitchell Brandtman is well positioned to handle projects throughout Australia.

Mitchell Brandtman Thailand completes our network servicing projects throughout the Asian region.

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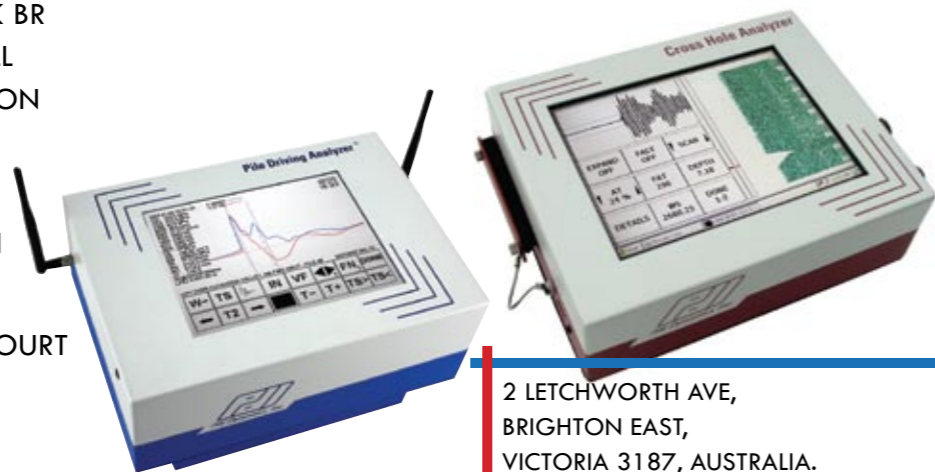
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2 LETCHWORTH AVE,
BRIGHTON EAST,
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HVAC GENIUS UNDER FOOT ON THE GATES

Melbourne Airport's new Terminal 2 has an air conditioning system everyone walks all over. "The number of people in the terminal fluctuates wildly, in the morning it is crammed, in the middle of the day it can be almost empty," said AE Smith Project Manager Peter Aumann, who has a decade of experience servicing the airport's HVAC needs.

"We put 20km of floor coil piping into the floor slab, the thermal inertia of the slab maintains the warmth or cool, and people walking through does not affect the temperature of it. The whole West face of the new terminal building is a 2 storey glass wall, 200m long which gives a panoramic view across the airfield. We installed a mechanical system which blows a curtain of air up the windows for some cooling, but it is the floor system which really makes it workable," he said.

The new terminal is built to accept the A380 double decker planes with twin air bridges installed to the new gates. AE Smith also installed HVAC systems for the new apron level workshops, crew facilities and arrival and departure levels, in addition to the concourse. High temperature shell and tube heat exchangers were installed, and over 30 acoustic attenuators throughout the terminal to reduce the ventilation system and aircraft noise levels. Reducing the smell of aircraft exhaust fumes inside has been taken care of by the use of over 24 sets of carbon filters on intake ducts.

Working in a sterile security environment meant the 35 AE Smith plumbers had to follow strict protocols; all workers, tools and deliveries had to enter via the taxiways - a major logistical challenge involving enormous patience; and if fog descended the gate would be shut and no movement of men or materials allowed. Every load of Plant and ductwork had to be inspected, all workers given security clearance and all tools logged in and out. The entire installation took 18 months. "We have an excellent relationship with both Melbourne Airport &

the builder, John Holland; we have worked closely with them for the duration of the project," said Peter Aumann.

AE Smith is a member of the Green Building Council of Australia with several Green Star Accredited Professionals on staff. The company is also a recognised Green Star Independent Commissioning Agent with NABERS Accredited Assessors based around the country. Its dedicated energy efficiency team (AE Smith Emerald Sustainable Performance) can also assist with compliance to forthcoming Building Energy Efficiency Disclosure legislation.

Other Melbourne projects AE Smith is especially proud of include MCG, Eureka Tower, the new Royal Children's Hospital (AE Smith/ AG Coombs JV), Crown Metropol, Flemington Racecourse and Herald & Weekly Times.

"AE Smith has played - and continues to play - a vital part in the delivery of landmark buildings in Melbourne. Our reputation and proven technical ability to deliver large projects is beyond approach; when it has to be done right, you can trust AE Smith," said Peter Aumann.



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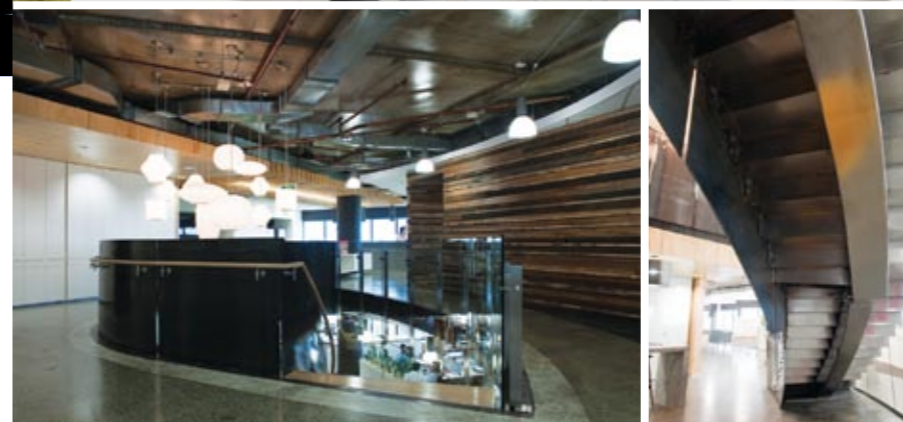
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CMP METALS

The pathway of Levels seven and eight of 5 Queens Road in Melbourne provides an optical experience deriving from the magnificent staircase and balustrade, which dominates the central area. The 22-rise steel staircase (with accompanying balustrade) curve through the levels with an impressive central landing. CMP (Commercial Metal Products Pty Ltd) has truly succeeded in engineering a centrepiece which is not only functionally sound but visually appealing.

"It was a challenge to manufacture the components required for building such a staircase, mainly due to the existing architectural designs and limited spatial requirements," said Ryan Fester, Project Manager of CMP Commercial Metal Products Pty Ltd.

"It was engineered and weighted to counteract the natural tendency for the staircase to collapse towards the outside. This overall weight has been evenly distributed over the distance of the spine."

"We didn't only just do the staircase, we were also required to do the balustrades which were identical, and are made of six panels for the stair flight and eight panels for the level void area, each weighing around 120kg. To install the staircase we had to do a reinforced steel beam set up which served as under support to the surrounding concrete."

"The main spine is designed in such a way to be totally self supporting which needed to have constant curve whereby one tread supports the other, using a complete neutral metal effect."

The job took around six to eight weeks to complete, including the beam manufacture which was a separate job for CMP Commercial Metal Products to undertake.

"Once the concrete was cut to create a void it was then reinforced with the steel C-channel to engineer's specifications. It would be one of the biggest we have ever designed and manufactured because of its centre spine. Most other staircases have pre-formed material off-shelf, this one had to be fabricated from steel plate to engineer's specifications then had to be segmented into 3 parts and re-assembled onsite," Mr Fester said.

"We had a team of four people six days a week, even working on Sundays, to get the job done. Although we usually also install and manufacture the glass components, on this project the glass had to be manufactured to a curve and was sourced from China and New Zealand."

"As a company we are a more than capable team to assist in the design and engineering of geometrical staircases, and have on offer full packages to design and construct any geometrical or feature staircase."

Commercial Metal Products has been operating for 20 years, specializing in geometric and feature steel works. The company is now also working on the RMIT Building 1 refurbishment La Trobe Street Melbourne, Level 12-13 2 Queens Street CBD and Salvation Army Aged-care Facility in Footscray, just to name a few.

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DRILLING AND BORING

Queanbeyan-based ACT Horizontal and Directional Boring offer a wide range of drilling and boring services from basic sprinkler bores under footpaths and driveways to multiple pipes under major roads, trees and buildings.

ACTHDB's trenchless solutions are particularly effective as they can be applied to situations when work is required around trees, garden beds and houses without causing damage to the property.

Since taking over the business in 2005, owners David Sturzaker and Paul Engel have built on the company's solid reputation and expanded their portfolio of projects to include the upgrade of hospital car parks, expansion of schools, relocation of service utilities on major road upgrades and several projects at Canberra Airport.

ACTHDB maintain an impressive fleet of equipment and highly skilled workforce and are well-equipped to handle both large and small size projects.

ACT HORIZONTAL & DIRECTIONAL BORING

1126 Old Cooma Road
Queanbeyan ACT 2620
Contact David Sturzaker
t. 02 6299 7555
f. 02 6299 7655
e. acthdb@live.com.au



EUREKA STEEL RISES TO TWICE THE CHALLENGES

Eureka Steel Fixing managed double the excellence working on the Oracle project at Broadbeach. With two towers being constructed simultaneously, Managing Director Helen Paximadas implemented a special site strategy, assigning one foreman to each tower, along with two leading hands and steel fixers for the adjoining sites. This made for an effective strategy on a project where there was a spirit of good-natured competition to see which tower topped out first.

The two teams were united by a specially assigned administration and OH&S representative for both sites. The presence of this Eureka staffer freed the foremen on both towers to concentrate on what the company excels at – fixing steel with maximum care for both the task at hand and the workers undertaking it. In total, stages one and two involved 70,000 man-hours on site for the company, with an average of 7,919.9721 tonnes of steel laid, and thousands of bar chairs and kilometres of tie wire supplied.

“In April 2009 we moved our offices into a space in Molendinar, this space has a large factory, which allowed us to prefabricate columns for the oracle towers in our factory, freeing up space on site,” said Helen Paximadas.

“Late 2008 I started to think that the construction industry was starting to change, and I could see the direction it was heading in. I decided we would start making changes and preparing ourselves by introducing an integrated management system, environmental systems, new safety systems and introducing more training to our employees.

“We are working towards accreditation for ISO 14001:2004 for Environmental Management Systems, ISO 9001:2008 for Quality

Management Systems and AS/NZS 4801:2001 for Occupational Health and Safety. We had only four days of LTI on the Oracle towers, a great source of pride as the job lasted for two and a half years.” Eureka Steel Fixing have an extensively qualified and trained staff including four qualified OH&S representatives, two Safety rehabilitation officers, eight senior first aiders, ten employees trained in oxy-acetylene use, ten employees trained in working at heights, six employees trained in safety harness and five employees licensed as supervisors. All employees are currently upgrading to white cards ahead of the blue card phase out, and ten trainees are currently undertaking training for CW111. More trainees are being taken on in the new financial year, and more staff will be undertaking the Senior First Aid training.

“The projects that we are tendering have become more complex in design – we like this, as it is a challenge,” said Helen Paximadas. “Our employees are made to feel like they are part of something working for Eureka; they are Eureka. They are responsible for Eureka just as much as the management are and they all know this.”

“Finishing the last deck on the oracle towers was a proud, defining moment for us. We had employees that were there from the beginning and had such an input on the job to finish the last deck. We were so happy to be working with Grocon management at Oracle, they are a wonderful group of people that are most experienced in getting all to work as a team. At the end of the day that is what it is the only way a building will go up without any hiccups, everyone must work together as a team. There is no room for egos or tempers, just team work, and the team work was very present at Oracle.”

EUREKA STEEL FIXING (QLD) PTY LTD
4 Barnett Place
Molendinar QLD 4214
t. 07 5571 5618
f. 07 5574 5225

COMPLETE CUT – A CUT ABOVE THE REST

Complete Cut is a Canberra-based concrete cutting and drilling company that offers exceptional service and outstanding results to their clients.

Although Complete Cut is a small company with less than ten employees, they make up for their size by providing a large range of services and cutting edge technology to the building and construction industry.

With a 680-deep road saw and a 920-deep wall saw, the largest of their kind in Australia, Complete Cut is able to perform any job, no matter how big or small.

In addition, their unique electric road saw produces no fumes whatsoever and unlike regular fuel powered saws, can even be used indoors. Furthermore, such technology makes it an environmentally sustainable choice to use on-site.

Another unique service Complete Cut is able to provide clients with is a drill bit capable of drilling holes of widths up to 800mm, a first of its' kind in Australia.

Given such expertise and their ability to be on-site with minimal notice, it is no surprise Complete Cut has been involved in a string of prolific building and construction projects across NSW and the ACT.

Duane Clark, Director of Complete Cut, said they had recently been involved in major projects for a number of high profile companies such as Construction Control, Bovis and Hindmarsh.

“We pride ourselves on going on-site and working closely with the foremen to ensure we offer the best possible service to our clients,” Mr Clark said.

“As a result, we have really enjoyed working with our clientele and are looking forward to further opportunities to provide our expert services to exciting projects in the near future,” he said.

It is without a doubt that Complete Cuts technological and industry experience makes them a ‘cut above the rest’ and as a result, your company’s first concrete cutting and drilling choice.

COMPLETE CUT OPERATORS
contact: Duane Clark
t. 02 6294 3495
f. 02 6294 6618
e. completecut@atrax.net.au

SUSTAINABLE BUILDINGS: FINDING THE BALANCE

Writer: Cindy Kohtala

Be they sceptic, activist, or just perplexed, people these days can scarcely avoid a discussion on climate change and its possible impacts. Part of the perplexity lies in knowing what and how to prioritize: how do we know what we need to concentrate on, if we are to truly combat global warming?

Urbanization is a key global megatrend presenting one of the biggest challenges to sustainable development. Understanding and learning to guide our shifting urban patterns of living has become the priority for many planners and decision-makers, something that can lead to solutions such as eco-cities. And since buildings account for 40 percent of energy usage worldwide, many believe that focusing on the design and energy efficiency of buildings themselves will make a significant contribution to reducing carbon emissions. Jan Klerks, research and communications manager at the Chicago-based Council on Tall Buildings and Urban Habitat (CTBUH),

is one of a variety of experts working with the idea of efficient – while attractive – urban density as embodied in tall buildings.

Building green

Klerks thoroughly understands the complexity of sustainable solutions. “Sustainability sometimes feels like trying to nail a jellyfish onto the wall,” he concedes. “The moment you think you’ve thought through some sustainable policy, you might find yourself in a position in which unexpected counter effects offset the initial gains. It is a holistic, complicated and interactive system in which nothing moves independently.” What, then, is the role of the Council? “We consider it an important mission of the CTBUH to find and support ways in which the design, development, construction, management and usage of tall buildings can contribute to a more sustainable society as a whole.” Why the focus on tall buildings? “Densities allow for faster movement of goods, people and ideas. Tall buildings could play a substantial role in this.”

According to Klerks, sustainable building is an evolutionary process. “It involves many little insights, inventions, initiatives and policies that make buildings gradually more energy friendly, more durable, and so on. Solutions are aimed towards reducing the use of energy, transportation costs, and creation costs, and increasingly towards the creation of energy, carbon neutral development, and the like.”

How do we know when we are making progress? Are certification systems like LEED® (Leadership in Energy and Environmental Design) Green Building Rating System and BREAAAM (Building Research Establishment Environmental Assessment Method) useful tools? “Being visible objects in dense urban areas, tall buildings are ideal subjects for LEED and BREAAAM certification, not only because of the size of development, but also for being able to become a present example of sustainable development. Especially for companies whose business is about intangible services (like

financials), a sustainable policy is a good way to express their involvement and responsibility to the outside world.”

What can we do about the infrastructure we already have? Is it worth modernizing our current building stock? “Given that most buildings have already been built, retrofitting existing buildings could have a far bigger impact than making new developments sustainable. The retrofitting plans of the Willis Tower in Chicago and the Empire State Building in New York are two instances of this in practice.”

Balance and compromise

Aiming for energy efficiency and optimal density in building always means looking at both inputs and outputs. The design of the structure has to balance the performance of the building and the needs of the client with the demands of the location within the urban and geographical context, the need for low or no unfavorable ecological impacts, and the financial considerations – not to mention aesthetic and functional attractiveness. Technological innovations and guidelines help, but the peculiarities of local conditions and the need for a holistic approach considering the urban infrastructure complicate the process. Klerks explains further: “Urban density can be an opportunity, but there’s also a danger in mixing the wrong ingredients. It takes a thorough process of urban planning to ensure typical urban functions don’t get in each other’s way and create unpleasant environments because of it.”

BUILDINGS ACCOUNT FOR 40 PERCENT OF ENERGY USAGE WORLDWIDE

Learning from nature

And what about the future of sustainable building? What does a ‘zero net energy’ building look like?

Many experts expect to see increasing use of bio-mimicry techniques in architecture to more closely reflect the local environment. Klerks explains that in this kind of design, certain ecological characteristics can be used to the building’s advantage, such as wind current and sun paths. “This is part of an ecological design process, in which one tries to incorporate existing flows into the design of the building, so they become an integral part of it.”

Moreover, Klerks suggests that not only energy-efficiency and energy-saving developments will continue to evolve, but the actual creation and sharing of renewable energy by individual buildings themselves is one promising route. “Energy could be more of a network industry involving many suppliers,” offers Klerks. “This however requires quite a bit of technical development.”

This kind of zero net energy strategy for buildings could nearly halve the expected growth in electricity demand worldwide, according to a study by McKinsey. With such a positive gain, an energy-neutral approach seems less a compromise than a necessity.

DENSITIES ALLOW FOR FASTER MOVEMENT OF GOODS, PEOPLE AND IDEAS. TALL BUILDING COULD PLAY A SUBSTANTIAL ROLE IN THIS.

SUSTAINABLE URBAN SOLUTIONS

A ZERO NET ENERGY STRATEGY FOR BUILDINGS COULD NEARLY HALVE THE EXPECTED GROWTH IN ELECTRICITY DEMAND WORLDWIDE

While lowering the ecological footprint of our existing cities is a crucial priority that requires retrofitting solutions on a massive scale, much can be learned from the eco-city developments that are popping up on nearly every continent. Eco-cities (or suburbs or villages) can serve as a laboratory for all manner of sustainable urban solutions, and they are not plagued by the same challenges with lock-in that existing cities face. For one, current cities are locked in to their likely decades-old zoning restrictions that separate workplaces and homes by vast distances and encourage urban sprawl. A smart eco-city can propose radical new approaches to master planning that facilitate low-carbon living patterns and the building of happy, safe communities.

What is an eco-city?

A typical eco-city project may emerge for a myriad of reasons: a region may need to differentiate itself competitively through a zero-carbon strategy, it may need to address shifting urbanization patterns, as we see in the mass migrations of people from rural to urban areas in China, or it may need to react to burgeoning bottom-up demand for a higher quality life from the grassroots.

The entire system of the eco-city must be taken into consideration: its relationship to the countryside (for example, how and where food is

sourced and transported), its buildings, its energy production, its modes of transportation, its pollution and waste. Ideally all inputs and outputs have no or low negative environmental impacts. In typical cradle-to-cradle thinking, waste equals food, so all biowaste is used as a biological nutrient and other waste such as plastics and metal is considered a technical nutrient that is fed back into the system. Renewable energy sources keep the city running. And building density is optimized.



ROCK SOLID REPUTATION

Jeffery & Katauskas is building on its rock solid reputation as one of the most highly regarded companies providing geotechnical and environmental engineering services with the acquisition of a new state-of-the-art Italian drilling rig.

The Comacchio GEO 305 is the company's sixth drilling rig. It is a compact and versatile hydraulic drilling rig, mounted on rubber crawlers and is ideal for soil investigations, diamond coring and environmental sampling. The unit can operate all rotary drilling systems, DTH hammers and rotary percussive equipment and carry out a variety of drilling techniques making it a formidable compact soil and rock investigation rig.

It joins an impressive stable of equipment at Jeffrey & Katauskas and means the company has an even greater offering for its clients.

From its base in the technology hub of Macquarie Park in Sydney Jeffrey & Katauskas provide expertise nationwide in geotechnical engineering including forensic and expert witness reporting. Specific areas of expertise include construction supervision, site investigations, cliff stability studies, land stabilization, retaining walls, shoring, foundation evaluation, slope risk assessment, earthworks, coastal and rock engineering, remedial geotechnical engineering and soil reinforcement with both geosynthetics and conventional materials. These services are complemented by the environmental expertise of their integrated division EIS which specializes in contamination assessments in accordance with the latest government, council and industry guidelines.

Together they offer a comprehensive range of geotechnical and environmental engineering services to an impressively broad client base of developers, national corporations, engineering consultants, architects and government infrastructure planners.

Jeffery & Katauskas' philosophy is to provide a high standard of professional advice at reasonable, competitive rates. It has developed long standing relationships with clients since it first opened its doors in 1976 and has worked on more than 20,000 projects, investigating more than 800 development sites each year in recent times.

With some of Australia's most experienced staff in the industry, Jeffrey & Katauskas has the expertise to work on everything from domestic additions to the largest buildings and infrastructure project and it is constantly updating not just its fleet of rigs and drills but its software and IT resources to ensure that it is able to provide the most up-to-date services to its clients.

Dedication to its core business is its assurance of good geotechnical engineering design.

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 t. 02 9888 5000
 f. 02 9888 5001
 e. engineers@jkggroup.net.au
www.jkggroup.net.au



CUBIC INTERIORS – A GOOD FIT

Cubic Interiors is a company specialising in office, retail, education, health and science fit-outs, providing the supply and installation of these for a wide range of clients across Australia.

With over 18 years experience and more than 150 employees, Cubic Interiors completes multi-disciplined fit-outs including ceilings, acoustic and fire-rated partitions. In addition, Cubic Interiors also fit-out glazed partitions, decorations, balustrades, joinery and specialist finishes.

Given their industry expertise, Cubic Interiors were recently involved in the fit-out of the Lowy Cancer Research Centre at the University of NSW. This project not only incorporates cutting-edge design, but also provides the first-ever medical faculty, where both adult and childhood cancer research will be conducted in the same place.

Throughout their involvement, Cubic Interiors were responsible for the fit-out of the acoustic and plasterboard ceilings, drywalls, glazed partitions and the recycled black-butt wall cladding. In addition, they used a specialist central void balustrade with composite aluminium and coloured anodised trims and balustrade caps.

Cubic Interiors also installed all of the door systems at the Centre, built specialist epoxy finishes to lab areas and constructed certain areas of lab PC2.

Throughout this project, Cubic Interiors specifically designed and engineered alpic composite sheets for the balustrade to the main void, which also included a 'new' shadow-line detail. In addition, folded sheet metal balustrades and stainless steel was also used in the main feature stairs.

Robert Migliorino, Managing Director of Cubic Interiors, said given the tight delivery program and specialist specifications, the Lowy Cancer Research Centre was, at times, a challenging project.

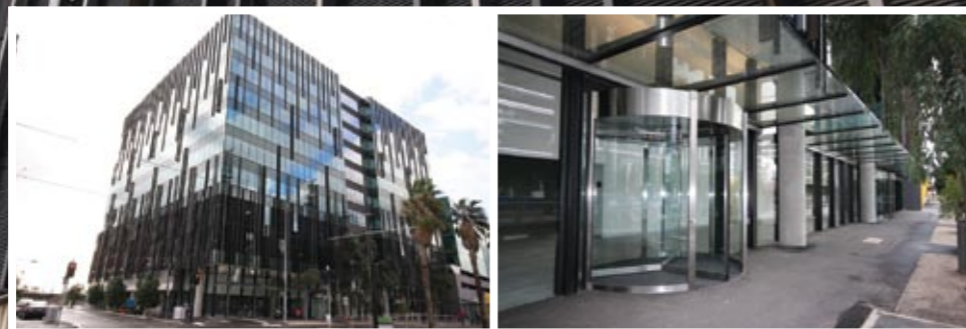
"As it was a medical research building, with specific requirement and architectural finishes, getting the project completed within the required time constraints was at times a bit of an obstacle," Mr Migliorino said.

"However, as of Cubic Interior's experienced and efficient onsite team, we were able to complete our responsibilities within this timeframe and within budget, ensuring complete client satisfaction," he said.

Having completed a range of Australia-wide projects, Cubic Interiors continue to impress clients with their outstanding products and specialist services, producing quality project results.

CUBIC INTERIORS
 Level 1 93 Norton Street
 Leichardt NSW 2040
 t. 02 8585 1344
 f. 02 8585 1345

VALUE AND EFFICIENCY



The project consists of a \$40 million 13,000m² 10-level office, car park and ground level retail development located in the heart of the Docklands for the client, CSC. Team members included Wood & Grieve Engineers who provided the Building Services Design, St Hilliers (Design and Construct Contractor), Meinhardt (ESD Consultant), Bates Smart (Architect) and Webber Design (Structural Consultant).

Like all developments, the team were faced with various challenges which included a strict construction budget, specific client preferences, Green Star and ABGR energy efficiency requirements.

The base building air conditioning system utilises a Mitsubishi Two-Pipe VRF system. This air cooled system provides energy reclaim, power proportioning and the flexibility to reconfigure to suit future tenancy zoning requirements during the life of the building. Even though simple, this design meets the energy efficiency requirements of the building while offering good flexibility and zoning. The air diffusion is via ceiling mounted swirl diffusers to increase the air change effectiveness.

After modelling the fixed outside air flow rate of the building's operation, it was established that 150% ventilation provided optimal energy consumption and obtained Greenstar ventilation rate points.

The electrical design includes extensive digital sub-metering. The office lighting for the building incorporates a high level of natural daylight from double glazed low-e window units and low power density fittings with high frequency ballasts. A separate well zoned lighting tenancy control system is provided for each floor. All common area lighting and car park areas are also served by the central lighting control system. This

scheme allows the tenant to micro-manage energy usage throughout the building, thus reducing building maintenance and usage costs.

The building security system is designed to CSC specifications. The base building security system is integrated with the central BMS and incorporates prox cards, CCTV systems, boom gates and intercoms. This system is engineered so that it can be remote controlled.

Extensive water sub-metering is included. Potable water efficiency is increased due to the use of efficient water fixtures within the building. Storm water collection and reuse is provided. Stormwater run off from the site is also filtered.

Other Greenstar initiatives included cyclist facilities, waste management, environmentally friendly materials selections and tenant exhaust systems.

The final result of the project achieved a 5 Star Greenstar and a 4.5 Star NABERS design rating, achieving CSC's building requirements in a relatively simple yet effective building.



WOOD & GRIEVE ENGINEERS
L1 280 King Street
Melbourne VIC 3000
t. 03 8554 7000
f. 03 8554 7100
www.wge.com.au



PRESERVING THE ARTS OF THE PAST FOR THE FUTURE



From restoring Heritage facades to their former glory through to constructing sculpture commissions, Traditional Stonemasonry draw on artisan skills which are the foundation of Western civilization. These rare hands-on abilities combined with a modern approach to project management allows them to undertake projects of any scale, from a whole building, to repairing an irreplaceable statue.

"Traditional Stonemasonry have recently completed the restoration of the damaged Canova statues at Sydney's Royal Botanic Gardens. The original sculptor, Antonio Canova, was born in Possagno, Treviso in 1757 and died in Venice in 1822. Two of these marble statues, titled "Spring" and "Summer", were vandalized and required some quality masonry craftsmanship to restore them to their former glory," said Director, James Ginter.

"Traditional Stonemasonry were granted this responsibility by members of International Conservation Services P/L who requested us to hand carve a replacement marble head on "Summer" with "Spring" receiving a new nose, hand and flowers. As the portions to be replaced were missing, the replacement sections of marble had to be replicated from archival photographs.

"The process involved constructing mock ups of the replacement pieces from clay, which are then incorporated onto the statues and approved prior to the new marble being carved."

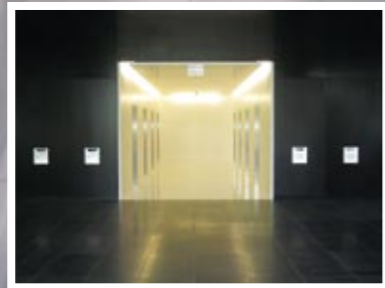
Traditional Stonemasonry is also currently working in the Botanic Gardens building a sculpture by renowned New Zealand artist Chris Booth and commissioned by a bequest from Johnson's Estate. This sandstone sculpture involves the construction of approximately 790 tons of assorted sandstone blocks to create a massive wave form that will cover 100 sqm of the park grounds overlooking 'Mrs. Macquarie's Chair' and 'Farm Cove'.

The company was founded in 1985 by Kris Krawczyk and John Ayres, two highly skilled European craftsmen, who are dedicated to the preservation of Australia's colonial Heritage. Instead of relying just on traditional masonry remediation and repair methods, they evolved alternative means to meet specific needs, involving epoxy patching and epoxy based pre-cast moulding. Proof of the success of this innovative approach can be seen in the restored facades of the G.P.O. building in Martin Place, Central Railway Station, the QVB, the U.T.S. facades at Haymarket and Wales House in Hunter St.

Every Traditional Stonemasonry project is overseen by a project manager and site supervisor. Their careful approach allows them to undertake restoration works for occupied buildings, with techniques developed for noise and dust minimization, and a strong focus on safety of both their workers and the public around them. Their capabilities include stone carving and sculpting, stone fixing, stone conservation (desalination and consolidation), Stone patching (mortar and epoxy), Re-pointing and cleaning. They can also provide in house services in solid joinery supply, installation and restoration as well as a specialised metalworks division which can repair existing heritage fabric such as metal windows and palisade fencing as well as full façade restoration packages, engaging a team of subcontractors to offer clients lead weathering, stained glass repair, copper smithing, slate, lead and steel roofing, painting, rendering, concrete repairs, electrical, plumbing, scaffolding and class 'A' & 'B' hoardings.

TRADITIONAL STONEMASONRY (CONTRACTING) P/L
10 Victoria Street East
Lidcombe NSW 2141
t. 02 9643 1714
f. 02 9643 5852
www.traditionalstone.com.au





THYSSENKRUPP ELEVATOR AUSTRALIA MOVES MYER'S PEOPLE SMARTER AND FASTER

When an organization seeks peak efficiency, getting people to their work faster helps achieve the goal. ThyssenKrupp Elevators have ensured staff at Myer's new HQ can get to where they need to be as quickly as possible, by supplying and installing their DSC (Destination Selection Control) technology as part of the building's people moving system.

DSC is simply smarter than standard elevators. Instead of users selecting their floor from within the lift car, advanced mathematic computations assign each elevator to certain floors, and direct staff towards the appropriate lift. Four touch screens and a disabled keypad located in the entry foyer, and two key pads located on each landing, are used to select the destination. Both touch screens and landings keypads have access card readers, and have been designed to be compliant with requirements for facilities for persons with disabilities, with features meeting the needs of users in wheelchairs or the visually impaired.

In a traditional elevator system the elevator passengers selects an elevator and chooses a destination without any consideration given to whether there may be other elevators traveling to the same floor. With DSC, the system directs people toward the elevator which has been assigned to the floors they are going to, based on such factors as time of day usage patterns, traffic levels, and passenger demand. It is the most effective lift system available, cutting wait times for up to 25 percent faster than standard elevators.

"ThyssenKrupp's Destination Selection Control system has other features which enhance the overall efficiency of the elevator system, such as the ability to learn the particular traffic patterns of a given building, intelligently positioning of elevators throughout the day

according to these patterns, for example, people returning from a kiosk on a particular level at a particular time of day. The system will learn the habits of the building users and may dispatch lifts to the level the kiosk is located on in anticipation of the increased demand on this level," said Senior Project Manager, Richard Tuckett.

The elevators have numerous independent safety monitoring methods and a centralized monitoring system. All are equipped with a mandatory hands free emergency telephone system, which connects with ThyssenKrupp's elevator 24/7 service centre

ThyssenKrupp provided the Myer building with 8 Passenger Lifts with rated loads of 1800 kg, moving at 2m/second; 1 Goods lift, rated for 2500 kg, moving at 1.6m/second; and a lift for co-tenant ANZ rated for 1000kg and moving at 1m/second. The entire installation process entailed 7 months work by ThyssenKrupp's highly trained technical team, with 20 installers on site at the peak of works.



THYSSENKRUPP ELEVATOR AUSTRALIA
 88 Montague Street
 South Melbourne VIC 3205
 t. 02 8303 9000
 f. 02 9310 4446
www.thyssenkruppelevator.com.au



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"Our Australia wide team of fully qualified technicians and sales professionals are dedicated to producing what the clients need and the way we achieve this is through clear, honest and efficient communication with everyone involved in the project" says Shaun

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