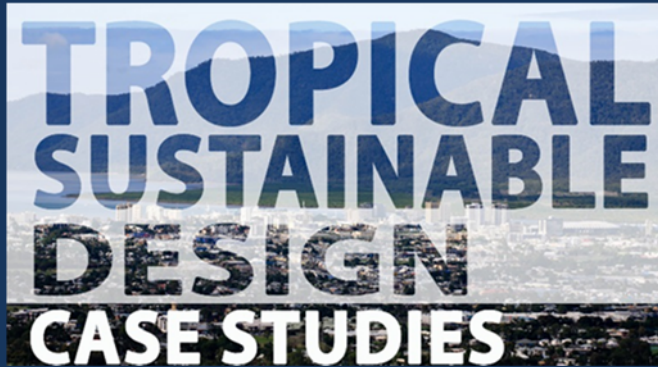


RPS (Conics) Building

Project type: Commercial



Location: 135 Abbott Street, Cairns, Queensland, Australia

Year Completed: 2009

- Dilapidated commercial structure transformed into modern professional offices
- Total Gross Floor Area: 3,300 m²
- 5 star NABERS energy efficiency Variable Refrigerant Volume (VRV) air-conditioning system
- Energy star rating is 4 Star Green Star - Office Design v2 Certified Rating ('Best Practice')

OVERVIEW



The key focus of this project was to transform an existing dilapidated commercial structure split in two halves over five levels into an energy efficient building with an official Australian Green Building Council Green Star rating. The renovated building provides the regional headquarters for the growing RPS Group, previously housed over several sites. The existing structure was re-used along with careful façade design, sun shading and an efficient floor plan resulting in an energy efficient design respecting the tropical environment.

The problem of connecting the levels was overcome by inserting a central staircase and lift to the centre of the building. New balconies and awnings were created along the two exposed faces giving staff access to fresh air and to provide shading to the elevations to enhance energy efficiency.

New suspended lighting was installed to exposed concrete soffit ceilings. Work stations conform to green star levels of illumination, and lights and motorised blinds were connected to the building's new C-Bus system. A new VRV air-conditioning system was installed to maximise the sustainability of the building, and new water saving plumbing fixtures were integrated into the new hydraulics system.

Internal finishes were chosen from recycled, environmentally sustainable or low volatile organic compound (VOC) materials.

The Building has been awarded a 4 Star Green Star - Office Design v2 Certified Rating, which represents 'Best Practice'.

PLANNING AND MANAGEMENT

The design team comprised of specialists with expertise in tropical sustainable design. The entirely local team were involved from very early stages and this has resulted in a cohesive building with all disciplines working together.

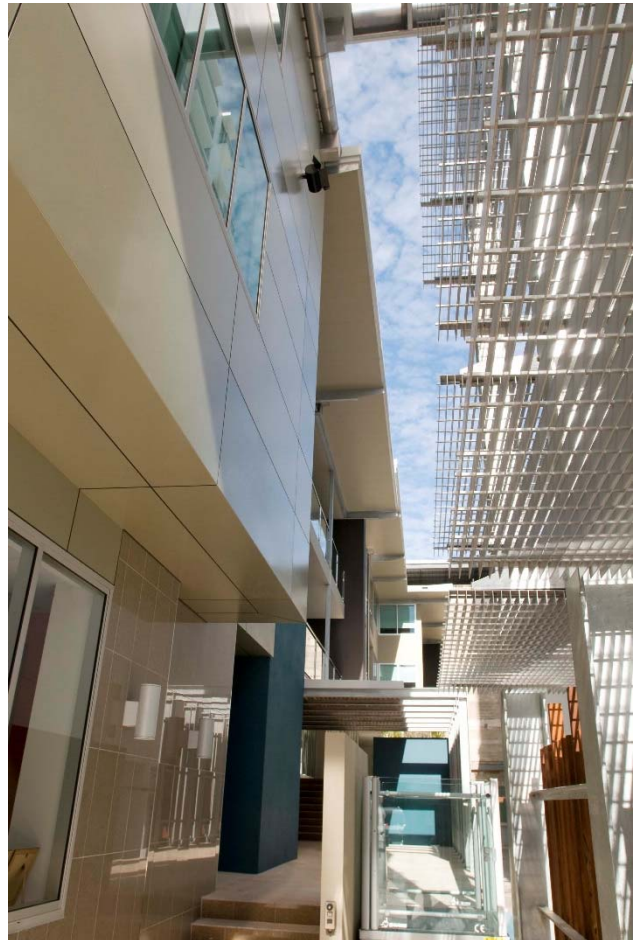
A building user guide was compiled to demonstrate the features of the building. The controls and data monitoring of the building services provide ongoing management support to deliver the edge in efficiency.

SITE

The site was improved by an existing building which was refurbished during the project to best practice standards.

The owner considered a Greenfield construction project instead of this refurbishment project but this was ruled out because of high construction costs and associated construction impacts. A refurbishment was seen as a far more cost effective and sustainable solution, as in many regional cities the central business district (CBD) has generally suffered from the attraction of new large shopping centres built outside of the CBD. Moving an operation like RPS back into the CBD was seen as an important step in the revitalisation and activation of the older CBD area, so the old office building at 135 Abbott St was purchased and planning for redevelopment commenced.

The refurbishment was not without its challenges, as the shortcomings of the existing building became apparent during demolition. The design and construction team responded well to the various challenges and the construction was completed some 16 months after it commenced.



DESIGN

The design team decided to retain the basic size and shape of the building, so as to stay in keeping with the character of the street. Although there are a small number of tall multi-storey buildings, the urban space is characterised by tropical Queensland design attributes.



The building has been designed to achieve an Australia Green Building Council Green Star rating, which means inherently it is energy efficient and its environmental design elements are noteworthy. Each area was individually modelled to ensure efficiency in air conditioning comfort, lighting and daylight exposure. Additional emphasis was placed on the introduction of

outside air to reduce air conditioning loads whilst addressing indoor environment quality. The building design encourages pedestrian and cycle access for staff and clients, with linkages to available public transport which exists in close proximity.

Shading on the exterior of the building adds to the look of the structure and also provides relief to occupants from the harsh North Queensland sun. The main terrace and balcony areas cater for the tropical environment, allowing users to enjoy the fresh air and sunshine on their work breaks. New atriums introduce natural light into the building enhancing the work environment and the central stair well and wall and slab modifications have created an integrated and highly effective work space.

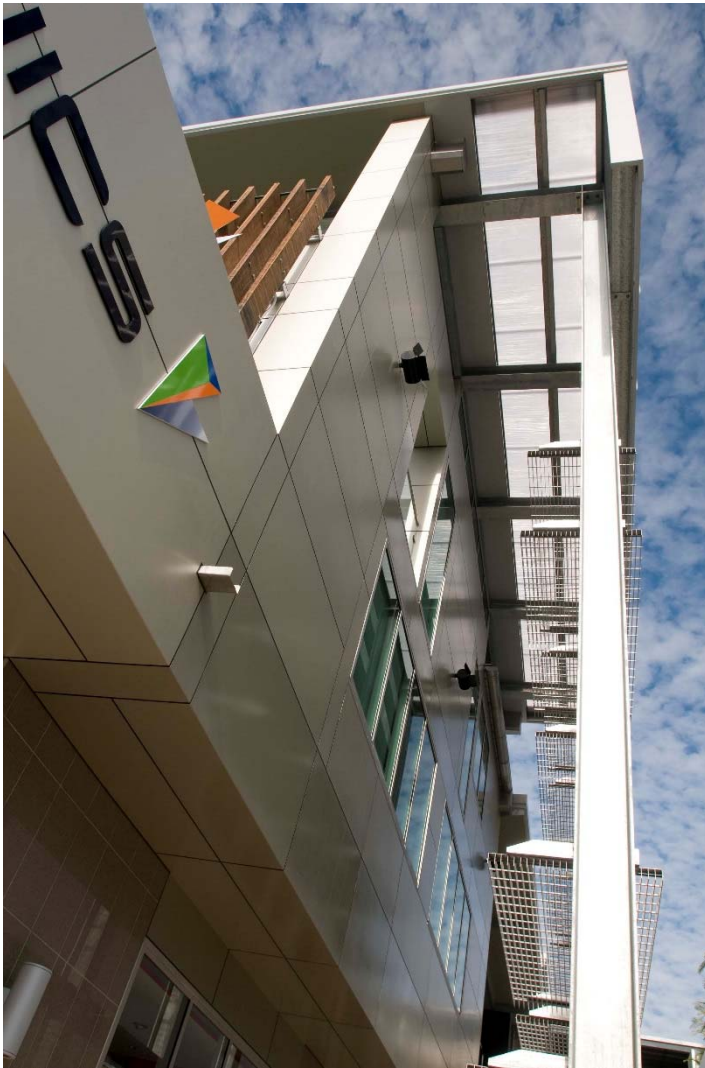
The reuse of the existing building has illustrated to the broader community a highly desirable and low impact way to achieve a new commercial outcome in the central business district of Cairns.



MATERIALS

Natural materials have been utilised in the both the interior and exterior finishes. Timber features dress up the exterior to the entrance of the offices and the terrace area. The timber compliments and balances the sleek steel shading that has been incorporated into the exterior design.

New boldly coloured toilet and kitchen facilities were



installed to all levels and old lifts removed. To reflect the Green Star rating it was decided to leave the exposed concrete soffits and to run the electrical cabling along racetracks hung from the ceiling.

Internal fit-out materials were selected for their Green Star status. All cabinetwork and work stations were specified using zero emission board, sustainable timber veneers were chosen, low VOC paints, carpets and vinyl floors were used, and all fabrics were selected from recycled ranges. Stone tiles with various finishes and colours were chosen for the exterior and ground floor reception area. Colours were selected to reflect the exterior and RPS (Conics) new corporate livery, and a touch of style incorporated via quality artwork and feature lighting.

ENERGY

Separate metering for functional areas allowed the monitoring of energy consumption. The lighting

layouts were designed for individual user control. New suspended high efficiency lighting was installed to ceilings and work stations to conform to Green Star levels of illumination, and lights and motorised blinds were connected to the building's new C-Bus system. Lighting has been designed in small zones to reduce energy use during out-of-hours' work and clearly labelled and accessible switches allow for easy control. Of particular note is the air conditioning system used in the building. It is a 5 star NABERS energy efficiency Variable Refrigerant Volume (VRV) air-conditioning system which optimizes energy usage.

WATER and WASTE

Water efficient plumbing fittings and fixtures were used throughout the building and water meters were provided for all tenancies. Avoidance of cooling towers for the air-conditioning system reduced the water demand even further.

CLIENTS/USERS STATEMENT

"RPS directors have long understood the value of the natural environment and its importance to the economic strength of the North Queensland region. As advocates for sustainable development, it was important for us to demonstrate leadership in the region by creating a 'climate friendly' commercial building incorporating sustainable design principles. Our staff are very proud of their building, and enjoy socialising on the new balcony with work mates and families, whenever possible." Mark Stopford, Managing Director - North Queensland, RPS Australia Asia Pacific

PROJECT TEAM

Base building architect/ designer: CA Architects
Interior designer: Design Aqua
Civil engineer (Site and traffic)/ Structural engineer: CMG Engineers
Services engineer: WSP (mechanical & electrical), H2O (hydraulics)
Project manager: HS Vision
Energy efficiency rating consultant: WSP
Green Star rating consultant: Conics (now RPS)
Builder: HS Vision Group

For more information visit: www.jcu.edu.au/tsd
www.greenbuild.com.au

Information and photos are supplied by the project owners and designers. The Tropical Green Building Network and James Cook University (the administrators) cannot guarantee the accuracy or authenticity of this content. Produced July 2014



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