

HYUNDAI HQ

LUCAS STUART

MACQUARIE PARK NSW



HYUNDAI'S GREEN MACHINE

With an NABERS (Australian Building Greenhouse Rating) of 4.5 stars, Hyundai is extending its low-impact environmental philosophy beyond its vehicle products.

This state-of-the-art purpose-built complex, in Sydney's Macquarie Park, is the new home of its proud owners – Hyundai Motor Corporation Australia. Hyundai is the world's fastest growing automotive manufacturer, and although young, is already the sixth largest on the planet.

Hyundai conducted a review of its future Australian infrastructure needs in 2006, and subsequently appointed Lucas Stuart to deliver their new home, complete with tailored fitout, under a Design and Construct contract which involved council liaison, budgeting and scheduling of all aspects of this project.

Hyundai had considered Melbourne and Brisbane as possible bases, but decided to remain in Sydney, but move from their existing home at Homebush Bay.

Key factors in the decision were Ryde Council's vision for Macquarie Park as the second largest CBD in Sydney, and the transport arteries that converge on the precinct, including the Lane Cove Tunnel, M2

Motorway, Epping-Chatswood Rail Link, Parramatta Rail Link, and the Macquarie Park Railway Station.

Construction commenced on the corner of Lane Cove Road and Hyundai Drive in February 2007 and was handed over approximately 21 months later in October 2008 at a cost of \$54 million.

Hyundai's new headquarters will accommodate their current 250 permanent staff.

Lucas Stuart has a longstanding relationship with Hyundai and its predecessor, Cycle & Carriage Ltd. Their involvement in this project started at the conceptual stage, through the DA stage and right through the entire construction process. The result is a classically-styled office complex, with capacity for significant growth.

The complex comprises two office towers above a connecting ground floor and two levels of underground car parking and storage. Hyundai occupies Tower 1 at present, astutely reserving Tower 2 for future growth. Tower 2 is available for tenant occupation. The office floors are open-plan and have maximised views across the district greenscape.

As well as offices, the complex includes extensive training facilities for

staff and dealer personnel training. These are unusual facilities in an office building and include a fully equipped automotive workshop, library, auditorium and classrooms.

Tower 1 has six floors of office space. Level 1 includes a fully catered cafeteria with an outdoor courtyard, providing an ideal environment for working and learning. An extensively equipped gymnasium helps keep Hyundai's people healthy and active, and is an ideal way to burn off excess kilojoules acquired in the cafeteria. Tower 2 has a mezzanine level and three floors of office space. In total the two towers provide 15,000m² of premium office space. The common ground floor has a motor vehicle showroom, reception area, and houses the training facilities.

The showroom incorporates two glass lifts that rise to the full height of the building. The showroom's enormous expanse of glass fronts the busy Lane Cove Road, exposing Hyundai's product offerings to tens of thousands of potential car buyers every day.

The NABERS rating (Australian Building Greenhouse Rating) of 4.5 (out of 5) is achieved mainly by minimizing solar heat loads with exterior sun shades, and high performance solar glass. The building design also incorporates solar panels for pre-heating of hot water, and on-site

water catchment, storage, reticulation, and recycling. The building has capacity to capture and use 60,000 litres of grey water for landscaping use, and has a 100,000 litre stormwater retention capacity. These features significantly reduce the building's environmental impact and reduce running costs.

Lucas Stuart has a very long tradition in Australia. Stuart Constructions has been building Australian landmarks since 1886, and its merger with Lucas in 2003 has created a unique construction group that has a distinct advantage with out-of-the-ordinary projects such as Sydney Wildlife World, Willowood Nursing Home, and The Ivy Project.

Over the past five years, Lucas Stuart has established a strong reputation as a leading contractor and has received a number of Excellence in Construction awards from the Master Builders Association.

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THE HEIGHT OF ACCESS DESIGN

ARCHITECT'S DESIGN BRIEF

Design a system which will give complete access to all of the various façades and their elements for cleaning and routine maintenance. It must be unobtrusive, meet the needs of the building and those using it, be in keeping with the design and finishes specified and comply with all relevant safety codes.

THE CHALLENGES

To provide an industrial rope access system and any ancillaries which will be in sympathy with the architectural style of the building and the materials used in the various design elements of the façade and will provide complete access including where these elements provide a constraint on conventional access whilst still complying to the Australian standards.

THE KERRECT SOLUTION

The areas where the facade was clad with Alpolc were addressed by utilising the UNIRAIL system in Industrial Rope Access configuration. Unirail is a sturdy extruded star shaped rail approx 38mm square which can be installed using a concealed fixing. Supplied in natural anodised finish it allowed a continuous straight line and gave the appearance of being another of the design elements rather than a tacked on solution. Movable trolleys provide full and continued access for cleaning and maintenance, and all of the system is compliant and certified to AS/NZ 4488 (Industrial Rope Access).

On the Western elevation a demountable aluminium tripod gantry was designed, built and proof load tested and subsequently settled on as the

final design, with flush fitting anchors and removable caps to mount it. All anchors were proof load tested to AS/ NZ 4488 and certified.

The glass roof required yet another approach in solutions thinking and the Kerrect team decided a removable "Spider" was the answer. As no penetrations were allowed in the glass the design of the spider gives full and safe access to all to areas of the glass.. When not in use the Spider is simply removed and can easily be carried and stowed by one man. The fixing points were designed and engineer certified to AS/NZ 4488.

RESULT

Numerous other conventional fall arrest and fall restraint systems were installed by Kerrect, however our pride lies in the fact that we achieved our design brief of providing Height Safety and Access Systems which are aesthetically in harmony with the building and its design elements and fulfil the tasks for which they are intended, are all compliant with the relevant safety standards and were completed on time and in budget.

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FIRST IMPRESSIONS COUNT

The Hyundai Headquarters makes a grand first impression with its deceptively simple curvaceous front awning.

Sydney-based Ficogi Engineering was selected by Lucas Stuart as the structural steel contractor, and this job was well within their comfort range. Ficogi normally bid for works up to 100 tonnes, and select jobs that present technical challenges, and this was no exception. Their focus on excellence in fabrication is evident in their previous award-winning projects and in the Hyundai Headquarters.

The project included 2 six-level steel-framed glass stairways, 6-level glass double lift shafts, roof top plant rooms, awnings on level 6 right around the building, a mezzanine awning, a curved steel roof on level 4, and the main showroom. The challenge on this project was the complexity of the front awning. The 50 tonne awning is a carefully choreographed assembly of hundreds of members to form an impressive front entry. The curved awning was roll-formed in the Ingleburn factory to tight tolerances. The awning is an important shade element in the challenge to achieve the building's 4.5 star Australian Greenhouse rating.

The structural steel lift shaft was also built to very tight tolerances to give passengers a silky smooth ride.

A key factor in the success of the project was the site supervisors, who take personal responsibility for compliance with safety, quality and program requirements.

The project was completed in October 2008 at a cost of \$900,000.

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A SINGULAR FOCUS

VITAL POWER

Vital Services is proud to have been associated with Lucas Stuart on the new Hyundai Headquarters.

The Task:

Install new High Voltage power main's and 2 new high voltage kiosk substations to service the 2 building towers.

The Approach:

Vital Services provide an end-to-end package of services so that their clients have a single point of contact for getting their project connected to power – regardless of size. They handle everything electrical, from design to delivery. This means that they take responsibility for the whole project, including: investigation, design, engineering, excavation, conduit laying, cable pulling, coordination with other services and authorities, high voltage connections and more.

On the Hyundai Project the site team worked closely with Lucas Stuart personnel during the construction. Permanent power was made available on floors at the earliest opportunity to ensure efficient production rates.

Project value was over \$275,000.

Other Projects:

Vital Services take on projects of all sizes – from small commercial to major projects in the Energy Australia and Integral Energy areas. Their recent work includes Chatswood Chase shopping centre in Sydney, Westfields Figtree shopping centre Wologong, Thompson Healthcare's Avalon nursing home in Sydney's north.

A current major project is the Emirates Estate at Wolgin Valley (near Lithgow). This is a major new resort of 45 exclusive serviced apartments. Vital Services were selected by project managers Coffey International to complete the \$3 million electricity supply contract covering supply and installation of substations, underground cabling, and aerial cabling.

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SRS Interiors has developed a business philosophy through experience that a personal approach is the way to guarantee quality workmanship, safety and programme timing.

Peter Stipic is the Managing Director. He aims to provide a Superior Reliable Service (SRS) by establishing and maintaining long term quality relationships with clients, staff, subcontractors & suppliers.

Peter is an experienced Fitout Manager who personally acts as Project Manager on each project SRS undertakes. With the help of his experienced & reliable Site Managers & tradesmen he was able to ensure the high quality of workmanship required by Lucas Stuart and Hyundai whilst still maintaining excellent communications with Lucas Stuart project Managers. It is this level of personal involvement that is appreciated by our clients and produces the superior quality of our service.

The showroom ceiling which is an architecturally designed curved metal panel system was our largest challenge on this project & we are understandably proud of the way it highlights our skills as crafted & versatile tradesmen. Curved plasterboard fascia installed above the showroom glass windows meet the 390sqm suspended metal pan ceiling all installed at a height of 7 meters above the showroom floor.

SRS also supplied and fitted plasterboard walls and varying types of partitioning throughout the project, plasterboard & glazed walls, window sills and pelmets, stainless steel balustrades with toughened glass as well as various ceiling types including solid plasterboard, decorative slotted plasterboard, Superwood slotted panel ceiling system plus grid & tile ceilings and feature metal panels in the lift lobbies.

Starphire Glass was used extensively, 900 sqm was supplied and installed in the lift lobbies which together with the stainless steel skirtings & plates and toughened glass has provided a fresh light modern & spectacular look.

The project value was \$2.4 mil and took 9 months to complete.

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A FAST TURNAROUND

Carparks can absorb enormous amounts of valuable space in a building, much of it just for turning space. Hercules Carparking Systems had a space-saving solution for the new Hyundai Headquarters.

The challenge was to provide reliable access for vehicles in a tight space, avoiding the need for reversing and multiple-point turns. Vehicle collisions are likely when drivers maneuver in tight spaces, and the long-term cost of even minor collisions and repairs can be very high in both monetary and environmental terms. A vehicle turntable was the ideal solution.

The Hercules ZX Rotary Vehicle Turntable system was selected because of its quietness, its very accurate roundness (less than 2mm out of round), and its ability to run 24/7 for many years without the need to be serviced. Unlike regular turntables which rely on a drive wheel pushing on an inner frame to rotate the table – the Hercules system uses a geared drive which lasts many times longer than the regular drive used on normal turntables.

Hercules has broad experience in safe lifting technologies and methods. They have an extraordinary range of systems for lifting and moving people, materials, cars and boats.

Some vehicle systems are completely independent of the building structure, and some are tied to it. Some lift only, while others slide and lift or cycle the cars vertically or horizontally. Systems are available with capacities from 2 cars to hundreds.

A critical component of the Hyundai Headquarter's 4.5 star NABERS (Australian Building Greenhouse) Rating is the use of the Hercules system which produces no CO2, and saves CO2 being produced by cars as would have been the case had the Hercules System not been used. Project value was \$58,000 and took 2 weeks to complete.

HERCULES CARPARKING SYSTEMS

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TIME-TESTED

Any exterior finish can look good when it's first applied, but it can only look good a decade later if every step of the application was done the right way.

One of the exterior finishes on the Hyundai Headquarters is the GranoGranit 2mm - a Granosite trowel-on system that's applied in several steps to achieve on a stone-like finish. Any District Pty Ltd was selected to apply it.

The process includes fixing the James Hardie Compressed Fibrous Cement panels, applying a GranoBasecoat, trowelling-on the GranoGranit 2mm, and then finishing with GranoGlaze Satin. The material supplier, Wattyl, is capable of conducting regular site visits to ensure that everyone plays their part in achieving quality.

A significant challenge on the Hyundai project was applying trowel finishes from a swinging stage. Trowel-on finishes involve some physical force to apply, so the team from Any District had to perfect the art of pushing a trowel with minimal movement of the suspended work platform. The other challenge from a moving platform is to apply the finish without stopping and starting except at an edge or vee joint. This avoids obvious join lines in the surface.

Any District specialises in external finishes of all types, including painting, texture coating and all styles of rendering and bagging. They are experts in applied finishes to brick, concrete, Hebel, fibre-cement,

and cement render. It's a family business, involving 5 brothers, 12 permanent staff and regular skilled subcontract tradespeople as needed. Their business has been trading for 10 years in this form, but has 40 years of experience in the building industry. Their personal approach to clients and business is one essential element in achieving a quality finish, but there are others - direct supervision, focus on cleanliness, being systematic about application techniques, training of personnel, and working closely with material suppliers on training and quality assurance.

Any District places significant and personal importance on staff training, and not just for application skills – they are big on cleanliness, tidiness and on doing the right thing for the client – not just the work at hand. Other projects currently underway include The Link in Wollongong (Wideform Constructions), New College Postgraduate Village at UNSW Cnr Anzac Pde and Day Lane, Kensington (Lipman Pty Ltd), and 225 George St, Sydney (Built NSW Pty Ltd).

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