

# LONG AWAITED REVIVAL

The \$34 million Epworth Rehabilitation Camberwell Redevelopment will deliver an additional 68 hospital beds resulting in a total of 142 beds for both mental health and rehabilitation.

Main Construction Company : Construction Engineering  
Project end Value : \$40 Million  
Completion : September 2013



Construction Engineering's redevelopment of the \$34 million Epworth Rehabilitation Camberwell will finish in September 2013.

The new fully-functioning Epworth centre fills a strong community need, providing 68 more beds, creating a total of 146 beds at Camberwell. With six levels reaching to the basement car park, the work included adding wards, consulting suites, therapy and sleep study rooms as well as educational facilities to the pre-existing centre.

Before refurbishment began, the centre serviced inpatients and day patients with Acquired Brain Injury (ABI); hip and knee joint replacement; orthopaedic surgery; neurological events such as stroke; cardiac events and pain management issues.

While those services continued during construction, the new centre also provided inpatient and day patient psychiatry services for adults and adolescents, catering across a range of illnesses including depression, anxiety disorders, eating disorders and mood disorders. Of

the three Epworth rehabilitation centres in Melbourne, it was the first to be redeveloped.

Epworth Rehabilitation was a classic Construction Engineering job, with CE's work reaching across retail, health, commercial and multi-level residential, predominantly in Victoria and Queensland.

Construction Engineering has a long and impressive resume of recent and current builds, including an office building refurbishment at St James value well in excess of \$100 million, a multi-storey residential project Illura Apartments in West Melbourne value \$22 Million, Warrnambool Hospital value \$80 Million, MCG Great Southern Stand refurbishment, a \$40 Million recently completed Shopping Centre at Sapphire Market Place Bega, and East Burwood Plaza Shopping Centre.

With such a solid line-up of contracts, it was not surprising to hear Business Development and Senior Project Manager Peter Robertson's optimistic view of the construction market.

"There is work out there," Mr Robertson said. "There are still opportunities out there although the market place is very competitive. It's a good time for clients to be locking in some builders."

The Camberwell construction began in October last year, with phase one comprising demolition of the existing building and relocation of existing services, which took place between October and Christmas last year.

Stage two, comprising most of the new structure and handing over the lower ground floor and basement ground car park, including the relocation of administration from the existing hospital, is complete and handed over.

Stage 3 encompasses the completion of the new building, including construction of a new kitchen within the existing hospital, which will be completed by June 2013. The fourth and final stage is the refurbishment of part of the existing hospital, including a new sleep study unit.

When in full swing, labour-wise, the Camberwell job employed up to 180 people on the site including sub-contractors. Of those, 14 were Construction Engineering employees.

Construction Engineering began in 1953 and was guided by a fundamental principal of financial management, which allowed it to operate without the need for borrowed funds. Its annual turnover was between \$200 million and \$300 million. While most of the company's projects were in a relatively close radius to CE offices, there were also projects in regional Victoria and Queensland, as well as the occasional one in New South Wales, Tasmania, South Australia and Western Australia. Construction Engineering regularly shared staff and expertise between its offices to provide quality work and satisfy demand.

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## BUILDING ON A SOLID REPUTATION FOR SAFETY AND INNOVATION

One of the main advantages for Solcrete of having a large, well-trained and highly-skilled workforce is the ability to tackle the kind of timeframes many companies might dread. At the Epworth Rehabilitation Hospital project, their massive manpower commitment and established processes for achieving results made it possible for the project to achieve some of its key structural milestones in an extremely short time.

Solcrete's scope included all the concrete, formwork and reo placement for two basements, the lower ground floor, ground floor and three upper floors. There were many areas throughout the project where they were required to achieve a high quality of off-form finishes, which is one of the company's specialities.

"We completed seven floors in total, within a timeframe of a two week timeline and completed floor plates of 2,000m<sup>2</sup>," said Solcrete Director, Paul Bassford. "A key aspect of our approach was working closely with the builder, in order to allow the hospital to remain open and function as normal. Our staff numbers totalled between 40 and 60 employees onsite, comprising concreters, form workers and steel fixers."

"The challenge with this project was mainly street access to the site, due to the proximity to busy inner-city roads, tram lines and high voltage power lines. The hospital is also located at a busy intersection, which causes significant disruption for unloading trucks and getting materials onto site."

Even in these less than favourable site conditions, Solcrete maintained their scrupulous approach to OH&S, and completed their scope without any Lost Time Injuries. They have so far had an unblemished safety record for the entire 2012-2013 financial year, a real achievement for a company working multiple major project sites.

A major factor which contributes to their solid record for safety is the company's ongoing commitment to training for all employees. During the construction phase, a Federal safety audit for OH&S was conducted onsite for the builder – Construction Engineering – and Solcrete passed this audit with flying colours.

In addition, many of the company's staff working across all their sites have recently completed training in Applied First Aid, Electrical spotting, Building Project Management Training, and Elevated platform/scissor lift operations and safety, in addition to a range of other industry related courses. Solcrete also have a strong commitment to best practice environmental management. At Epworth, they used an enviro-mix

concrete, which allows for a higher ratio of Cementitious Replacement Materials (CRM), such as fly ash or recycled concrete to be used without compromising the concrete's performance.

Solcrete have been in operation since 1996, and from the outset have taken an integrated and innovative approach to concrete construction. Currently the company has approximately 115 employees, including estimators, contract administrators, office support, formwork carpenters, concreters, dogman, riggers, steelfixers and skilled labourers.

The advantage for builders of having Solcrete on site is dealing with a single company, which can provide a comprehensive range of services and is largely self-reliant in terms of plant and personnel for all aspects of structural and architectural concrete. And because everyone is on the same team, communication, project management and logistics are managed in a highly effective manner. On a time-constrained project like Epworth, this makes meeting the works program milestones a smoother and more efficient process.

Solcrete work across the commercial, residential, Government, health, education, retail, industrial and general construction sectors, and have developed sound relationships with all the major builders in Victoria. The company's other current and recent projects include La Trobe University Bundoora Campus for Kane Constructions; the Mornington Centre for Hansen Yuncken; Canvass Apartments for Spec Property; and Leongatha and Traralgon Hospitals for Kane Constructions.

Solcrete's technical capabilities include ground slabs, suspended slabs, Bondek slabs, burnished off-form finishes, load-bearing off-form feature walls, columns, stairs, basement carparks, lift cores, exposed aggregate, and all basic structural concrete construction, including multi-storey towers. The depth of experience on the part of senior management and the ongoing commitment to developing the skills of their workforce means they can work closely with clients to achieve the best possible results.

In an industry where the proof of a company's skills is in their projects, Solcrete have developed a well-earned reputation for innovation, professionalism, and delivering results to the highest possible standard of workmanship.

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## REHAB GETS GREEN ELEVATORS

Recently Otis Elevator Company completed installing its green, “Machine Room Less Gen2” elevators in Epworth Rehabilitation Centre’s new Camberwell facility.

Otis Elevators, the world’s largest manufacturer of elevators, escalators and walkways, incorporated both energy-saving and remote-monitoring technology in the Camberwell project. Otis’ ReGen drives harness excess energy created by the lifts and feed it back into the building’s internal electricity grid.

They also have lower harmonic distortion and smaller radio frequency interference than traditional elevators, ensuring they complement medical environments. Victoria General Manager, Scott Miller commented that the

Epworth project was a great demonstration to the wider marketplace of the quality of Otis hospital elevators.

Otis is now pleased to have its Elite Service product in full operation, allowing off-site engineers to access the elevator equipment remotely and assess its performance, potentially identifying some equipment faults prior to breakdown and thereby increasing peace-of-mind for patients and staff at Epworth. Otis Gen2 elevators lead the industry in quality and reliability with an average of two breakdowns per lift per annum in Victoria.

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## A HEALTHY APPROACH TO HVAC DESIGN & DELIVERY

Keeping people comfortable is a key aspect of HVAC design, on the Epworth Rehabilitation Hospital it was also a critical need for occupied floors during the multiple handovers PJM Engineering completed. Their scope included designing and installing an air supply and exhaust system for the two new basement carparking levels, and designing and installing systems and plant for the level three Plantroom servicing the four off occupied floors.

Their installation for the central plantroom comprised a central thermal plant with two off lead/lag air cooled chillers and two off lead/lag force draft boilers. Each water system has dual primary pumps and piping reticulated to the chillers and boilers, and secondary pumps and piping supplying the air handling units, on-floor VAV boxes and in-ceiling fan coil units. There are seven central type air handling units, each with ‘multizone’ heating and cooling coils to ensure more specific and reliable temperature control.

“There have been five phases or part handovers, which contributed to the complexity of the project,” said PJM Engineering Contracts Manager, Brad McAndrew.

“The most significant stage was the handover of Phase 2, which involved the completion of the Carpark Level and the Lower Ground Floor complete with two small Communications Rooms. The major consideration was to have the central plant functioning and complete, with all BMS/DDC controls operational – making it a significant milestone in the project.

“The completion of the upper three levels continued for three months after occupation of the lower ground floor, thus completing the project whilst providing reliable conditions for the completed floors.” PJM varied their

on-site workforce of up to 30 plumbers, duct fitters and welders to suit the program, with site works supported by the office-based team of project managers, engineers and draftsmen.

PJM’s abilities in reliable, well engineered HVAC systems for health projects has given the company a market-leading track record in the sector, with other recent projects including the upgrade of Warrnambool Base Hospital for South West Healthcare; Valley Private Hospital Dandenong; North Park Private Hospital; and Epworth Hawthorn (formerly Healthbridge).

The company works across all major development sectors in Victoria, Queensland, South Australia and the Northern Territory, with recent flagship projects including the MCG Great Southern Stand; CSIRO – Clayton Building 3 & 4; VUT, St Albans; Monash University Clayton; Sails in the Desert Resort, Uluru; Airlie Beach Cannonvale Shopping Centre; Swinburne University of Technology, Hawthorn Campus; Mount Gambier Shopping Centre; and Santos Moomba, South Australia.

Based in Melbourne, PJM have over 30 years of experience in their field and in-house expertise including tradesmen, engineering, estimators and management. This integrated suite of abilities enables them to design and deliver a wide range of projects from complex VRV split systems to central plant HVAC systems and large scale pipework installations.

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Epworth Rehabilitation  
Camberwell, VIC