



## Alternative design, a hole in one

### CATEGORY 1A:

Projects with a value of less than \$5 million

**PROJECT:** Project Legacy, Design & Construction of A1 & A2 Bridges

**CONTRACTOR:** Bridge It NZ

**CLIENT:** Royal Auckland and Grange Golf Club

**VALUE:** \$2 million

**Project Legacy** at the Royal Auckland and Grange Golf Club (RAGGC) included the design and construction of two pedestrian and light vehicle fibre-reinforced polymer (FRP) bridges constructed by Bridge It NZ (BINZ) using Wagners FRP product – referred to as WCFT. The project was managed by Beca on behalf of RAGGC.

As an alternative solution to concrete, BINZ's solution provided the client with significant benefits that resulted in BINZ's original scope of the A1 Bridge increased to include the A2 Bridge.

These bridges are believed to be the first standalone FRP bridges of this scale built in New Zealand. The A1 Bridge was the longest of the two bridges at 65.5 metres, crossing

the tidal Tamaki River, and the A2 Bridge was 45.5 metres and crosses a lake.

Both bridges were partially prefabricated offsite and constructed using a top-down construction methodology allowing them to be built without any plant entering the tidal zone or lake and eliminating the need for temporary staging. The prefabrication of units was one of the keys to the project's success, however this also added complexity. The prefabrication had to be accurate to ensure that all the components fitted together when installed. The kitset nature of the materials also meant that there was little, if any, room for error.

A major risk for BINZ from a contractor perspective was the use of a new product on a project that was the highest contract value BINZ had ever completed. The client (RAGGC) and its representative, Beca, also took a considerable risk in opting to choose an alternative design constructed from a relatively new material in New Zealand.

Praising the finished project Gavin Cormack, RAGGC Club Captain and former Beca executive chairman and Bridging Division founder says; "BINZ were a pleasure to deal with and the quality of their workmanship and their speed of construction exceeded our expectations.

"Their alternative design was superior in all respects to the other conventional materials we examined. Our level of satisfaction could not be higher." ●