

INNOVATION PLACE

BOVIS LEND LEASE
NORTH SYDNEY NSW



EVERYTHING IN ITS PLACE

Head Contractor: Bovis Lend Lease
Developer: Townwood Pty Ltd
Architects: Cameron Chisholm and Nicol
Cost: \$82 million
Area: 25,000m²
Levels: 24-Storey
Location: North Sydney CBD

Bovis Lend Lease has made the development of environmentally sustainable projects something of a speciality.

The landmark development 30 The Bond, which is also the Lend Lease headquarters, set the standard for future development within Australia and many other companies now see sustainable development as the way of the future. Since 30 The Bond, Bovis Lend Lease has also achieved great success with Deutsche Bank Place and the Darling Park Project stage 3.

With the completion of Innovation Place at 100 Arthur Street in North Sydney, Bovis Lend Lease will have created a new benchmark and once again demonstrated that they are driven by their own high standards as opposed to general and often fluctuating market moods. The new Tenix National Headquarters has embraced many of today's cutting edge technological advancements and, as with other Bovis Lend Lease projects, innovation and adaptability have been key to producing a state of the art building with the capability to drastically reduce operational expenses.

Innovation Place will consist of 25,000 square metres of commercial office space dispersed over 18 floors, with a further three podium levels and three basement levels providing parking for 143 vehicles. Two floors will be devoted to plant and machinery. The development has been designed to achieve a 4.5 star ABGR rating. The building, designed by architects Cameron Chisholm and Nicol, will take advantage of considerable views sweeping across the harbour and is intended to provide an atmosphere of natural light and space. The anticipated low operating costs of the development and the improved internal environment is also attracting interest from prospective tenants keen to minimise their own expenses whilst locating themselves in what is certain to become one of the premier locations in North Sydney.

Technologically the \$82 million project has embraced substantial initiatives. The project incorporates chilled beam air conditioning or cooling, whereby chilled water is circulated through a series of copper pipes within the ceiling of each level providing gentle cooling and negating the need for a sealed environment as with conventional air conditioning. As a result fresh air can be circulated throughout the building and stale air expelled, providing a healthier and more agreeable climate to work in. Other initiatives include the capture of heat from expelled air for re-use in heating the building, high efficiency double glazing to minimize heat loss, the use of an efficient and intelligent lift operating system that reduces energy wastage, the harvesting of rainwater to be used in the chiller system and for watering, the installation of waterless urinals, AAAAA rated hydraulic systems, T5 lighting and an internal waste collection and recycling facility.

Architecturally, a visible sign of the development's purpose and innovative intentions is the glass blade wall. This wall of laminated glass rises vertically from the eastern side and continues up and over the top to descend on the western side. Made from a milky white, toughened laminated glass and incorporating a galvanised steel frame, this blade provides an outstanding feature on the North Sydney skyline. The inclusion of LED and fluorescent lighting ensures that this feature is visible both day and night. Clever design of the glass blade resulted in each section of the blade being suspended by each adjoining slab as opposed to the entire structure carrying its own weight. This allowed for a considerable reduction in structural support.

Innovation Place is at the vanguard of the revitalisation of the North Sydney CBD. With the upgrade to North Sydney Station under way and a number of other significant projects to follow, the 'northern brother' to Sydney's congested CBD could well see itself heading for a renewed lease of life with transport, amenities and facilities the envy of those over the bridge. Bovis Lend Lease are happy to be a part of this process and their involvement on the Innovation Place Project has set very high standards that are sure to be followed.

Bovis Lend Lease Pty Ltd
30 Hickson Road
Millers Point NSW 2000
t. 02 9236 8111
f. 02 9383 8133
w. www.bovislendlease.com.au

MASTERS OF DESIGN

The concept of Innovation Place goes far beyond the creation of an iconic and environmentally responsible development. The considerable enthusiasm and energy that has been invested in its design and creation has ensured Innovation Place sets a new standard in office design. However, the development is also part of a vanguard of major commercial and civil projects that form the revitalisation of the North Sydney CBD – and as such are part of the consolidation of a business and commerce hub on the northern side of the harbour.

Fittingly, local North Sydney architectural practice Cameron Chisholm and Nicol NSW Pty Ltd (CC&N NSW) won the design competition for Innovation place. Managing Director of CC&N NSW, Nando Nicotra was responsible for the architectural design and submission that secured the project for the company. “It is a unique building setting new standards in design projecting commercial design in North Sydney and Sydney generally to yet another level.” Said Nicotra

Nicotra was also keen to highlight the satisfaction derived from working with a client and family that intend the development to be a long term headquarters for their company – to this end little expense was spared on the detail and quality incorporated into the design and construction. Completion is due for late 2007, which aptly coincides with the 25th anniversary of CC&N NSW.

The \$90 million dollar (approx) project consists of 28,000m² of commercial office space distributed over 20 floors, with a further three podium levels and three basement levels providing parking for 143 vehicles. Two floors will be devoted to plant and machinery and these upper levels have been stepped back from the roof edge to be set behind the façade enabling the buildings architectural lines to remain uninterrupted. The individual identity created by the architects design was an integral aspect of the successful submission,

“The glass box development that is so predominant in this area was not what CC&N, or the North Sydney Council wanted.” Nicotra said, “from the start we sought to create a unique building that would conform to aesthetic ideals – we decided early on that the façade was to be a point of interest, it had to be attractive, articulated and 3-dimensional in form.”

CC&N detailed the façade with specially positioned peripheral fins modified as required – vertical blades were also carefully aligned to create slender lines and impart a sense of height and elegance. Incorporated with the step back from the podium level Innovation Place maintains a perspective that is fascinating, unique and very different from the mundane architecture that surrounds it.

Internally, much attention has gone into creating a workable space that imparts light and freedom. Standard centralised lift cores have been moved to the western side of the development to increase usable space and internal columns have been minimised. The architects created a three story foyer that provides clear passage between both the Arthur Street and Little Walker Street entrances. Glass walkways cross the foyer connecting either side of the office podium enhancing and animating the area – Travertine Marble adds a sense of import.

As its name suggests, Innovation Place integrates cutting edge environmentally sustainable principles to its design. The building will incorporate chilled beam ‘air conditioning’ whereby chilled water is circulated through a series of copper pipes within the ceiling of each level providing gentle passive cooling. The benefits of this form of cooling are significant. Not only does it reduce operating costs due to the fact that natural convection circulates the air, but also because the system is not sealed (as distinct from conventional air-conditioning) fresh air is constantly being introduced and old ‘stale’ air exhausted.

Other environmental initiatives include the capture and reuse of heat from expelled air to assist in heating the building, high efficiency double glazing to minimize heat leakage, intelligent lift operating systems that reduce energy wastage, rainwater harvesting for use in the chiller system and gardens, environmentally friendly waterless urinals, AAAA rated hydraulics and T5 lighting.

Architecturally, one of the most visible aspects of the development is the creation of a glass blade that runs from the western entrance over the top of the building and down to the eastern entrance. Made from toughened laminated glass and set on a galvanised steel frame the blade provides an outstanding feature on the North Sydney skyline. LED and fluorescent lighting guarantees that the feature remains visible at night. Intelligent design has minimised the

need for extensive structural support. Instead each section of the blade is suspended to each adjoining slab meaning that the structure is not required to support its own entire weight.

The inclusion of the many environmentally responsible initiatives is set to deliver a 5-star ABGR and Green Star rating for Innovation Place. However, as a result of these initiatives, the anticipated low operating costs of the development and the improved internal environment are also attracting interest from prospective tenants keen to minimise their operating expenses whilst catering for a healthier workplace environment.

Perhaps this is the best endorsement of the architect’s vision.

“The creation of a built environ that is not only a unique design from an architectural perspective but also address principles of sustainability and the adoption of the state of the art technology making the development a true innovation”.

CCN (NSW) Architecture
Level 15, 80 Arthur Street
North Sydney NSW 2060
t. 02 9460 3800
f. 02 9460 1013
e. nnicotra@ccnarchitects.com.au





A HARD ACT TO FOLLOW

The formation of a collaborative atmosphere on the Innovation Place project was not only integral to the projects success, but also one of the true innovations of the development. The projects location in the heart of the congested North Sydney CBD ensured that cooperation and a 'team dynamic' featured heavily in the overall project success. One feature that required particularly extensive planning and coordination was the delivery, pumping and placement of the concrete, an element that became more complex as the works progressed.

De Martin & Gasparini (DMG) were engaged by Bovis Lend Lease (BLL) to provide that concrete supply, placing, and pumping. As one of the pre-eminent contractors in their field, DMG has a reputation for performance and quality. In 1984 DMG became a 100% subsidiary of Boral Limited continuing to thrive in the increasingly competitive climate.

As with all construction work these days, the company's real asset is its workforce and DMG go to great lengths to ensure they attract and retain the most skilled employees available. A strong focus on OH&S issues and associated work-life balance programmes have ensured the DMG team are kept at their best and coupled with the latest technology are able to successfully deliver on the most complex and challenging projects.

"What stood out for me," says Sam Seminara the DMG Project Supervisor on the Innovation Place Development, "was how well all the subcontractors and head contractor got along. We all had a common goal to achieve and we ensured we achieved it by assisting each other where possible. The strong working relationship we established with BLL was one of the highlights of the project..."

DMG's main concern was the narrow one-way street (Little Walker Street) through which all deliveries and pumping operations had to be controlled. The company undertook extensive programming and scheduling to ensure that the single (as opposed to the desired dual delivery method) concrete truck deliveries were efficiently serviced, allowing DMG to expedite their operations with the minimum of disruption to the overall schedule maximising the benefits to both companies.

The successful completion of the project is testament to the skills of DMG. Having worked on other high profile projects such as the World Square Tower and Stadium Australia amongst others, the company is very pleased to be able to add Innovation Place to their extensive portfolio of successful projects. Additionally, the strengthened working relationship between DMG and BLL, is sure to provide significant benefits for both company's well into the future.



De Martin & Gasparini Pty Ltd
16 Hill Road
Homebush Bay NSW 2127
PO Box 524
Sydney Markets NSW 2129
t. 02 9748 5100
f. 02 9748 0041

GOING WITH THE FLOW

A significant factor for any major project in today's world of environmentally responsible development is the use, treatment, conservation and recycling of all available water. Not only is this process directed at increased efficiencies, but also adds significantly to long term cost savings as the development becomes operational.

Innovation Place, as its name suggests, was designed as an industry benchmark in environmentally sustainable management and technology. To this aim, stakeholders and the developers engaged GHD to provide fire and hydraulic engineering services, design and documentation for the project.

Established in 1928, GHD is an international professional services company employing over 5,000 people in a network of offices

throughout Australia, New Zealand, Asia, the Middle East, the Americas and the United Kingdom. GHD embraces the values that have sustained the company since inception – teamwork, respect and integrity. Specialising in the fields of engineering, mining, environmental science, earth sciences, architecture and planning GHD was well positioned to provide expert solutions to the challenges presented on the project.

A holistic approach was taken by the design team at GHD – looking at water use and water conservation of the development as a whole and then pin pointing specific areas that could add to the buildings water efficiency. The company designed the fire services system to enable testing water used for the sprinkler and hydrants to be captured and returned to the fire services storage tanks. Normally this

water would be discharged and lost. Naturally all the exterior flat surfaces available have been integrated into the rainwater harvesting system and the use of 4-star rated plumbing fixtures and waterless urinals throughout the building ensure that what water is captured is used to best advantage.

The design philosophy adopted by GHD was the maximisation of rainwater water capture, and following this, the most efficient use and reuse of that captured water to reduce mains water reliance. In this respect they have been very successful. Innovation Place has one of the most environmentally friendly footprints of any building in North Sydney Intelligent design and integration of services within the development have been able to meet and exceed stakeholders expectations. Naturally GHD are very proud of their involvement.

GHD Australia
10 Bond Street
Sydney NSW 2000
t. 02 9239 7100
f. 02 9239 7196
e. jfranke@ghd.com.au



REACH FOR THE SKY

In 1995 Buildscaff commenced operations in NSW. The company's aim was to offer the building and construction industry a professional alternative scaffolding service with the focus on safe and reliable scaffold supply and erection.

Twelve years on and the original highly skilled Buildscaff team remains in essence the same. The company still provides the very best service and safety to the major builders of NSW and this service is further enhanced by the experience gained on many high profile projects over the years. During this time the company has also maintained an enviable claim free history of safe operations. Buildscaff is one of the few scaffold contractors still operating within the industry that maintains their original ABN and ACN numbers – not to mention the original workers compensation policy.

Having performed faultlessly on the recently completed Bovis Lend Lease (BLL) Darling Park Stage 3 Project, Buildscaff was the logical scaffolder of choice for the new North Sydney flagship development, Innovation Place.

On the Innovation Place Project Buildscaff was engaged by BLL to perform the full range of scaffold tasks associated with major construction works – from simple access towers and large open foyer 'birdcage' scaffolds to intricate outboard hanging scaffolds.

"To select the feature scaffold for innovation place project is difficult," Says Garry Smith from Buildscaff, "there were several areas of the project that required an intricate and forward-thinking approach, but possibly the outboard suspended scaffold platform erected over Little Walker Street was a highlight. Covering a portion of levels 19-21, I think this may be the most impressive tangible aspect of our involvement."

A large part of Buildscaff's success is less obvious but of equal importance. Smith explains the company's ability to pool ideas and become involved with site management to achieve more economical methods of scaffolding that save money without compromising safety or time constraints. This aspect of operations is often neglected by other contractors and it is the dedication of the Buildscaff team in seeking to constantly

improve methodologies and safe work practices that sets them apart from their competitors. "Nothing is difficult to scaffold," reflects Smith, "It just takes a little time and serious planning with a priority on safety and achieving the best possible outcome for the trade concerned."

Buildscaff has once again proved that they have the commitment, expertise and safety to successfully undertake any scaffold challenge placed before them. Their involvement with BLL and the successful and close working relationship established between the two companies clearly demonstrates that BLL and Buildscaff provide a winning combination.

Buildscaff Pty Ltd
t. 02 9150 9626
f. 02 9150 9315
e. mail@teambuildscaff.com.au
w. www.teambuildscaff.com.au

KEEPING UP APPEARANCES

Permasteelisa undertook the task of supplying the façade to the Innovation Place project. This was promptly completed given the degree of technical complexity involved in the facade's design and construction.

The façade is made up of curtain wall panels having a typical width of 2400mm and a height of 3450mm, each panel incorporates an array of horizontal features. These

horizontal features of varying sizes and construction were integrated into the design in order to achieve the architects design intent.

The initial brief involved the erection of a mock-up to verify colour and material selection. During this viewing, the Architect and Client decided to change the spandrel area to create a shadow box effect. A body-tinted green spandrel glass with an addition-

al recessed green ceramic frit coated glass panel was adopted. This added a subtle depth and colour to the spandrel area which appears to be the first of its kind on the North Sydney skyline.

The project management, administration, design and engineering for the project was undertaken from Permasteelisa's Sydney office. Full scale Prototype Testing was successfully completed at Permasteelisa's Thailand Test Laboratory independently conducted by the CSIRO.

Materials for the project were sourced from Australia and around the world, and were delivered to the Permasteelisa manufacturing plant in Thailand. The plant located just outside of Bangkok is a state of the art production facility that produces for Permasteelisa branches throughout Australia, Asia and the USA.

Permasteelisa has had a decade of experience in exporting out of Australia to Asia, and over a decade of importing from our plants overseas to Australia.

Ted Graban, the Construction Manager of Permasteelisa, notes that one of the most significant advantages of being part of a worldwide Group is its ability to share specialist resources and technical expertise to ensure project details and deadlines are achieved to the Client's expectations. The Innovation Place project is one of four projects recently undertaken by Permasteelisa where the curtainwall panels were able to be produced in advance of the planned required by date.

Permasteelisa appreciates the support provided by the Innovation Place Bovis Lend Lease team and consulting team and would welcome the opportunity to work with these teams on other projects.

Permasteelisa Pty Ltd
13-15 Governor Macquarie Drive
Moorebank, NSW 2170
t. 02 9755 1788
f. 02 9755 1418
e. general@permasteelisa.com.au
www.permasteelisa.com.au





DESIGNED TO PLEASE

One of the pre-eminent office fit-out companies in NSW, Cubic Interiors have established their reputation on the basis of high quality workmanship, product expertise and safety. Formed in 2001, Cubic Interiors have extensive trade experience with the Managing Director Robert Migliorino having been involved with the industry for over 18 years. The company has been associated with some of Sydney's most prestigious hi rise and commercial projects including the World Square Project and the Ernst & Young Tower.

Cubic has a successfully worked with Bovis Lend Lease in the past and together they share similar aspirations regarding modern development – both from a safety stand point and their innate desire to produce excellence within their own fields. The \$85M Innovation Place Project consists of 25,000m² of commercial office space dispersed over 18 floors, with a

further three podium levels and three basement levels providing parking for 143 vehicles. Two floors are devoted to plant and machinery.

Cubic Interiors was engaged on the project to provide the fit-out of the base building and an additional five floors for new tenant Lang O'Rourke. Their works involved the supervision of the installation of suspended ceilings and pan tiles (specifically designed to accommodate the chilled beam cooling system), partitions, painting and other associated fit out works. Being a new generation 4.5 ABGR Star project required additional skills from Cubic Interiors to ensure the delivery of their services met with the 'green' criteria of the development. The project also allowed Cubic to effectively demonstrate the extensive OH&S procedures the company has developed to ensure a safe and efficient workplace.

Along with a number of other projects Cubic Interiors are currently developing an innovative web presence which will not only provide information on the company's projects and news, but will also create a portal that is designed to facilitate fast, effective and productive communication between Cubic Interiors, their clients, contractors and sub-contractors. This project is anticipated to increase the company's efficiency and service delivery significantly – enabling Cubic Interiors to better serve their clients needs into the 21st century. It is also a good example of the company's progressive, forward thinking nature.

Cubic Interiors
Level 1, 93 Norton St
Leichhardt, NSW 2040
t. 02 85851344
f. 02 85851344
e. robert@cubicinteriors.com.au

TOP OF ITS CLASS

CSR Fricker Ceiling Systems, a business unit of CSR Building Products Limited has a long association with cutting edge development within the commercial construction industry. The company has been involved with major development across the country since its inception in 1993 – during this time they have provided their fully integrated and innovative ceiling solutions to projects that have become synonymous with progressive and sustainable development.

The Innovation Place project presented an ideal platform for CSR Fricker to demonstrate their capabilities. The company was engaged by the developer, Townwood Pty Ltd and Cameron Chisholm & Nicol (CCN) the architects, to provide a ceiling solution with the capacity to accommodate the complexities involved with passive and active chilled beam systems whilst performing all the regular functions expected of today's versatile modern ceilings.

CSR Fricker supplied 12 different size and styles of perforated metal ceiling tiles for installation in the Fricker Easy Access System™ which is the company's popular top hat profiled aluminium suspension system. This system ensures materials churn for the life of the ceiling is reduced as it provides easier access to services whilst minimising damage to tiles. It also provides greater fit out flexibility as tiles and lights can be rotated through 90 degrees and partitioning can be screwed into the top hat profile, once again avoiding unnecessary damage to the ceiling and reducing materials churn.

Through advanced design and manufacturing processes CSR Fricker were able to integrate the perimeter exposed chilled beams with the Fricker Easy Access System™ providing an aesthetically pleasing but functional finish.

George Werner who headed up the CSR Fricker team involved in the Innovation Place project advised "Our company's bespoke in-house estimation system facilitated seamless communication between the sales, design team, manufacturing plant and ceiling contractors to execute the supply and installation in a timely manner with virtually no waste on one of the most complex ceiling systems ever installed in Australia. The landmark project required an astounding 64 different ceiling components per floor."

CSR Fricker is dedicated to environmentally responsible operations and in keeping with this ethos and the desire of the developers to produce a sustainable 5-star ABGR development CSR Fricker ensured a number of initiatives took place;

- The manufacturing plant for the metal pan ceiling tiles is certified under the ISO14001 Environmental Management System.
- Water used in the powder coat pre-treatment process has all oils and chemical contaminants removed by an effluent plant.

- The pre-treatment process uses only 1 litre of water to clean 1,000m² of ceiling panels prior to being painted with electrostatically applied and stoved polyester based organic powder coating (formulated without the use of TGIC).
- No toxic substances are used in the production processes.
- The steel used to manufacture the metal ceiling tiles is highly sought after and 100% recyclable at end of life.
- The metal pan ceiling tiles supplied to Innovation Place are highly durable; come with a 15 year manufacturers warranty and given appropriate maintenance can be expected to remain serviceable for a minimum 25 years.

The \$82 million dollar Innovation Place project consists of 28,000m² of commercial office space distributed over 20 floors. CSR Fricker Ceiling Systems contribution to the development has ensured that the building will remain healthy, efficient and sustainable for many years to come.

CSR Fricker Ceiling Systems
National Technical Advice
T 1300 FRICKER (1300 374 253)
F 1800 FRICKER (1800 374 253)
Level 8, 20 Loftus Street
Sydney NSW 2000
e. robbie.brown@frickerceilings.com.au
w. www.csrfriker.com.au



A HASTIE CHILL

The mechanical services and building management control systems of a development are at the heart of building efficiency and in turn at the heart of the environmental footprint of any development. Innovation Place is no different and the architect's intention for the premier office project required the most efficient yet effective solution.

Hastie Australia was engaged by the builder Bovis Lend Lease (BLI) to undertake the installation of mechanical services and building management control systems for the project. This required the equipping and fit out of two plant rooms on levels 1 and 21, the installation of chilled beam cooling on levels 2 through to 20 and the provision of conventional air-conditioning for the podium levels.

Hastie Australia is one of the country's leading air-conditioning installation companies. Broad

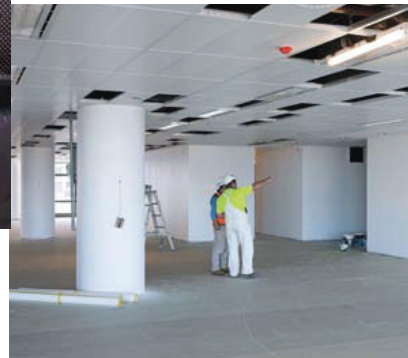
ranging experience has seen them involved locally in some of the countries leading projects such as the Darling Harbour Exhibition Centre and Sydney Airport International Terminal. Worldwide, Hastie Australia has procured overseas contract's as far a field as Vietnam, China and Kazakhstan.

The chilled beam system for Innovation Place was designed and tested in Germany before delivery to the project. Once installed the system provides areas of both passive and active cooling. On the perimeter of the floors, due to the higher heat gains from the facade, air is actively forced over the chilled beams to cool and drop creating a curtain of cooler air. In the centre areas the cooling is provided by the natural convection processes. It was deemed conventional air-conditioning was most suited to the podium levels due to large inflows of air in the lobby areas. Even so both conventional

and chilled beam systems are cooled by evaporative towers utilising harvested water.

BLI and Hastie Australia share the same aspirations when it comes to the safety of their employees and on-site safe work practices. As a result Hastie undertook their entire on site works for Innovation Place under the OH&S umbrella of 'no-ladder' operations. The reduced risk presented by the use of scissor lifts and scaffold instead of ladders was a major factor in the overall safety record achieved for the development.

Hastie Australia
Suite 2.01, Level 2 Quad 3,
102 Bennelong Road
Homebush Bay NSW 2128
t. 02 8732 5400
f. 02 8732 5401
e. hastie@hastie.com.au



PAINTING THE PLANET RED

Every aspect of Innovation Place has been subjected to rigorous and thorough scrutiny regarding its sustainability, environmental foot print, and suitability for the project. This level of attention to detail is what creates the success of the overall project. Mars Painting is a family owned and operated business of highly skilled tradesmen and for them attention to detail is a way of life.

For Innovation Place, Mars Painting applied 'Dulux Enviro 2' a product that's credentials were entirely in keeping with the nature of the development. Naturally the company is once again very proud to have been associated with BLL and Innovation Place.

Mars Painting Pty Ltd

Director/Founder:	Jim Augerinos	0417 080 083
Project Manager:	Elias Augerinos	0418 268 298
Project Manager:	Kosta Stamboulidis	0418 257 197
Office Manager:	Marie Johnson	0407 182 838
Office:		02 9591 1595
Office Fax:		02 9559 2231

Mars Painting was engaged by Bovis Lend Lease (BLL) to provide their painting services and apply the finishing coats to the interior surfaces of the development from the basement car park right to the top. Having a long standing relationship with BLL, and an understanding of the company's desires and goals, Mars Painting was ideally suited for the project.

All the company's staff and tradesmen are well versed in OH&S procedures and undergo regular re-training.

KEEPING THEIR COOL

The chilled beam cooling system adopted by Bovis Lend Lease for Innovation Place relies on the convection currents created by chilling the warm office air at ceiling height which causes it to cool and fall – warmer air then rises to be cooled in turn. Naturally the subtle but highly efficient process is dependant on a suitable means of insulation. To this end, Croydon Industries was engaged by the developer to provide an effective and environmentally sound means of insulation for the underside of the concrete slab.

detailed and accurate drawings, product and documentation.

For Innovation Place, not only was the insulating layer required to provide the thermal properties deemed necessary, but it was also required to meet with acoustic guidelines. In a first for Sydney, Croydon Industries supplied and installed a unique black perforated/plain foil faced glass wool for the project. This 'faced black glass wool' delivered the fastest installation solution coupled with maximum performance.

Croydon Industries provide their services across a broad spectrum of commercial projects and key to their success and longevity is the sound basis of their operations:

- Solid financial backing
- Locally manufactured product delivered on time and within budget
- Maximum flexibility in the delivery of product and services
- Over 37 years of experience
- Wide ranging team of experts and professionals

- Sound knowledge and experience in safety, environmental protection, OH&S, and equal employment opportunities.

The provision of the thermal and acoustic solution for the under-slab insulation has proved highly successful and one of the project highlights. Quite understandably Croydon industries are very happy to have had the opportunity to demonstrate their expertise and innovative approach to their work.

Croydon Industries Pty Ltd
12-20 Cook Road
Marrickville NSW 2204
PO Box 67
Marrickville NSW 1475
t. 02 9569 4488
f. 02 9568 2281

Croydon Industries have pioneered the supply of specialised quality products and services to the air conditioning industry nearly 40 years. Initially the company was involved with the sublay and of insulation materials – however they soon diversified into other areas including the manufacture and installation of ductwork. Demonstration an ability to adapt and grow as the market changes Croydon have taken onboard the rapid advances in technology and manufacturing and today the company employees a team of skilled designers and draftsmen utilising the very latest in CAD design and manufacture to produce



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Allmore Constructions Pty Ltd
68 Barrie Road, Tullamarine, VIC 3043 | E-mail: office@allmore.com.au
Phone: (03) 9330 3722 Fax: (03) 9335 1135 | Website: www.allmore.com.au