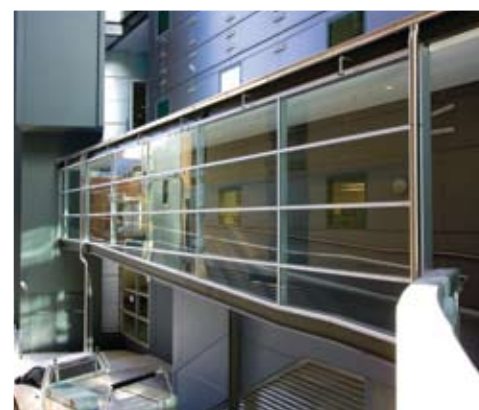


ST VINCENT'S RESEARCH AND BIOTECHNOLOGY PRECINCT

A W EDWARDS
DARLINGHURST NSW



The completion of the St Vincent's Research and Biotechnology Precinct is as much of an architectural breakthrough as any of the medical research and discovery that will follow within its walls. This building will enable research to be conducted with better accuracy and safety than ever before.

This is no ordinary construction project. It presented A W Edwards with many challenges in addition to those normally faced by builders. For a start, it's a massive services coordination challenge, with nearly half the value of this \$62 million project spent on its complex, high-grade services. Community issues were another challenge, with local resident groups requiring careful attention. Then there was the adjacent research building, vibration and acoustic monitoring, logistics restrictions, building over a roadway, and complex commissioning and certification requirements.

and on what is termed Site A of The St. Vincent's Research and Biotechnology Precinct (SVRBP).

The structure is a new 10-storey concrete framed building with a gross floor area of approximately 10,900m². The façade is a mix of aluminium-framed glass, composite aluminum panelling and terracotta tiles. Two passenger lifts service the building from the Liverpool Street Main Entry Lobby, distributing people through Interaction Spaces on each of the floors. A Goods Lift is accessed via the Level 3 Loading Dock.

The two passenger lifts also service the

Level 1 houses a Biological Testing Facility (BTF) that includes certified PC2 (Physical Containment) Rooms. Levels 4 – 9 house administration, laboratory spaces and associated offices, storage, individual plantrooms, fume cupboards and amenities including certified PC3 (Physical Containment) Rooms on Level 9.

The building is serviced by centralised plant including chillers, cooling towers, steam plant, fume cupboard exhaust fans, boilers, laboratory gas systems, an analytical grade

water system, rainwater harvesting system, non-potable water system, hot water system, vacuum plant, two back-up diesel generators and a mouse waste vacuum system in the Level 10 plantroom.

St. Vincent's Research and Biotechnology Precinct snapshot:
Purpose: Medical research, housing many types of animals and hazardous organisms
Storeys: 10
Gross floor area: 10,900m²
Features: Biological Testing Facilities, including Physical Containment Rooms
Complex medical and animal-related services systems
Parking: 30 below ground, 25 on grade
Lift: 2 x passenger; 1 x goods
Duration: 21 months
Cost: \$62 million

The St. Vincent's Research and Biotechnology Precinct is stage one of a 3-stage precinct development. It's a new biomedical research building located in Liverpool Street, Darlinghurst adjacent to the Garvan Institute

underground car park, which accommodates 30 vehicles on a single level. It is built with provision for connection to a future proposed development on Site B. Ground level parking for 25 cars is provided on the adjacent Site B.

Other facilities include a loading dock, waste management area, storage facilities, large animal operating theatre, bulk gas storage and back-of-house facilities on Level 3 (ground floor).

Outdoor works included hard and soft landscaping works in Liverpool Street and Chaplin Lane, public domain works and roadworks in Liverpool Street and West Street, and refurbishment of part of the existing Level 3 of the Garvan Building.

Design and construction challenges overcome by the team include:

- Construction, testing and commissioning of numerous PC2 and PC3 Physical Containment rooms (used for conducting research into diseases such as HIV) to strict airtight tolerances.
- Design and installation of approximately \$25 million of complex building services and equipment.

- Complex commissioning requirements including air pressure testing, differential pressure regimes, an analytical grade water system and integration of services with the existing Garvan Building.
- Construction of a number of certified Biological Testing Facility (BTF) rooms to house large numbers of mice, rats, Xenopus frogs and Zebra fish.
- Construction of a highly detailed fire stair (that also serves as the access from the main entry).
- The design and installation of a highly complex and detailed façade system.
- Significant community liaison to manage active resident groups.
- Physical proximity to the Garvan Building
- Noise and vibration restrictions during construction including acoustic and vibration monitoring to protect research animals next door.
- Construction over the laneway whilst

maintaining 24 hour access to adjacent buildings including a very busy carpark below the adjacent Medical Centre.

- Logistic difficulties due to the building footprint occupying the entire site and limited street access.

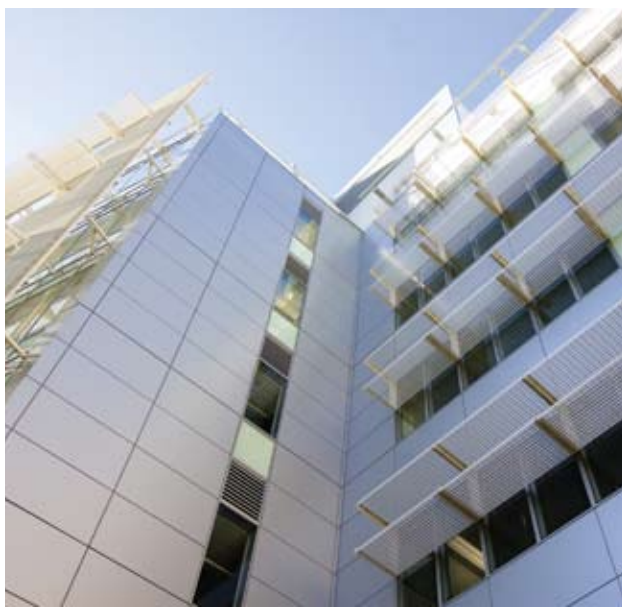
The project commenced in late September 2006 and completed approximately 21 months later in mid June 2008 at a cost of approximately \$62 million + GST.

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DESIGN SOLUTIONS

Specializing in structural building design SCP Consulting undertook the structural design of all building elements in the new Victor Chang Cardiac Research Building and Garvin Institute refurbishment. Two engineers Paul Siewert and Josh Overell along with two draftpersons were directly involved in the project over a time span of eighteen months.

SCP Consulting Pty Ltd is a consulting engineering practice specialising in Civil & Structural engineering with a current roster of 20 employees. As a medium sized "boutique style" consultancy, and practicing in the building industry for over 30 years, they offer

creative, functional and cost effective designs to the client – achieved by fully utilizing the corporate experience of all the technical personnel of the company.

Design challenges were faced with the shoring and excavation between Elizabeth Street and the Garvin Institute building and connection into the Garvin building. There were also a number of obstacles to overcome with the incorporation of all laboratory mechanical services within the structure. Overall the dedication of the design team and the AW Edwards site team contributed to a landmark quality building given the significance of the building's status.

SCP Consulting have been involved in an impressive list of major projects in recent years including Fox Studios, the Homebush Easter Show Pavillion buildings, Erina Fair, the Macarthur Shopping Square redevelopment and the Rouse Hill Town Centre.

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BRINGING STRUCTURE

Established in 1947, De Martin & Gasparini Pty Ltd (DMG) have built a strong reputation as specialist subcontractors for concrete structures. In supplying and placing concrete for Sydney's St Vincents Hospital Victor Chang Research Institute, they continued an excellent working relationship with the main construction company A.W. Edwards through a process of open communication, allowing for smooth and problem free delivery.

The project did pose significant logistical challenges with regard to site access and location, requiring expert coordination in what is one of the busiest and congested parts of Sydney. Noise and air pollution from dust had to be controlled due to neighbouring hospital buildings.

DMG have been servicing Sydney's concreting requirements for over five decades, ensuring their involvement in a number of premium,

high profile projects such as Westfield Shoppingtowns at Bondi Junction, Parramatta and Kotara, MIRVAC Rhodes Development, Brookfield Multiplex, Parramatta Justice Precinct, Bovis Lend Lease Mid City Centre, Bovis Lend Lease Top Ryde Shopping Centre Redevelopment and Brookfield Multiplex Stadium Australia, Homebush Bay.

Specialising in the supply and placement of concrete, large pours, and high strength elements, DMG have successfully completed numerous technically challenging projects. While maintaining the core business of concrete placing at high quality, the business has steered towards contracts combining other elements that are required to construct a complete concrete structure package. These elements include concrete, reinforcement, formwork, post-tensioning, materials-handling, supervision/management, design, or a combination of elements as the project requires.

DMG's direct workforce has grown over the years and at present employs 197 people, consisting of engineers, quantity surveyors, estimators, construction managers, project managers, contract administrators, concrete finishers, carpenters, steel fixers, pump operators, mechanics, truck drivers and labourers, all of whom are supported by experienced office staff backup. The Company has a vast list of long-serving employees and is highly regarded in the industry for the pride it takes in its workmanship.

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STRUCTURAL STEEL SPECIALISTS

Wexford Welding opened for business in Sydney's industrial heartland at Smithfield in 2001. The crew of 15 specialise in fabricating and installing structural steel, and although the company has been around for seven years, the crew have over 18 years experience in structural steel. As a company they are always looking to do the job better and to provide a high level of service that exceeds their customer's expectations. Each project from the beginning (the shop drawing stage) to the end (when the site schedule of works is completed) is all handled in-house. This ensures a very high level of familiarity with every project.

Four steel erectors were allocated to the St Vincent's Research Project to work to AW Edwards' program and progressively place the 85 tonnes of steel safely and accurately into position.

Wexford were given responsibility for the

fabrication and installation of the structural steel roofing, cooling tower, generator enclosures, link bridges and angle trims to louvers, windows & hydrant booster doors as well as any incidental steel fabrication and welding work.

A key feature of Wexford's work is control of quality, including accuracy in both the factory and on site.

Site safety is another key aspect of the Wexford approach. Structural steel installation is not easy to do but the Wexford crew ensures compliance to the site safety policy and OH&S requirements.

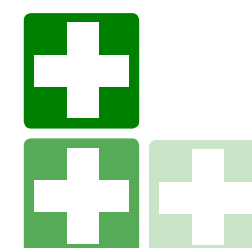
Project value was \$950K and took 5 months to complete.

Wexford Welding usually works on projects up to 50 tonnes, but will occasionally accept larger projects, as they're a challenge!



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