

Innovative modular steel solution provides critical connectivity in rural South Africa

Bridging Case Study



Ngqakaqheni Bridge, South Africa

m a b e y | b r i d g e

an Acrow Company

Customers: ECM Technologies and Mhlontlo Local Municipality | **Solutions:** Compact 200™ and SmartEdge™

The Challenge

Traditional concrete bridges have historically been the preferred option for rural bridging in South Africa. However, the end customer, Mhlontlo Local Municipality, was open to learning about new and innovative ways of bridging in remote and rural areas. In particular, they were willing to try a steel system which offered many benefits over concrete solutions, including cost, speed of installation and projected maintenance requirements.

The Solution

Compact 200™ bridges are ideal for rural bridging in South Africa. The clear span capability of the Compact 200™ allows municipalities to construct bridging infrastructure in flood prone areas without the need to construct intermediate piers; this eliminates the risk of debris obstruction against traditional bridge piers and the potential for catastrophic bridge failure due to pier damage.

For the new Ngqakaqheni Bridge, in the Eastern Cape province, and with a requirement for both vehicular and pedestrian use, a 40m long and 3.15m wide Compact 200™ bridge with durbar steel decking and a SmartEdge™ System was proposed.

The Compact 200™ system is Mabey Bridge's most widely used modular bridging product and is available for both permanent and temporary applications. It uses standard, interchangeable steel components to provide robust, rapidly deployed and erected solutions ideal for permanent rural bridging applications. Emergency and contingency bridge stocks, held in country, allow for immediate availability when needed.

SmartEdge™ provides customers with a low-cost way to add localised and bespoke graphics, logos and colours to any new or existing Compact 200™, whether it is a pedestrian or vehicular bridge. It is a galvanised steel panel that attaches to the bridge deck at either side of the road section and clads the trusses. The panels feature vertical slits and can be customised. With safety at the forefront of the design, the system is an attractive alternative to traditional options such as wire mesh.

The Result

The client said, "We are delighted with this innovative solution to much needed infrastructure in our Municipality. The steel solution was far cheaper than the concrete alternative, and was constructed in a much shorter timescale".

The Ngqakaqheni Bridge is now serving the Mholontlo Local Municipality by providing vital connectivity to one of its most rural communities.



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