

Newcastle ANZAC Memorial Walk

As the 100th anniversary of the ANZAC landing at Gallipoli is being commemorated across the country, in Newcastle NSW, the sacrifices of our Anzacs are being remembered with a Memorial Walk along the coastline. The raised walk stretches 450 metres and incorporates a 160 metre-long cliff top bridge structure.

National Precast member Waeger Precast supplied the precast concrete for the \$4.5 million project to holding company Waeger Constructions, winner of the competitive tender to build the project. The company is based at Rutherford, in the Hunter Region of New South Wales and specialises in small to medium sized bridges, civil construction and precast products.

The Newcastle Memorial Walk project connects Strzelecki Lookout to Sheppard's Hill Reservoir at Bar Beach, NSW. The project includes seven precast pylons which hold the bridge span above the cliffs. These "Y" shaped piers are up to 8.8m high, with a width at the top of 3.4m. The seven columns were manufactured with custom steel moulds and a sandblasted finish.

According to Managing Director of Waeger Constructions, Michael Waeger, manufacturing the columns had its challenges.

Precast manufacturer

Waeger

Builder/head contractor

Waeger Constructions

Engineer

Northrop Consulting
Engineers

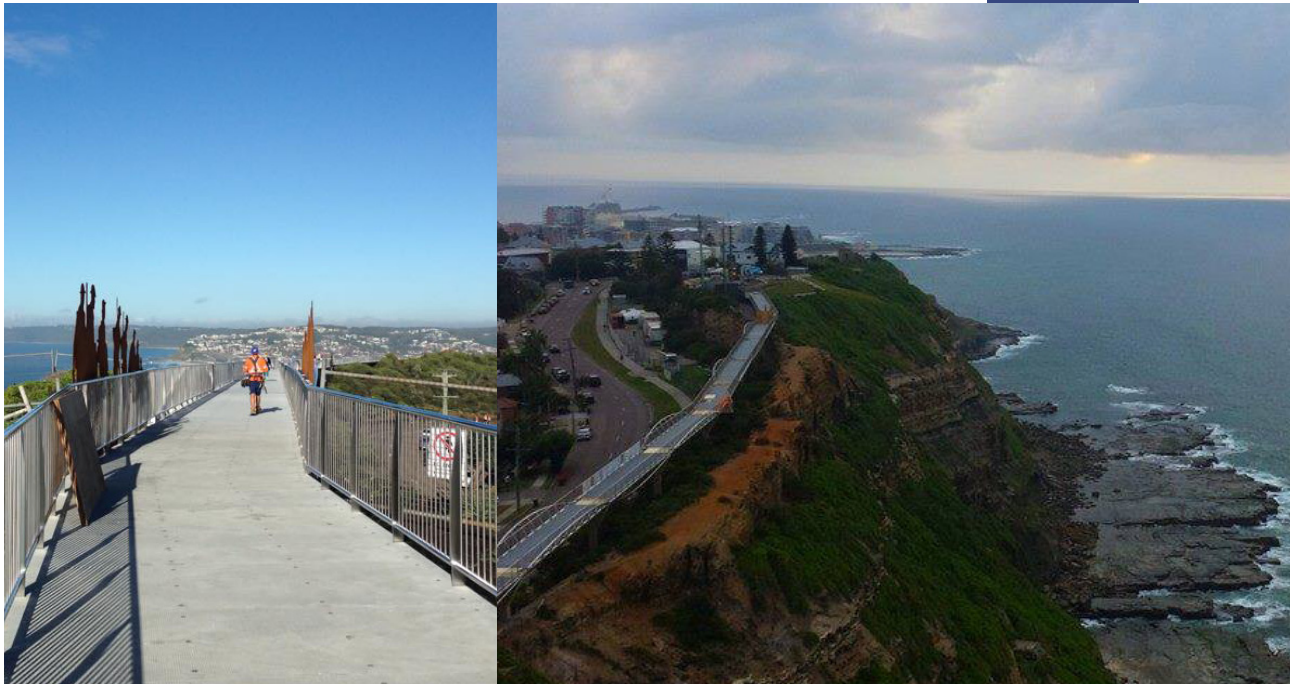
Project Owner

Memorial Walk Trust

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"It was very important to achieve a high quality finish, the columns were manufactured from a coloured mix containing limestone aggregate, with quite a heavy sandblasted finish to accentuate the aggregate. Despite the sandblasted finish, attention to detail with the mould fabrication to prevent surface defects and mould leakage was very important to achieve the high quality finish. De-moulding and onsite handling was also an issue due to the columns being quite long slender elements," Mr Waeger said.



The company also manufactured viewing platform seats, made using the same concrete mix as the columns. With a polished finish, the seats are an impressive feature of the project. These seats were cast upside down in custom steel moulding. To avoid lifters in the seen faces, the seats were installed using an inverted lifting arrangement. Integrated LED lighting gives the impression at night that the seats are floating.

Other features include artwork cutouts at the beginning and end of the bridge, a stainless steel truss system, stainless steel handrails, a composite fibre deck and three viewing platforms.

Michael Waeger says the Memorial Walk project is important in terms of what it represents. The Walk incorporates silhouettes of soldiers, with 3860 family names engraved on them. These names represent almost 11,000 men and women from the Hunter Valley, known to have contributed to the World War 1 war effort. As well as commemorating the Gallipoli landing in 1915, the project also marks 100 years of steel making in Newcastle, which was established to provide steel rail to the war effort. In recognition of this link, BHP Billiton contributed \$3M towards the project, with another \$1.5M coming from Newcastle Council.

"This is such an significant undertaking, and a career highlight," Mr Waeger said.

"During my 25 year engineering career I have worked on some exciting projects, but I see this as being the pinnacle project to date. I am extremely excited and particularly proud to be involved in the Memorial Walk."

The Memorial Walk is expected to become a major tourist attraction for the region and officially opens on 24th April 2015. considerably condensed.



As Stresscrete's Craig Zinn explains, the biggest challenge for the job involved creating the formwork systems to accommodate complex shapes and other requirements.

"The steel reinforcing was quite congested and complex around the steel cast-in items and at corners where the base joined the walls," he explains. "We used a high performance self-consolidating S50 concrete mix to assist the mobility of concrete around the congested reinforcing bars. To protect against the aggressive marine environment, the finished concrete was treated with a waterproofing protective coating."

Transporting the 7-metre wide dolphins also posed challenges, and was achieved with the help of two police escorts, taking up two lanes of traffic on the Bruce Highway between Rockhampton and Gladstone.

Despite some of the logistical challenges, the clear advantages of using precast over casting in-situ were unmistakable to all concerned, delivering time, cost and, perhaps most important of all, safety benefits that helped keep the project running smoothly despite tight timelines.

"The hazards of working over water are minimised with precast, because construction personnel work in a contained area with built-in edge restraints," says Craig Zinn. "Using precast also means there is no need to assemble and strip complex framework systems over water, saving considerable time in construction and time working over the water, making it a far more economical option."