

Kimberley Rail Bridge Flood Repairs



Client: TasRail
Completed: July 2016
Value: \$2.38M

ON THE 6TH OF JUNE 2016, TASMANIA'S NORTH WEST COAST WAS HIT WITH DEVASTATING FLOODS THAT DESTROYED SEVERAL STRUCTURES ALONG THE COAST. THE RAIL LINE AFFECTED BETWEEN BURNIE AND BRIGHTON, IS THE BUSIEST IN THE STATE, CARRYING 65% OF FREIGHT ALONG THE CORRIDOR. THE TASMANIAN GOVERNMENT ESTIMATED DAMAGES OF UP TO \$100M ACROSS THE STATE. THE FLOODS TOOK THE LIVES OF TWO PEOPLE AND DESTROYED PROPERTIES, ROADS AND STRUCTURES ACROSS THE ENTIRE COAST. 173 BUILDINGS WERE AFFECTED AND 52 HOMES DAMAGED.

THE PROJECT

Winner of the Engineers Australia Award 2018

With more than 100 roads being closed during the height of the emergency, it was inevitable that several roads and structures were going to need repairs in the following weeks.

Engineering Edge worked closely with the team at Pitt & Sherry to complete the design of the new structure.

One of the major structures Kimberley Rail Bridge, which crosses the Mersey River on the North West Rail Line, had been significantly damaged by the floods. One of four bridge spans collapsed under flood water, leaving the single carriage rail line impassable.

The VEC precast manufacturing facility in Ulverstone completed all of the stackable pre-cast concrete works including the concrete abutment and abutment earth retaining panels - completing works in just 1.5 weeks to speed the program along. VEC also self-performed all the piling works. As there was a significant amount of earthworks to be performed, Shaw Contracting worked with CBB Contracting to perform all the works to rebuild the embankment and back filling the abutments. Tas Heavy Haulage transported the new span from Launceston to the project site in Kimberley.

Works to repair the bridge included geotechnical investigation, design, demolition of the partially collapsed structures, driving steel piles for a new abutment, fabrication of a 45 tonne steel bridge span, construction of 200 metres of rail embankment to a height of 4 metres, track installation and bank protection. The Project Manager worked closely with the client, TasRail, and other stakeholders to ensure that the works could be completed within just five short weeks to get the rail line operating again.

Repairs at the Kimberley Bridge included a new abutment installation, increasing the length of the span to allow for more water flow under the bridge and river bank reinforcement.

VEC was supported by a number of key subcontractors during this project. Haywards Steel completed the construction of the new 37tn steel plated arching beam. They pre-installed the rail to the span, making it more efficient to install and tie into the track onsite.

During construction, trucks were used to bring containers to the ports in Devonport and Burnie. With the return of trains following repairs, there was 120 less daily truck movement on the Bass and Midland Highways.

THE FIRST TRAIN PASSED OVER THE KIMBERLEY RAIL BRIDGE JUST 36 DAYS AFTER THE FLOODS.

