



InQuik[®]

BRIDGING SYSTEMS



CASE STUDY: SOUTHERN DOWNS

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Southern Downs regional bridge upgrades using InQuik to reduce project time, cost & complexity.

The InQuik system is a completely new way of building bridges and provides an incredibly robust, long-lasting structure that requires minimal to no long-term maintenance.

Southern Downs Regional Council identified the requirement to undertake the replacement of an existing single-lane timber bridge located at Bourkes Road, Elbow Valley near Killarney which crosses the Condamine River.

The existing bridge was a single span timber bridge of length 10m with a carriageway width of 3.6 metres across the bridge. The existing timber structure was in poor condition and the replacement was in part funded by a Bridge Renewal Program Round 4 grant.

The replacement bridge was required to be dual-lane.



About

Southern Downs is situated one hour south of Toowoomba and two hours south west of Brisbane in Queensland. The major centres include Warwick, Allora, Killarney and Stanthorpe, with the region stretching along to the New South Wales border and covering 7,122 km².

Southern Downs region boasts a vibrant rural lifestyle with many things to do and see. The four-season climate is a world away from typical Queensland regions and offers a variety of scenery, flora and fauna.



Benefits of the Upgrade

- The new bridge will cost less to maintain and will be resilient to flood events.
- Road users will no longer have to stop or give way to oncoming traffic at the bridge.
- Increased load capacity and two lanes will improve the travel efficiency and safety for everyone.

How We Helped

The InQuik integral replacement bridge is 12 x 8.4m and rated to SM1600 (168t) load capacity.

Integral design means the abutments are integrated with the deck, so they do not require bearings or tie-downs between the deck and abutments.

This bridge has a design life of 100 years with no structural maintenance required under normal service conditions, and is fully compliant with the Australian Bridge Code, AS5100 (2017).

The tender was awarded in January 2020 to local contractor Mauch Concreting.



Benefits of the InQuik System

The InQuik system is a semi-modular reinforced concrete bridge, that was invented and commercialised in Australia and is patented in over 88 countries worldwide.

Three key benefits include:

1. Lightweight, AS5100 (2017) pre-engineered and certified modular components that can be shipped to remote locations – one bridge measuring 12.1 x 4.8m (including abutments) can be transported on one truck.
2. Efficient "place and pour" install process with 40MPa concrete. Installation takes 2-3 days over a 2-week period and 90% of projects costs are known up front so there is less likelihood of budget overspend; and
3. InQuik utilises local labour, plant and concrete keeping funds and work in the local community. By enabling local workforces to install their bridges, this has a major positive impact on regional development and economic stimulation.

