





# ECO BOOST

ustraland's Erskine Park Business Hub is the site of the new flagship Corporate Express Distribution Centre, a facility which embodies the developer's commitment to creating and building innovative and cost effective logistics solutions, while maintaining a strong focus on environmental performance.

Located in Western Sydney, the Erskine Park Business Hub is a 17Ha estate, which is wholly owned by Australand, who worked closely with Penrith Council to bring this significant project to the precinct to meet the demand for corporate space, to create jobs and to bring an ESD showpiece to the area.

Australand has a long term commitment to reduce water consumption by at least 35% across the board in all its facilities. The company is continuing to build further on that commitment by including an extensive range of energy reduction measures to ensure that Australand industrial facilities set the standard for environmental performance in the industrial

With an end value in excess of \$55m, the Corporate Express facility consists of a total floor area of approximately 43,000m<sup>2</sup> with over 2,000m<sup>2</sup> of office space making it the largest logistics development transaction in Western Sydney in 2007.

The facility has been designed to consolidate six separate facilities as part of Corporate Express' first ever end-to-end supply chain review and features a strong architectural presence and leading edge in environmentally sustainable design principles.

The facility is an ESD showpiece with a full range of design philosophies covering building management, Indoor Environmental Qualities, Energy, Transport, Water, Materials and Emissions.

These philosophies are reflected in a number of key design elements including alternative power supply initiatives with the introduction of electricity supplied by gas cogeneration, greater emphasis placed on energy and water saving techniques and alternative material selection.

The techniques incorporated within the standard building brief include bio-retention catering stormwater run-off, rainwater harvesting, the use of low volatile organic compounds and ridge vent to the warehouse for increased natural ventilation. Some simple architectural techniques adopted within the design include site orientation, roof overhangs, sun shading devices and solar performance glass on windows reducing interior overheating and heat loss in the office space.

Australand jointly with Corporate Express agreed to set benchmark ESD design initiatives and incorporate a range of ESD techniques suitable to an industrial application. Working with ESD consultants Cundall, Australand were able to review the benefits and costs associated with introducing additional design elements to further increase the efficient running costs of the facility.

These key design components fell into three main categories: alternative primary energy supply (cogeneration), architectural design (orientation and materials selection) and electrical (lighting and light zones).

With the introduction of cogeneration as the primary power supply and specialised lighting and controls, the new facility is designed to reduce emissions to the environment with a saving of approximately 1,664 tonnes of CO2 emissions per year compared to grid energy.

Workplace conditions have been improved with the use of Low Volatile Organic Compound paints, improved indoor air quality, the use of recycled carpets, the installation of daylight sensor controls and dimmable warehouse lights improve energy efficiency and the skylight area in the warehouse increased in size to boost natural light and reduce electric light reliance.

Overall, the environmental impact of the entire facility has been reduced dramatically to make Corporate Express a leader in their industry in this area.

The Corporate Express facility showcases Australand's ability to build cost effective and innovative solutions while maintaining a strong focus on environmental issues and as one of Australia's major diversified property groups continues to lead the way in environmentally sensitive design.

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# CONNECTING CORPORATE EXPRESS

eading Electrical Infrastructure, Design and Construction Contractor, Connect Infrastructure played a key role in the implementation of advanced ESD principles in the Corporate Express Erskine Park project for developer, Australand.

While liaising closely with Australand, who placed great emphasis on a number of key design elements including new power supply initiatives, Connect ensured all assets were constructed to meet Integral Energy standards prior to energization.

Connect is an accredited service provider, which undertakes electrical design (level 3) and construction (level 1) infrastructure works on the Integral Energy, Energy Australia and Country Energy electrical networks.

On the Erskine Park project, led by Senior Project Manager Grant Richards, Connect Infrastructure excavated and installed the earth grid and substation culvert, laid and backfilled 4 x 125mm<sup>2</sup> conduits and 2 x 50mm<sup>2</sup> conduits,

excavated a joint bay for the 2 x high voltage 11kv straight through joints and installed 2 x high voltage 11kv 240mm² 3 core copper XLPE cables from the new substation to the existing Integral Energy network.

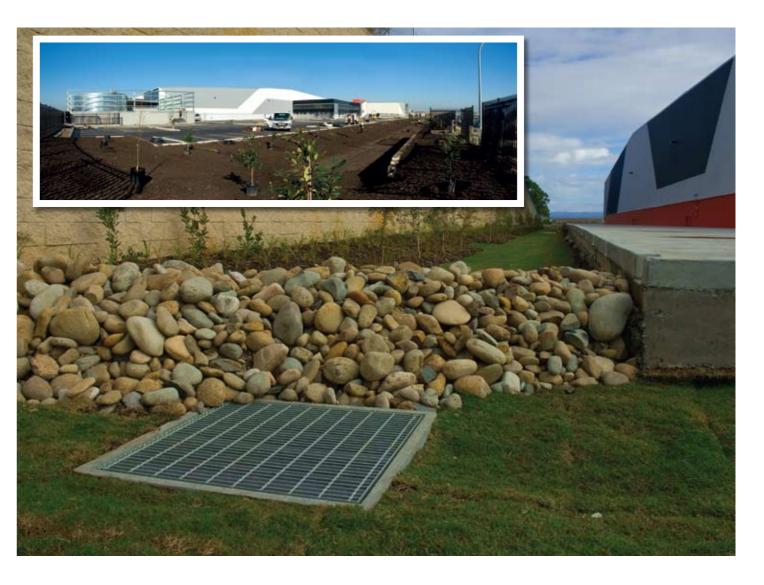
They also installed the new padmount substation on the substation culvert, terminated the two high voltage cables on the high voltage switch gear and connected the earth grid to the substation in preparation for the power outage for Integral Energy.

Connect undertake many electrical infrastructure projects and provide a comprehensive range of services for a range of projects from the design and installation of a single pillar though to entire suburbs and major industrial developments. Recent work has involved customer Zone substations, 132kV transmission asset relocations, multiple transformer indoor substations, 132kV feeder projects, large scale street lighting and electrical reticulation projects on a range of developments.

Connect Infrastructure have undertaken major works in NSW as well as Western and South Australia with prominent projects including ABC Tissues Wetherill Park, Rouse Hill Regional Centre, the Wonderland Business Park, Inghams Processing Plant and Eclipse Apartments.

#### Connect Infrastructure

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# FLOW ON EFFECT

ith the 5 star ABGR and related ESD philosophies, major priorities for developer Australand, leading engineering firm, Brown Consulting was commissioned for the civil engineering works on the Corporate Express project.

Brown Consulting specialises in a range of Structural and Civil engineering disciplines including providing Hydrological Studies, Flood Management, Hydraulics Modelling and Water Quality Modelling and Assessment.

To meet the objectives of the Development Control Plan for the Erskine Park Employment Area, Brown Consulting developed a stormwater management regime which not only met but exceeded the required standards to ensure the highest ABGR was achieved.

The location of the site posed issues in relation to the protection of nearby creeks. Special attention was given to on-site stormwater detention facilities and additional water quality treatment above the minimum requirements to ensure the physical and biological integrity of these creeks was not compromised. To achieve this objective, Brown recommended the fullest implementation of water sensitive urban design principles and the incorporation of on-site water reuse.

The stormwater management facilities included above-ground combined water quantity and quality biofiltration cells, biofiltration swales for water quantity and quality treatment, above-ground water quantity basin and gross-pollutant traps to pre-treat runoff.

In developing and implementing the plan, Brown Consulting applied advanced technology intergrating the firm's design and analysis software which has revolutionised the design, analysis, drawing and documentation of land development. This, and similar advanced software used in all phases of Brown Consulting's work allows extremely high standards of control and flexibility of design, speed, accuracy and quality.

Brown Consulting was established in Melbourne in1953 and now has over 170 staff in offices in Melbourne, Canberra, Sydney, Sunshine Coast and South East Asia providing a full range of services from inception through to design and construction.

Brown Consulting prides itself on staying at the cutting edge of latest industry design techniques and achieve ongoing innovation by adapting skills to new and varied environments.

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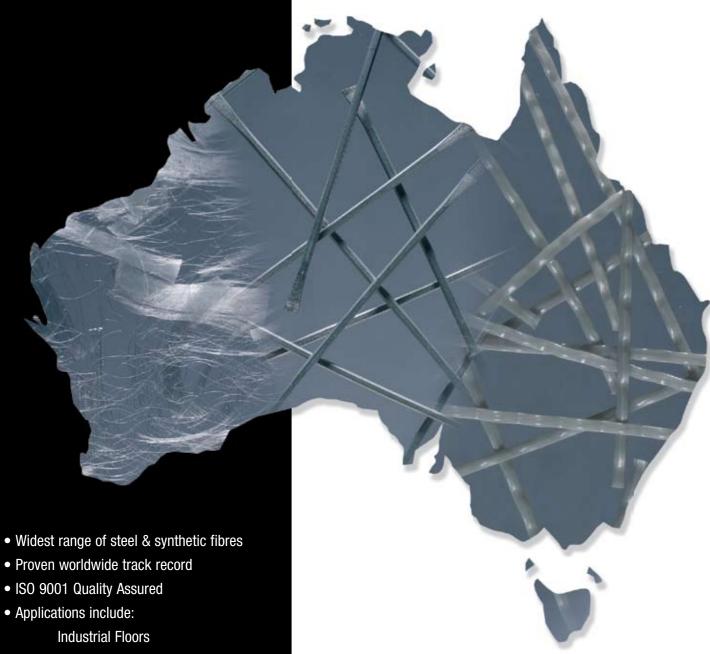
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- from simplifying placement to minimizing cracks in the plastic state to controlling cracks in the hardened state to providing years of exceptional durability. And, perhaps most importantly, our extensive expertise is available through our unparalleled customer service and on-site job assistance.

labour-intensive traditional reinforcement methods, Propex fibres are added directly to the concrete mix and evenly dispersed throughout. The result is an advanced, 3-dimensional reinforcement system that can be placed quickly, accurately, safely and cost-effectively.

#### **Propex fibres at Corporate Express**

The Corporate Express project at Erskine Park is one of many Australand projects which have used fibre reinforced systems from Propex and we are proud to have been given the opportunity of working with Australand to supply fibres & technical services to this impressive project.



Jason King - NSW Construction Manager for Australand Commercial & Industrial Division stated - "Australand were extremely pleased with the performance of the Novocon FE08550 steel fibres supplied by Propex Concrete Systems, that were used to reinforce all 40.000m2 of the internal floors on the recently finished Corporate Express project. The fibre design proposal enabled us to construct a thinner slab than a conventional reinforcement mesh design. It also enabled the concretors to pour up to 2,500m<sup>2</sup> per day resulting in a much faster pour cycle and without the use of boom pumps.

We were also very pleased with the overall slab finish achieving equally the same burnish finish as we would with pouring conventionally.

Propex Concrete Systems also proposed their FibreFlor design incorporating the metal decks used in the office mezzanine floor. The fibre reinforced concrete was pumped onto the metal deck again replacing the traditonal wire mesh with the added time saving of not needing to lay mesh. Another benefit is that OH&S factors associated with laying wire mesh were

The Propex Concrete Systems - 'Performance over Tradition' will certainly be considered first for future Australand projects"

LG Electronics, Sydney - another Australand project incorporating Propex fibres



Our technical service professionals are always available to help you achieve the most economical and functional concrete solution for your needs. You can depend upon our assistance in designing, specifying and constructing your next project, even if it requires on-site technical presentations, participation in design meetings or personally overseeing your first placement.

Meet the technical sales team at Propex Concrete Systems (Australia) Ltd.



**Lance Collins** National Sales Manager based in Sydney. Mobile: 0418 667163



**Michael Poort** Southern Regional Manager based in Melbourne Mobile: 0409 903733



**Andrew Hockey** Northern Regional Manager based in Brisbane. Mobile: 0408 261911

We're much more than a fibre supplier - at Propex Concrete Systems our mission is to be considered as your trusted business partner. While others simply sell fibre products, we seek to offer you both concrete performance and professional success.



# THE IDEAL ROOF

he Ideal Metal Roofing contract for installation of metal roofing and wall cladding for the Corporate Express Erskine Park project involved a number of custom design specifications which were well within the company's capabilities to deliver.

Specialising in the installation of metal roofing, roof plumbing products and wall cladding for the past 15 years, Ideal Metal Roofing caters for projects ranging from homes through to large scale commercial and industrial projects. The durability and stylishness of metal roofing makes it the ideal choice for both domestic and commercial applications.

The Australand-developed, Corporate Express Erskine Park project was a reasonably large project for Ideal, who were contracted to install zincalume and colorbond roofing and walling products, ridge ventilator and the roof flashings to all penetrations. Bluescope Lysaght roofing was supplied and insulation by CSR Bradford

The ridge vent to the warehouse was one of many ESD design techniques included within the building design to increase natural ventilation to improve workplace conditions.

Ideal are highly experienced in delivering tailored solutions, which involved inhouse purpose-made, roof and wall flashings, eaves and box gutters, downpipes and accessories to complete the roof and wall cladding installed in the full Colorbond colour range, specified in the distinctive design of the building.

The team of 30 Ideal employees working on the project had to deal with severe weather conditions including high winds and rain during the installation but the company's commitment to innovative safety control measures and production targets ensured a successful completion of the project – on time and on budget.

Based in southern Sydney, Ideal Metal Roofing offer a comprehensive range of roofing

services to builders and developers as well as direct to home and building owners.

Their services include new roofing, re-roofing, asbestos removal as well as guttering and downpipe replacement and they can supply roofing materials, carry out roofing repairs or provide a complete supply and install services to large or small buildings.

#### Ideal Metal Roofing

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